



# Appendix 1: Consumer retail search process model

This appendix describes the conceptual model that Titus et al (1995) created to illustrate the impact of the physical environment on the consumer retail search process (see image on the right page):

*“The model suggests that the design of the shopping environment, the nature of the search task, and the unique characteristics of the individual shape consumers’ perceptions of the shopping environment. Shopper perceptions, in turn, influence the type of search strategy employed by consumers. These strategies directly affect the occurrence of search behaviors, such as reading signs, examining products, and entering and exiting specific locales in the shopping environment. The pattern of search behavior displayed during the retail search process directly influences consumers’ satisfaction with the retail search experience. Further, individual customer and search task characteristics are posited to moderate the entire retail search process.”* Titus et al (1995)

## **Navigational search strategy selection (image part: A)**

Already in 1982, Holbrook and Hirschman presented a dichotomy of consumer task-related behavior, as they described consumers as either “problem solvers” or as individuals seeking “fun, fantasy, arousal, sensory stimulation, and enjoyment.” Titus et al (1995) applied this dichotomy to the retail search process, partitioning epistemic strategies (problem solving) from hedonic strategies (experiential).

## **Environmental perception (image part: B)**

Which search strategy is selected, is influenced by consumers’ environmental perceptions, which are the perceived degree of legibility (Lynch 1960) or stimulation (Markin, Lillis, and Narayana 1976) offered by a particular environment. *Environmental legibility* influences the ease with which consumers attempt to find their way through complex shopping milieus.

Clear sight lines for example improve the legibility of a building. Consumers also interact with shopping environments because of their *environmental stimulation*. Parts of the design properties of the shopping environment (e.g., lighting, layout, color) might provide value to consumers in the form of entertainment, recreation, and social interaction (Markin, Lillis, and Narayana 1976).

## **Environmental design characteristics (image part: C)**

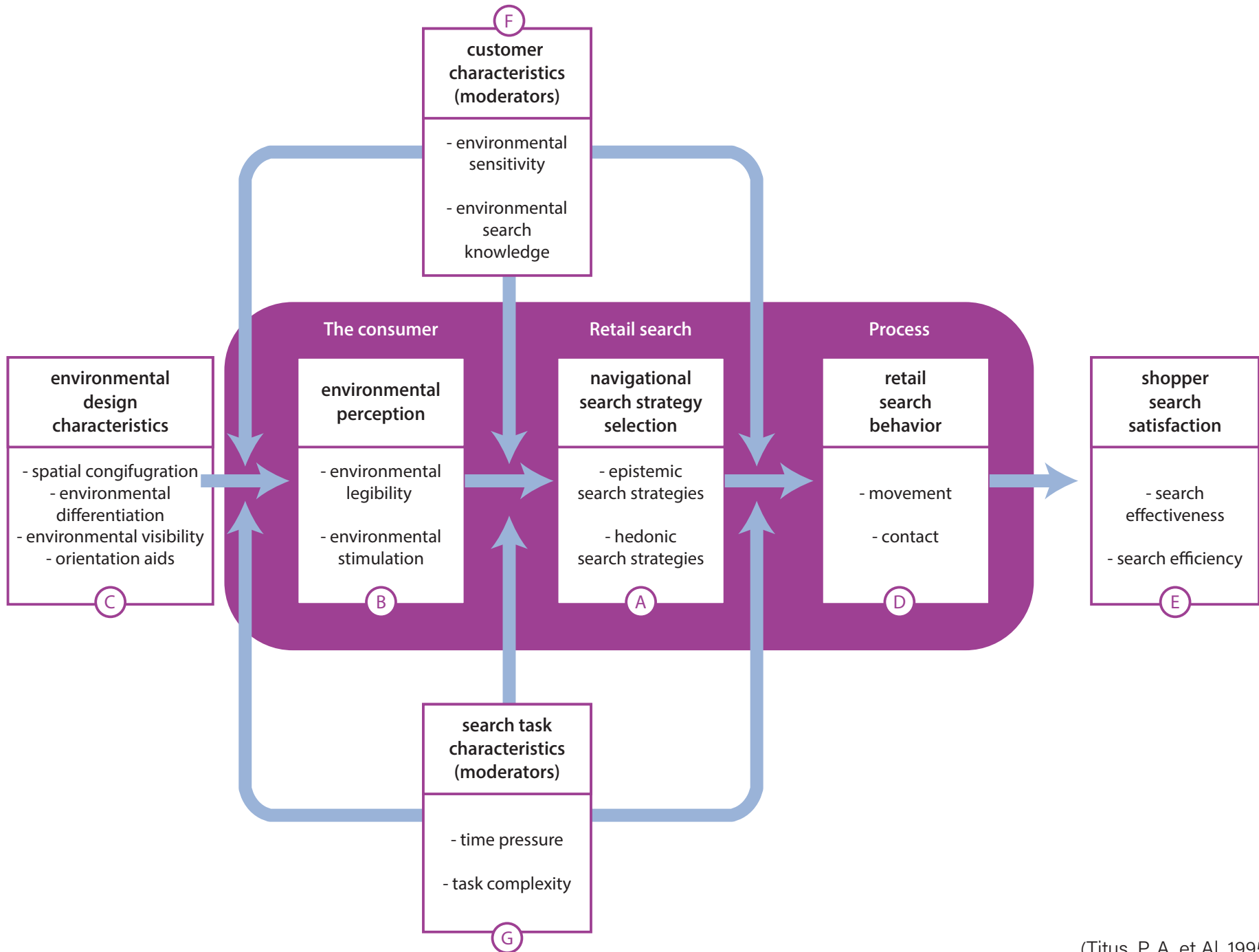
Four design characteristics are determined, creating the physical design and layout of the environment that impacts the environmental legibility and stimulation (Lynch 1960; Markin, Lillis, and Narayana 1976).

*Spatial configuration:* The way in which spaces are related to one another are believed to directly affect consumers’ holistic perceptions of the amount of legibility and stimulation offered by the environment. For example: symmetrical buildings are better legible than asymmetrical environments (Evans et al, 1984). Contrarily, shopping environments with a simple grid structure are likely to be perceived as less stimulating than those containing more complicated configurations because of the loss in complexity, which has been identified as a chief dimension of environmental stimulation (Wohlwill 1974).

*Environmental differentiation:* The ability to locate a destination is related to the distinctiveness of this destination. To illustrate, Evans et al. (1980) found out that color coding floors in university buildings significantly improved individuals’ abilities to locate desired destinations. This may partly be caused by a better legible environment. Increasing the environmental differentiation between different areas may also increase the environmental stimulation: Visually contrasting stimuli represent a change to our sensory receptors, which explains why people are triggered by changes in the environment (Wilkie 1990).

## *Environmental visibility*

The ability to see through the environment (free sight lines), affecting the legibility, is an important design variable that impacts the development of an accurate cognitive map (Weisman’s, 1983). Contrary, restricted visibility may increase the environmental stimulation, creating a sense of mystery amongst shoppers. This is also why people prefer nature scenes with trails that disappears around a bend, rather than a straight path leading to the horizon (Kaplan et al, 1972).



### *Orientation aids*

Orientation aids such as maps and signage greatly impact the environmental legibility, if they are placed correctly: Levinew (1982) found that incorrectly aligned with the environment "You-Are-Here" maps produce more navigational errors than when the alignment corresponded directly with the actual environment. This highlights the importance of providing orientation with correct position and placement (for example at decision points).

### ***Navigational search strategy selection (image part: A)***

People base the selection of search behavior on their search task: Is the purpose of the search making a specific purchase (epistemic) or simply for hedonic purposes? Nevertheless, people often engage in multipurpose trips, combining epistemic and hedonic search strategies.

People applying epistemic search strategies base their strategy on the legibility of the environment, whereas people rely on the stimulation of the environment for hedonic search strategies. For example: A person that finds himself in a (for him) illegible environment, while looking for a specific product might ask assistance from personnel. But another person that is more familiar with the environment might find the environment very easy legible and builds on his prior knowledge to find the product. Correspondingly, a person that is familiar with an environment may find it visually unstimulating and might search for other stimulation (for example tactile interactions with products). While a person unfamiliar with the environment may find it visually stimulating and decide to wander around, enjoying its visual attractions.

### ***Retail search behavior (image part: D)***

The behavior that people perform while interacting with shopping environments depends on the selected search strategy.

### *Movement*

Hedonic shoppers are supposed to move more slowly, make stops more frequently, enabling them to experience the hedonic aspects of the environment. Epistemic shoppers focus on a more efficient visit and are likely to deviate less often from established pathways. Utilitarian shoppers are also more likely to return to shops, to enable comparison between products.

### *Contact*

While shopping, people can interact with personal elements (customers, employees) and non-personal elements (products, decor, exhibitions) Epistemic shoppers are expected to have less contact and for a shorter time with products or persons than hedonic shoppers.

### ***Shopper search satisfaction (image part: E)***

People create expectations based on past experiences with services or products. Whether the experience was "at least as good as it was supposed to be" (Hunt, 1977) determines the level of satisfaction. In the case of search satisfaction: If the shopping expectations are exceeded, shoppers will view the retail search effort as effective and thus experience feelings of satisfaction with the search experience.

### ***Customer characteristics (image part: F)***

#### *Environmental sensitivity*

Some people are more sensitive to environmental stimuli than others. Environmental sensitive persons desire more environmental stimulation and are likely to have stronger reactions to environmental design. The degree of experienced legibility and stimulation varies more widely across retail environments for environmental sensitive shoppers than for less environmentally sensitive shoppers.

#### *Environmental search knowledge*

People might bring knowledge concerning the layout of a specific shopping environment (e.g. cognitive map), which increases the wayfinding performance. People can also bring generic knowledge of similar shopping environments, or product knowledge that can prove useful during the search process. Thus, familiarity with an environment may improve its legibility. However, familiarity may decrease the environment's stimulation, as people who are acquainted with the surroundings might find little things surprising or new. Also, search knowledge might decrease a person's sensibility to the environment, as they mainly use knowledge that they have internalized.

### ***Search task characteristics (image part: G)***

Time pressure (Park, 1989) and task complexity (Lussier and Olshavsky 1979) influence information processing and task performance.

People's environmental perceptions may be shaped by characteristics of the search task. For example: someone who is pressed for time will be extra sensitive to environmental design features that enhance the legibility, and less sensitive to sensory stimulation. However, a person who is shopping for recreational purposes, may be more responsive to aspects creating sensory stimulation.

### ***Implications for Schiphol***

At airports, the aspect of time pressure is highly relevant. Also, a distinction can be made based on experienced, frequent flyers and non-frequent flyers, who are likely to differ in the search knowledge at their disposal.

The table below shows how environmental aspects influence the legibility and stimulation of an environment.

	<b>Legibility</b>	<b>Stimulation</b>
Clear spatial configuration	+	-
Increase environmental differentiation	+	+
Environmental visibility	+	-
Orientation aids	+	

For wayfinding at an airport and specifically functional wayfinding, legibility is an important aspect in improving the ease of wayfinding. However, for commercial or recreational wayfinding, stimulation might be what passengers are looking for.

The aspects 'spatial configuration' and 'environmental visibility' have a conflicting impact on the legibility and stimulation of an environment. However the aspect of 'environmental differentiation' is beneficial for both the legibility and stimulation of an environment. This means that increasing the environmental differentiation might positively impact the functional and recreational wayfinding.



## Appendix 2A: Benchmark other locations

In chapter 2.2 the wayfinding vision of Schiphol is described: intuitive wayfinding is established by the airport design (natural wayfinding), which is complemented by signage and personal information. This benchmark study examines these different aspects (Weisman, 1981). This appendix describes per location the aspects that were used for the benchmark study.

### Natural wayfinding:

- Clarity of circulation: easily identifiable pathways for main streams.
- Differentiation & zoning: easily identifiable zones and their function.
- Articulation of spatial elements: easily identifiable elements and their function.
- (Free) sight lines: imaginary lines between a viewer's eye(s) and a subject of interest.
- Landmark: an object of a landscape that is easily seen and recognized from a distance, especially one that enables someone to establish one's location.

**Signage:** Directional & identification information

**Personal information:** Integration of digital elements



## Markthal, Rotterdam

### Clarity of circulation

The Markthal has a clear layout, with two main entrances that are intuitively found through the glass walls. It is difficult to get lost in the Markthal: the different stalls are arranged in a grid and the exits are always visible. In the middle of the market, there are stairs to go downstairs to the Albert Heijn and the parking garage.

### Differentiation & zoning

Each stall has its own appearance and style. However, in the building itself, no further zoning is applied. Above the stalls, there are tables installed to enjoy the food, so this could be seen as different zones. However, this is not clearly articulated.

### Articulation of spatial elements

The entrance of the Markthal is clearly articulated and allows to see through the building.



### Sight lines

From a distance, the Markthal seems quite transparent. However, when walking in the market, there are no free sight lines at eye level. This stimulates an explorative mindset. When looking up, there are free sight lines up to the ceiling.

### Landmarks

Besides the main entrances and the stairs in the middle of the building that could be used as landmarks to orient oneself, there are no other landmarks.

### Directional & identification information

Directional information is provided at the stairs to indicate which facilities can be found downstairs.

Although it might seem that the signs at the image at the bottom are directional signs, this is not the case. The goal of the signs remains a bit unclear, and is probably a way to only show what is (amongst others) available at the Markthal.

Besides all logo's and names of restaurants and shops, no additional identification information is found.

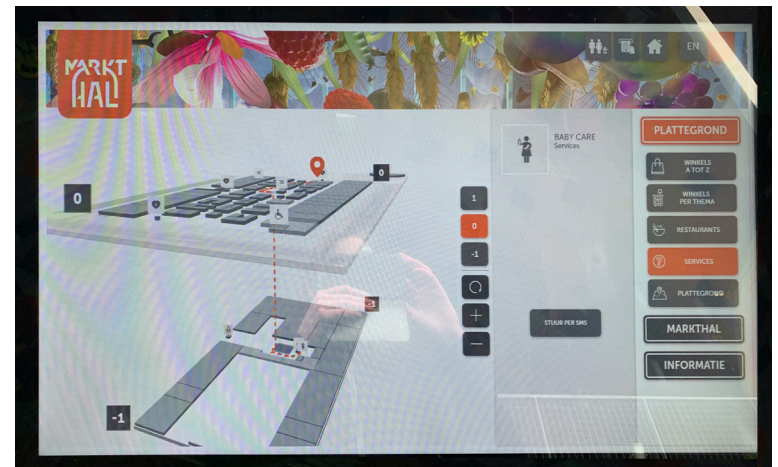
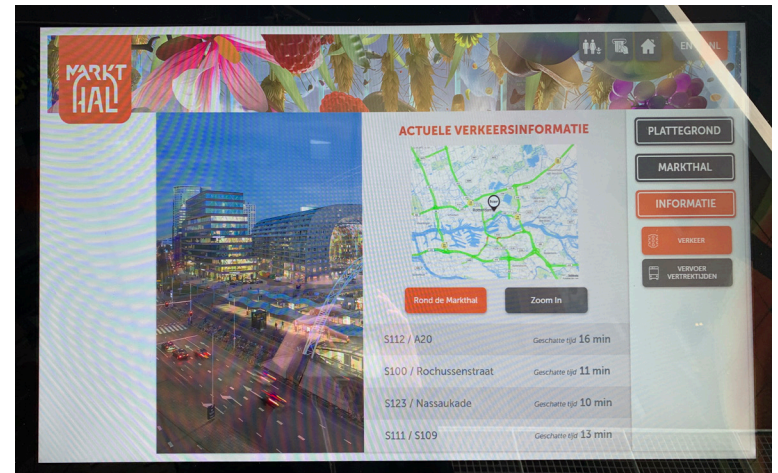
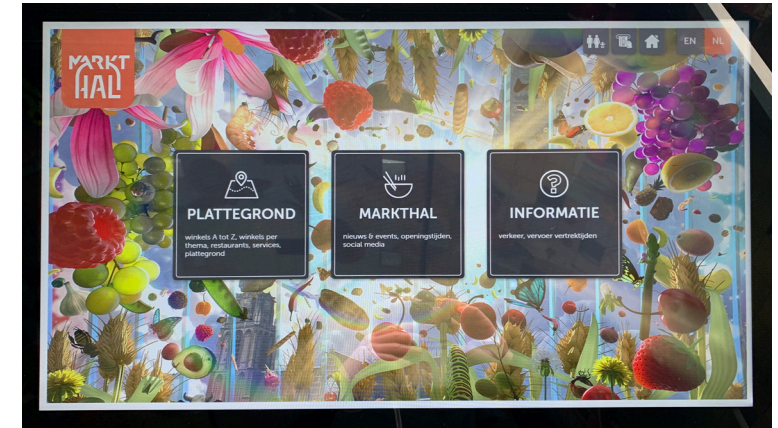




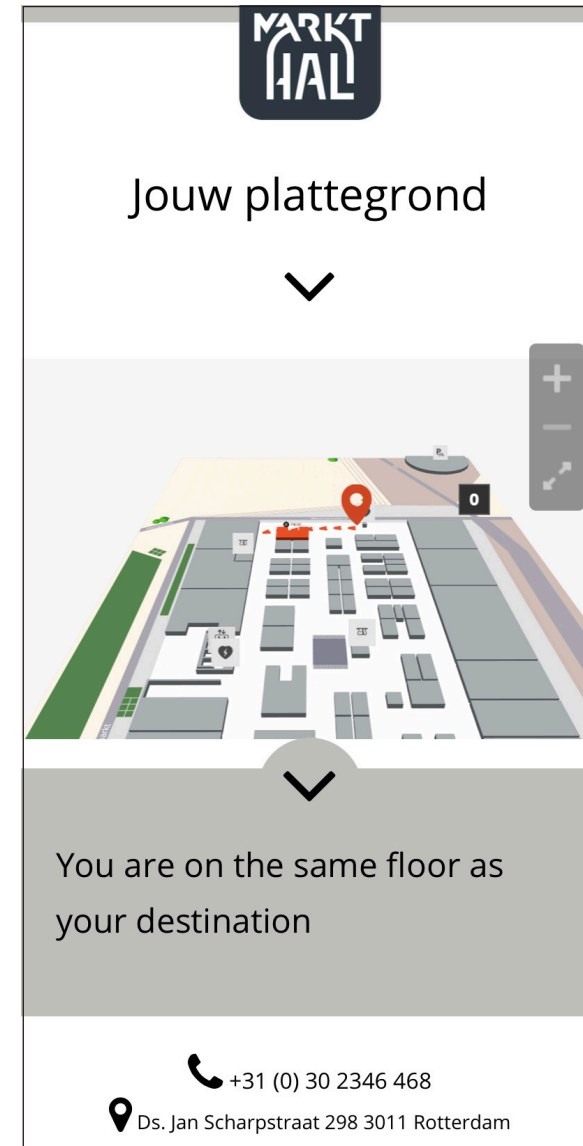
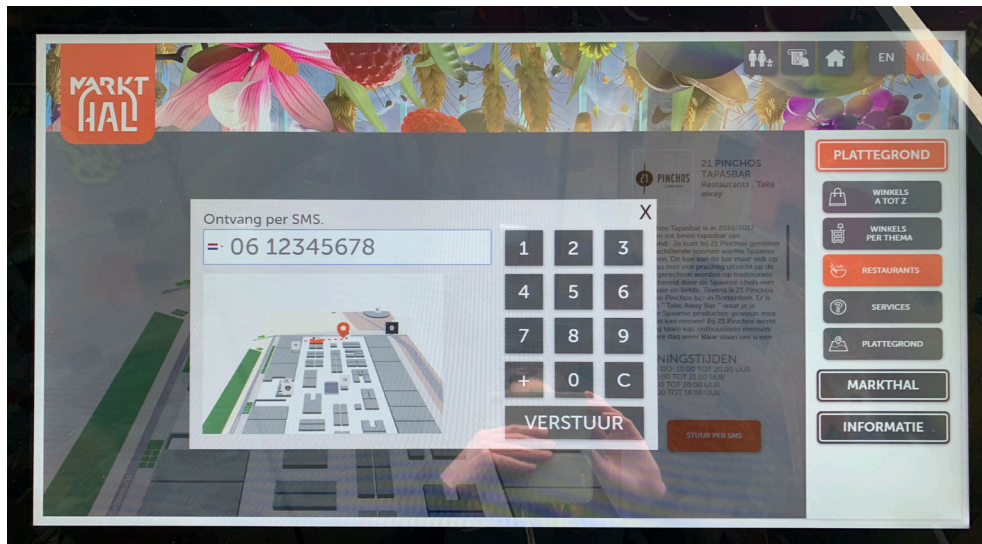
## Integration of digital elements

A wayfinding and information screen is placed at both main entrances. The functionalities of this interactive panel are quite extensive. It has an interactive map, on which facilities can be selected and filtered based on their category (together with opening times and description). Also the current traffic and travel information can be found: with routes to the public transport and departure times.

Furthermore, routes can be planned to facilities within the building, even across multiple levels.



The planned route can also be send to the individual's phone via sms. However, this creates a static image, where the orientation cannot be changed.



## Parking garage Markthal

### Clarity of circulation, sight lines, differentiation & zoning

Parking garages have clear sight lines in most of the cases, but often the problem is that all levels look the same.

At the parking garage of the Markthal, the different levels of the parking garage are clearly communicated with the principle of differentiation: the different colors of each level are already visible from the stairs in the Markthal.

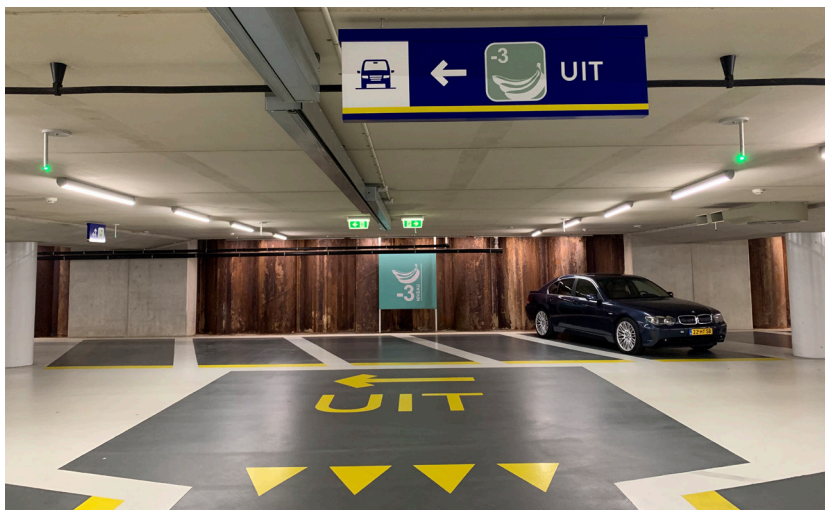


### Articulation of spatial elements, directional & identification information

The different levels are not only communicated by the colors of the glass, but also supported by consistently used icons for each level. These signs also serve as identificational information.

Directional information for pedestrians is given about the different facilities, and for motorists about the way to the exit.

Like in most parking garages, digital elements are used to refer to the amount of available spots on each level. Also on these signs, the reference to the icons of the corresponding level is made.



## Mall of the Netherlands

### Clarity of circulation & sight lines

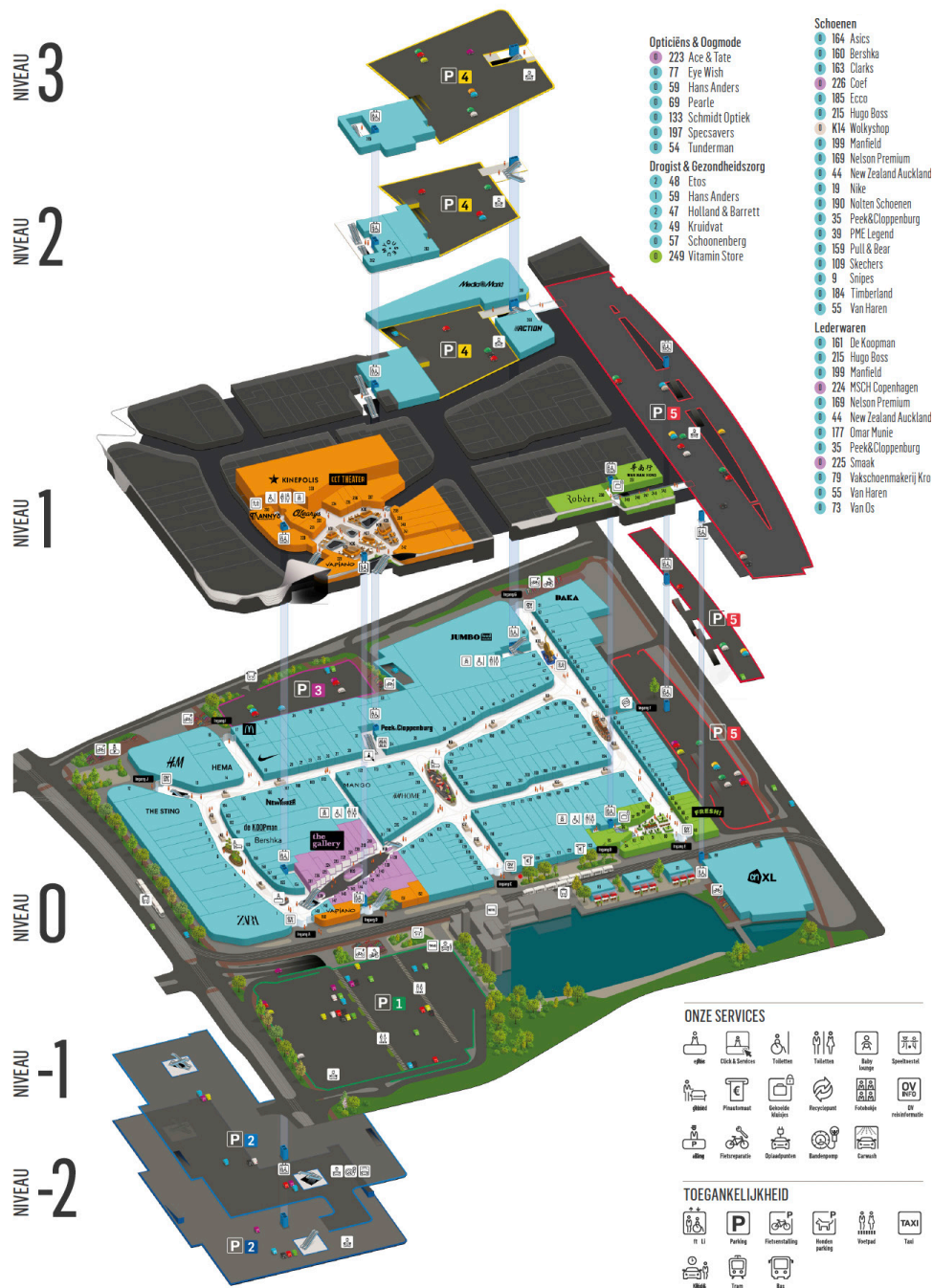
At the Mall of the Netherlands, the circulation is quite clear at the retail part (right), as the shops are all located besides the main walkway. The lines on the ceiling also guide the visitors. However, when looking specifically at the domain of food and beverages, circulation is less clear and unambiguous, as sight lines are more blocked, allowing for an explorative mindset (below).

### Differentiation & zoning

This difference in clarity of circulation also communicates the different zones in the mall. Furthermore, zones are indicated by applying different materials in the floor. Wood is applied in zones where visitors wait, sit or spend time. Natural stone is used for circulation areas.

In the map of the mall, zoning is articulated through the application of different colors.





## Articulation of spatial elements

The vertical circulation points are given enough space so that they are clearly articulated.



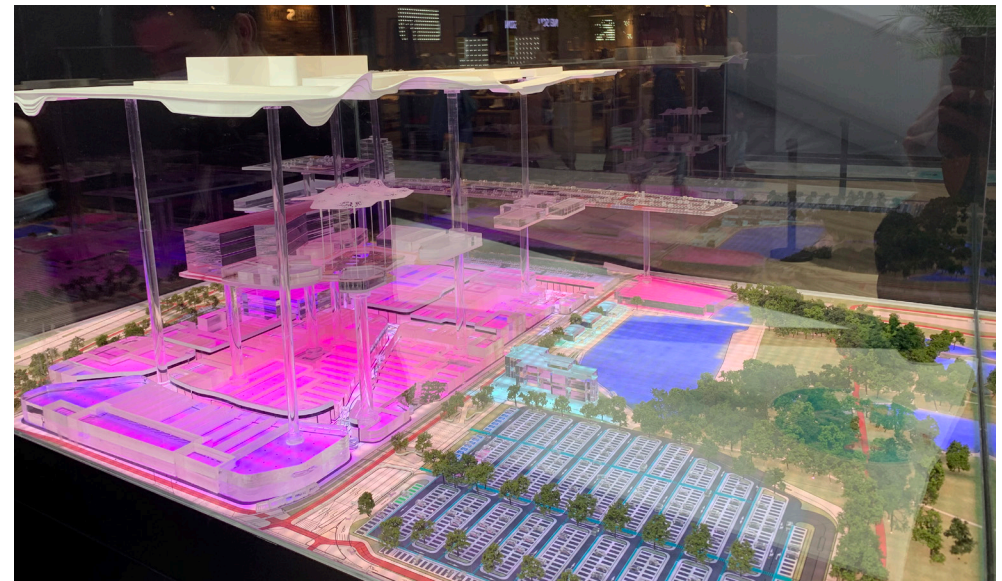
## Landmarks

The cat-shaped playground at the Mall of the Netherlands (image below) could serve as a landmark. It is also indicated on the map (in the pathway at the top of the image). However, the visualization on the map is so small, that it is questionable whether people will recognize it as the playground.



## Directional & identification information

The Mall of the Netherlands uses handsign posts, maps, banners at rise/fall points and a map on a flyer to guide the visitors. There is also a reception to get information. Lastly, the scale model of the mall can give the visitor extra insight in the structure and lay-out of the building, providing a better sense of place.



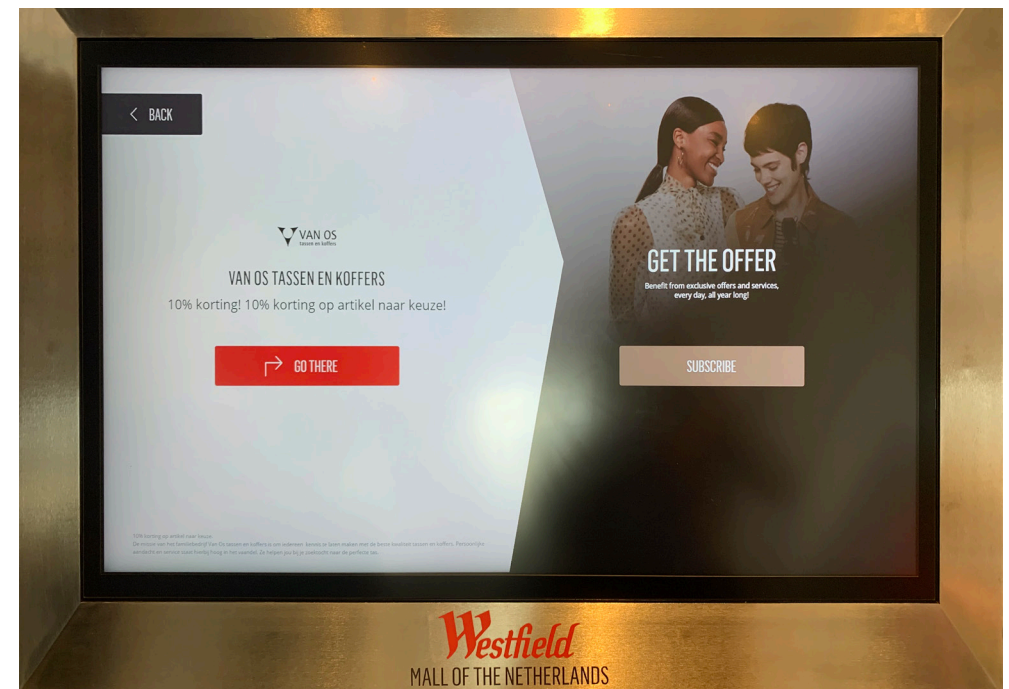
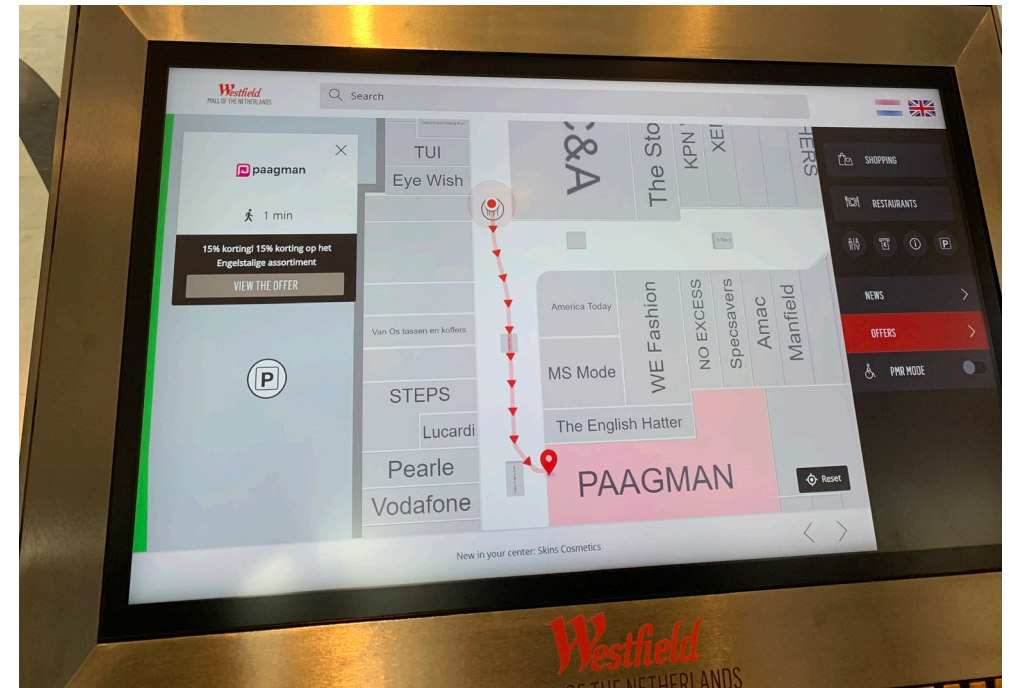
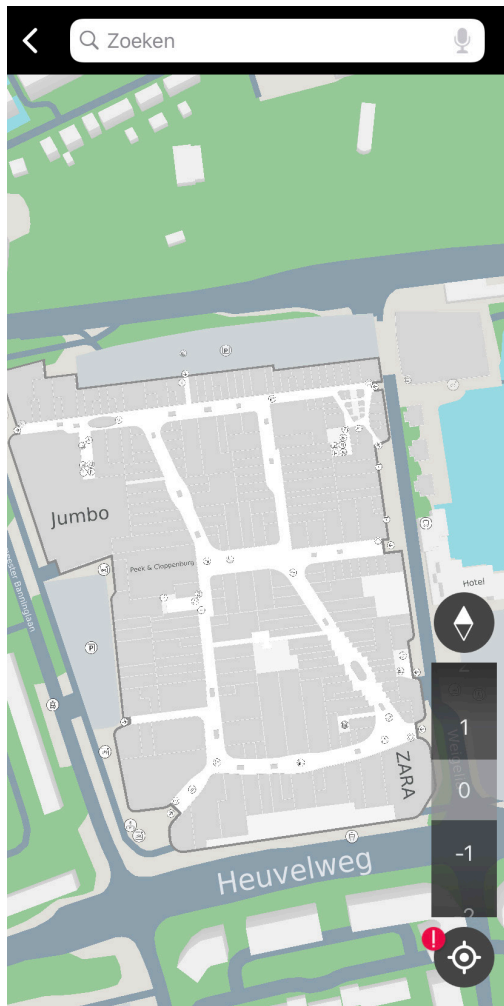
At the Mall of the Netherlands, the toilets are indicated above the entrance. However, the information has the same orientation as the walking direction of the visitors, which makes it difficult to observe and see from a longer distance (image below).





## Integration of digital elements

The Mall of the Netherlands provides an app with a map. The map used in this app has the same lay-out as the interactive screens, which have a less clear distinction in zones. A QR code in the environment also leads to this app. Furthermore, the interactive screens allow for route planning (with walking distance) and coupons are integrated.



## Rotterdam Central Station

### Clarity of circulation & sight lines

For locations that have a focus on functional activities rather than on recreational activities, the clarity of circulation is very important. When looking at Rotterdam CS, the central passage facilitates orientation. Because of the clear sight lines, only little directional information is needed to direct people to the right location.

### Differentiation & zoning

The different functions of train, subway, bus, bicycle parking are clearly separated and individually indicated.



### Articulation of spatial elements

The entrance of the station can be seen as a role model for articulation, luring people to the station.

### Landmarks

No distinctive landmarks were found at the station. At locations serving a functional purpose, the environment is generally more calm, as not many items stand out.



## Directional & identification information

The indication of the platforms at NS stations is done via (digital) signage, together with identification information placed on the walls next to the escalators that lead to the platforms.

## Integration of digital elements

Digital screens are used to inform travelers about departure times and platforms. There is not explicitly referred to the NS app, although sometimes in the broadcaster the NS app is mentioned to keep track of updates.



## Efteling

The Efteling uses a map which makes clearly use of landmarks, by depicting the attractions in a visual way. The park is divided in multiple zones (for example 'Anderrijk'). Also directional signs are used.



## *Conclusions*

The function of a building determines among others the degree of clarity of circulation and presence of free sight lines. Functional buildings, for example in the transport sector, have more free sight lines than buildings for recreational use (shopping centers).

Differentiation & zoning in both the environment and wayfinding information (e.g. maps) ensure an easy localization and categorization of facilities.

Articulation can ensure that important spatial elements get more emphasis and stand out in the environment, making it easier to locate these functions.

**Landmarks are used for orientation and navigation and can be indicated on wayfinding information to support the wayfinding tasks.**

Directional & identification information guide visitors to their intended destination. In the case of "You-Are-Here" maps, a good alignment with the environment is very important.

**Digital elements can provide extra and personal information about the location of, and navigation to specific locations.**

## Appendix 2B: Benchmark NS trainstations

Besides the site visit of Rotterdam CS, also a meeting with the Manager Branching & Portfolio of the NS stations took place. This appendix describes the summary of the meeting with the Manager Branching & Portfolio of the NS stations.

The goal of this meeting was to get insight into the considerations and decisions about commercial activities and wayfinding at the Dutch train stations. This is an interesting domain to look at, since both NS and Schiphol have the primary function of transporting people, and commercial activities are not part of this main process.

It is interesting to see that the NS does not have any commercial wayfinding at the stations. This decision is made to allow for a focus on the primary process of traveling. Here, a comparison can be made with Schiphol: At the NS stations, on average passengers spend 7 minutes (from arriving to getting into the train). To support this short time period to get on the train, the functional wayfinding should be clear and easy to understand. Commercial wayfinding would only distract from the functional process. However, when looking at the case of Schiphol, passengers spend on average 2 hours waiting after security before their flight departs. In this part of the journey, there is more time and space for recreation and thus commercial wayfinding. All in all, it can be seen that NS also deals with the friction between the operational and commercial processes.

Another reason for the NS to not place commercial wayfinding at their stations is because the majority of travelers travel frequently by train (and have the same departure and arrival station). Therefore, travelers are familiar with the commercial offer and know where to go if they need something. The commercial facilities at the NS stations are usually immediately visible, whereas at Schiphol certain facilities are more hidden.

Furthermore, NS highlighted traveler's different travel motives. Most of the NS travelers travel to/from work or school (the exact numbers are trade secret). These 'business' travelers are more focussed on the functional aspect of traveling and efficiency and less on recreational activities. When looking at Schiphol 68% of all passengers travel for leisure (Feiten en cijfers 2019, Schiphol). This causes the majority of passengers at Schiphol to be in a

holiday mood, while the majority of travelers via NS stations are in a working mood.

For the commercial functions that are located at the stations, NS has clear guidelines for placement of logos, posters and other advertisements on the shops (spoorbeeld.nl).

### **Differentiation & zoning**

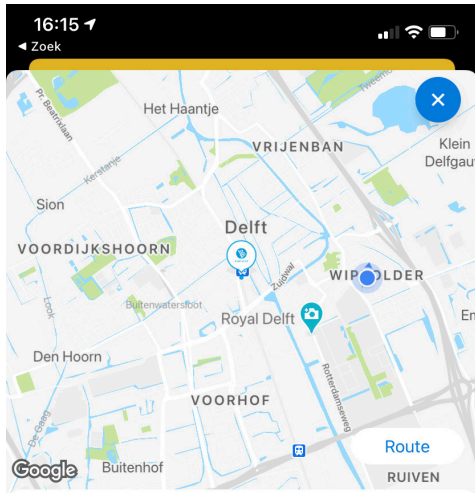
Just like at Schiphol, NS uses different guidelines for different zones regarding appearance at the stations. They distinguish different domains: the surrounding domain, reception domain, travel domain and residence domain. For the travel domain, the focus is completely on the primary process, which can be compared to the security and passport control at airports. Whereas at the residence domain, there is more space for recreational activities (e.g. playing the piano and retail), just like in the airport lounges.

NS applies differentiation also in the appearance of the stations. They strive to give each train station a unique appearance (Rotterdam: modern, Maastricht: authentic), so that passengers truly experience the feeling of arriving in a specific city.

### **Integration of digital elements**

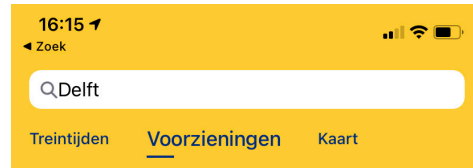
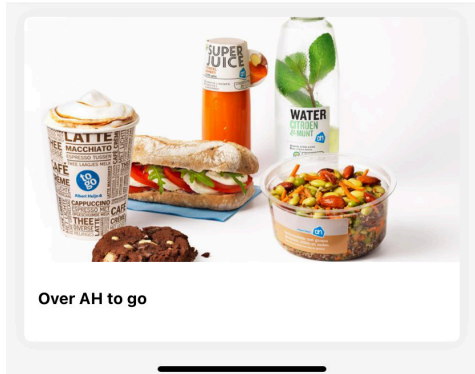
Almost all Dutch train passengers have downloaded the NS app. They use the app to plan their trip and see up to date departure times and delays. Probably the NS app is more relevant for passengers than the Schiphol app, as train passengers plan their journey (often) last-minute, whereas passengers traveling by plane already have a set departure date and time from the moment they have booked their flight.

NS has the goal to promote commercial facilities more via their app. Currently, there is the functionality to see facilities close by (image on the next page). Information like location and opening times are provided and discount codes can be communicated via the app.









**In centrale hal**  
Stationsplein 11 1.3km

**Opengingstijden**  
Nu open 05:00 - 23:15 [Toon alle](#)



Alle voorzieningen [Zoek](#)

- 
**AH to go**  
 1.3km  
 1 locatie [Nu open](#)
- 
**AKO**  
 1.3km  
 1 locatie [Nu open](#)
- 
**Bemenste fietsenstalling**  
 1.3km  
 3 locaties [Nu open](#)
- 
**Broodzaak**  
 1.3km  
 1 locatie [Nu open](#)
- 
**Fiets & Service**  
 1.3km  
 1 locatie [Nu open](#)
- 
**GWK Travelex**  
 1.3km  
 1 locatie [Nu open](#)



For big train stations, NS makes maps giving an overview of the different facilities available. The image at the right top shows the map of Amsterdam CS, where the two floors are displayed together with the commercial facilities. A distinction is made between primary and secondary information (blue) and tertiary information (green and pink).

## Conclusions

When comparing NS and Schiphol in the field of commercial wayfinding activities, similarities and differences can be found.

### Similarities:

- Main goal of transporting people.
- Different 'zones', with varying focus on primary process.
- Friction between operational and commercial activities.

### Differences:

NS	Schiphol
No commercial wayfinding in context	Commercial wayfinding in context
7 minutes waiting time (average)	2 hours waiting time (average)
Frequent travelers	Less frequent travelers
Mostly business related travels	Mostly leisure related travels
Widely used app	Rarely used app

The fact that NS only uses commercial wayfinding on digital mediums is an interesting thing to notice for Schiphol.

## Appendix 2C: Method benchmark airports

A benchmark study at other airports was executed. This appendix describes the method that was used for the benchmark study among other European airports.

### Goal

Get insight into how other airports communicate their commercial offer.

### Approach and materials

The questionnaire shown on the right was send to the airports that Schiphol collaborates with:

- Rome Fiumicino Airport (FCO)
- Copenhagen Airport (CPH)
- Frankfurt Airport (FRA)
- London Gatwick Airport (LGW)
- Madrid Barajas Airport (MAD)

Every now and then, the airports send each other questionnaires to gather information about different subjects. This is done in the format of a google sheet.

### Results

See next pages

	Commercial wayfinding information	FCO	CPH	FRA	LGW	MAD
	= information about the location of and navigation to commercial functions (retail, food & beverages, services)					
0	How is the ownership of your airport arranged? (Public/private)					
1	Does your airport provide commercial wayfinding information?					
2	What types of <i>physical</i> commercial wayfinding information does your airport have?					
a	Signage dedicated to commercial functions					
b	Maps indicating commercial functions (per area)					
c	Other, namely:					
3	What types of <i>digital</i> commercial wayfinding information does your airport have?					
b	Airport website					
c	Airport app					
d	Digital map, and which medium?					
e	Other, namely:					
4	What are elements of the current commercial wayfinding information that have a measurable impact on your commercial results?					
5	What are things that do not work (as intended) in your current commercial wayfinding information?					
6	How could these be improved?					
7	Do you know if passengers use the commercial wayfinding information?					
a	Which medium do they use most?					
b	Which medium do they use the least?					
c	How do they experience the wayfinding of the commercial functions?					
8	How much 'space' does your airport give to commercial wayfinding information, in relation to the functional wayfinding?					
9	How do the functional and commercial wayfinding information go hand in hand at your airport?					
10	Please send some pictures of the digital/ physical wayfinding of your airport to: <a href="mailto:laura.arkesteijn@schiphol.nl">laura.arkesteijn@schiphol.nl</a>					



## Appendix 2D: Results benchmark airports

This appendix describes the results of the benchmark study that was executed among other airports regarding their information & wayfinding systems.

On average, passengers rate wayfinding in airports as one of the best aspects of the airport experience. In the ranking of the ASQ global benchmarking program, Schiphol is currently at the 4th place regarding the aspect 'ease of finding your way'. Munich (MUC) and Zurich (ZHR) are currently the highest scoring airports in Europe (overall and on the aspect of wayfinding)

When looking at other airports, it can be noticed that two different strategies are applied regarding the visual appearance of the wayfinding (Mijksenaar, 2015). At Munich and Zurich a neutral and reserved style is used, whereas at Singapore Changi Airport, a more striking and distinctive style is applied.

### Signage

In a research conducted by Mijksenaar in 2015, a comparison of the wayfinding signs and information provision of Schiphol with those of Munich and Zurich is made. The main conclusions were as follows:

1. Munich and Zurich apply a restrained and neutral color scheme in signage and interior (image left and image right). This method works well here because there is no competition with other visual expressions.
2. Relatively small plates and a limited number of plate sizes are used. Instead of one large sign (as is often used at Schiphol), destinations are divided over several signs placed next to each other.
3. With regard to application such as consistency, placement, conspicuity and legibility, the quality of the signage at these airports has been judged to be less good (compared to Schiphol).



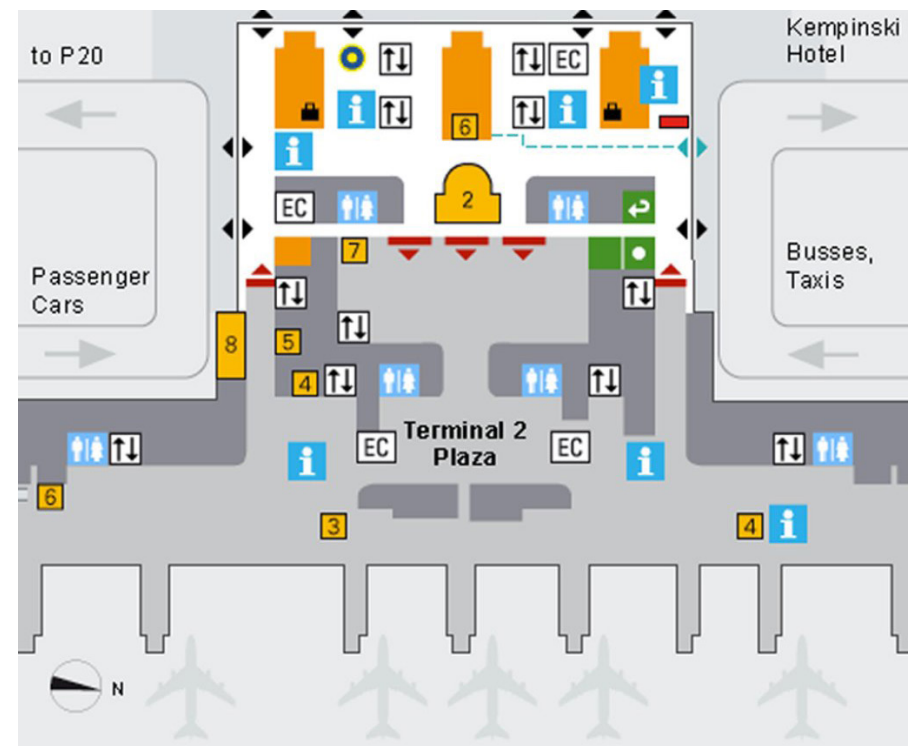
Changi uses more vibrant colors in its wayfinding information, that should stand out between all other visual impressions the passenger experiences in the abundant environment (image below).



### Maps

The same distinction can be seen in the maps of the airports: Changi Airport again uses striking colors (image top right) (this map was probably used for the opening of terminal 4). Whereas the map of Munich airport is much calmer (image bottom right).

What is also interesting to note is that on the map of Changi there is clearly made use of landmarks (such as art installations and the escalator), which make it easier for the passenger to locate and navigate through the environment.



### Other ways to improve wayfinding

Signs and maps are not the only aspects contributing to the wayfinding in an airport. The airport design itself is maybe even more important as it allows for natural wayfinding. Different spatial elements can enhance the wayfinding.

Just like the Mall of the Netherlands, Westfield Airport uses lighting in the ceiling to guide the passengers to the gates (image below).



At Vancouver Airport, many artworks are placed in the terminal (image below). They not only improve the ambience of the airport, but these artworks also serve as landmarks. Landmarks improve the wayfinding by facilitating the process of creating a cognitive map, on which landmarks serve as points of reference and make an environment more easy to remember and distinguish from others.



## Benchmark commercial wayfinding

Schiphol collaborates with multiple European airports to discuss a wide range of issues. Since the COVID pandemic they use questionnaires in the format of a sheet, in which each airport can answer the questions. I had the opportunity to spread a questionnaire about the commercial wayfinding among those airports, to get insight into how other airports communicate their commercial offer. See appendix 2C for the questionnaire used.

### Rome Fiumicino Airport (FCO)

The airport of Rome uses pictograms to refer to retail and food & beverages in their functional wayfinding signs (image below).



Besides that, this airport uses a digital portal dedicated to the F&B located at the upper floor, of which the facilities are not visible from the ground floor (image top right). The portal increased the visitor numbers of the upper level from 40% to 50%.

Furthermore, static and digital totems indicate commercial facilities (image bottom right). According to the head of Commercial Development & Planning, passengers mostly use printed tools to navigate to commercial functions and they use the map on the website the least. He also stated that more space for commercial wayfinding would improve the findability of the facilities.

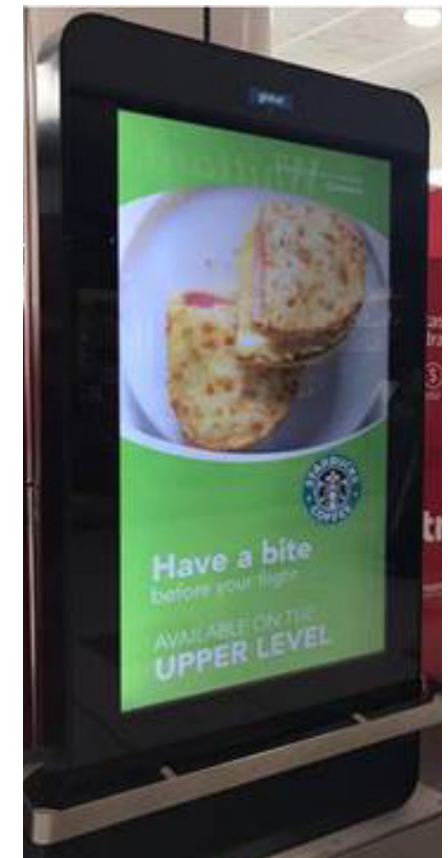


London Gatwick Airport (LGW)

Gatwick Airport integrated commercial wayfinding into their functional wayfinding signs (image below).



Since the pandemic, Gatwick also tries to include commercial wayfinding in their marketing messages (image below and image right). This way, they managed to overcome the 30% decrease in spend per passenger on F&B that was caused by closed shops.



Gatwick indicates that passengers use leaflets least for information & wayfinding, and digital media most.

### *Copenhagen Airport (CPH)*

At Copenhagen Airport, commercial wayfinding currently is the second priority in their new digital wayfinding project. They intend to use touch screens in this new project, but still need to see how this will work during and after COVID.

Current commercial wayfinding is little used as it is not directly visible: It is not indicated on static signs and passengers first need to interact with a digital platform to retrieve a map for example. As the commercial wayfinding is located at information hubs it is immobile. Therefore the wayfinding information often does not match with the needs of the passengers at that moment and that location. The new digital wayfinding concept should tackle these problems.

Furthermore, Copenhagen Airport indicates that their app is rarely used.

Finally, Copenhagen mentions that the functional wayfinding has the primary focus and commercial wayfinding is applied only when there is space available.

They apply the key rule to not mix functional and commercial wayfinding, although locations can sometimes be shared (at wayfinding hubs). Besides that, functional wayfinding hangs from the ceiling, whereas commercial wayfinding stands on the floor.

Copenhagen did not send along any pictures.

## *Conclusions*

- **Finding a balance between functional wayfinding and commercial wayfinding is a challenge for buildings in the transport domain (airports and train stations).**
- Physical cues in the environment work effectively to guide passengers to facilities.
- Digital solutions are useful to give extra information about facilities and allow passengers to find information of their preference by applying filtering options. Digital solutions also enable personalized and location-based routeplanning.
- For locations that have a primary focus on recreational activities (such as shopping malls), there is more space for commercial wayfinding information than for locations that have a focus on operational processes.
- Marketing messages at airports that include wayfinding to the promoted facility work effectively (combining awareness and wayfinding)
- Other airports use commercial wayfinding (pictograms) in their functional wayfinding to raise more awareness for the commercial facilities.



## Appendix 3A: (commercial) wayfinding mediums

This appendix describes the different (commercial) wayfinding mediums.

### Blue signs

Currently, the blue signs are the only physical wayfinding information dedicated specifically to the wayfinding of the commercial functions. However, the blue signs can only be found in a few places.

The blue signs come in two forms: on the Mijksenaar signs (image below) and as 'hand signpost' (image on the right). A facility can be placed on a Mijksenaar sign if it has a brand awareness of 80%. This causes the references on the Mijksenaar signs to be very general in most of the cases. Only Starbucks, McDonalds and BurgerKing can be placed as an individual brand on the signs.

The question should also be raised if passengers even notice the blue boards, in the midst of all visual competition. Some employees of the Commercial department were even not aware of the existence of these blue signs (hand signposts).





### Information zones

Since April 2019, Schiphol uses newly developed information zones (image below). The information that can be found here is a combination of commercial and functional wayfinding. Information sources at these zones are:

- Flight information screens (functional)
- Self service Units (SSU's)
- Static map

### Selfservice Unit



### SSU

At the SSU's, passengers can find flight information, the digital airport map and can ask other questions to a digital assistant with whom they can (video) call.

### Static map

Interestingly, in the info sheet introducing these information zones, it is stated that the maps will be digital (publication Schiphol website, 2019). However, the maps are currently static. This causes the maps to be often outdated, as locations are no longer correctly indicated and therefore need to be removed or covered.

### Informatiezone

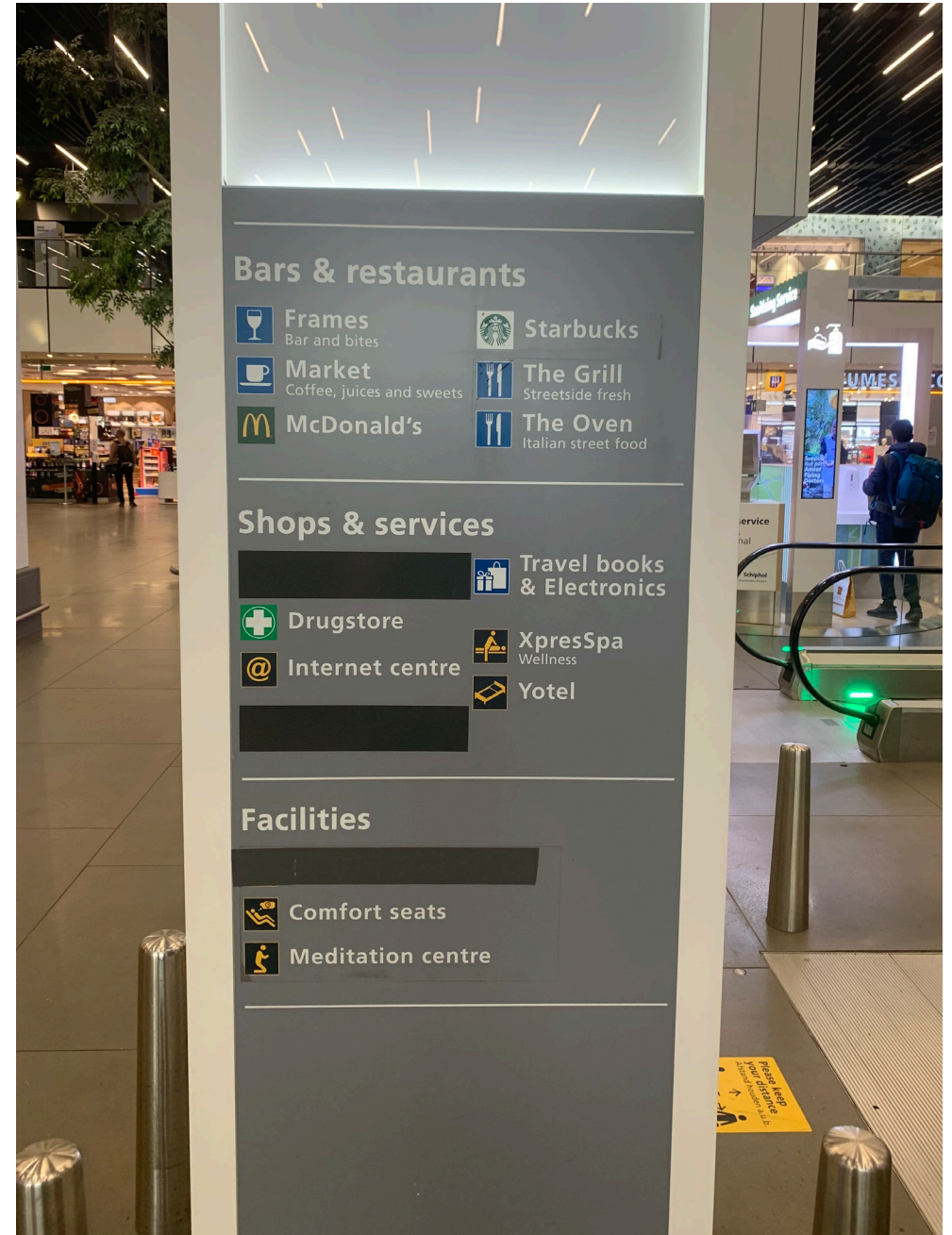


### Banner

In lounge 2, it has been decided to remove the blue hand signposts with the goal to reduce the visual overload and to give priority to the functional wayfinding. As replacement, banners are placed at every rise/fall point in this lounge, indicating what can be found upstairs.

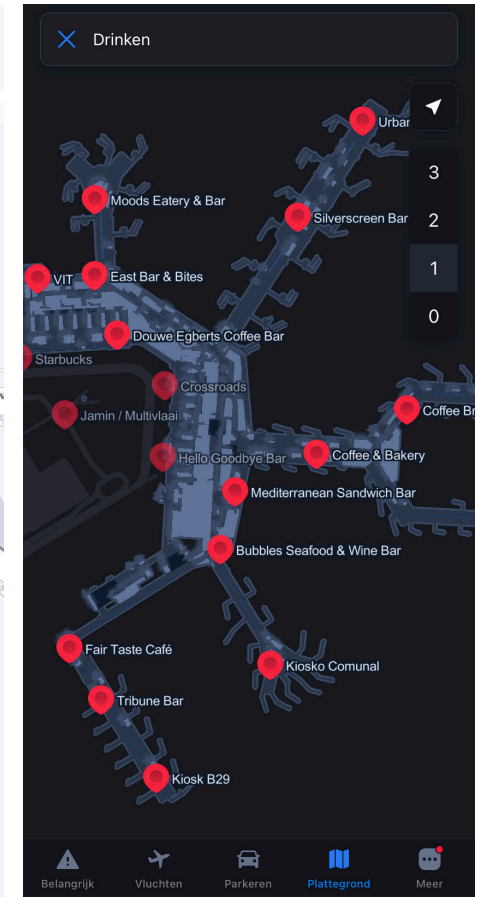
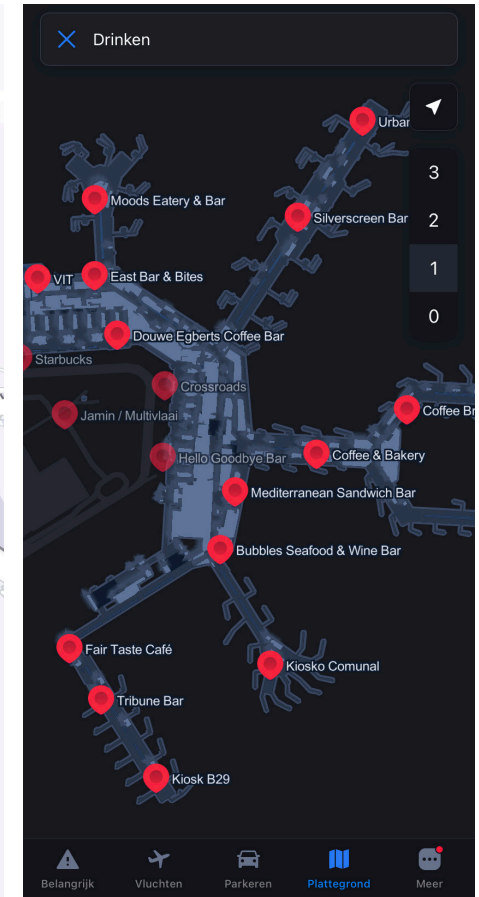
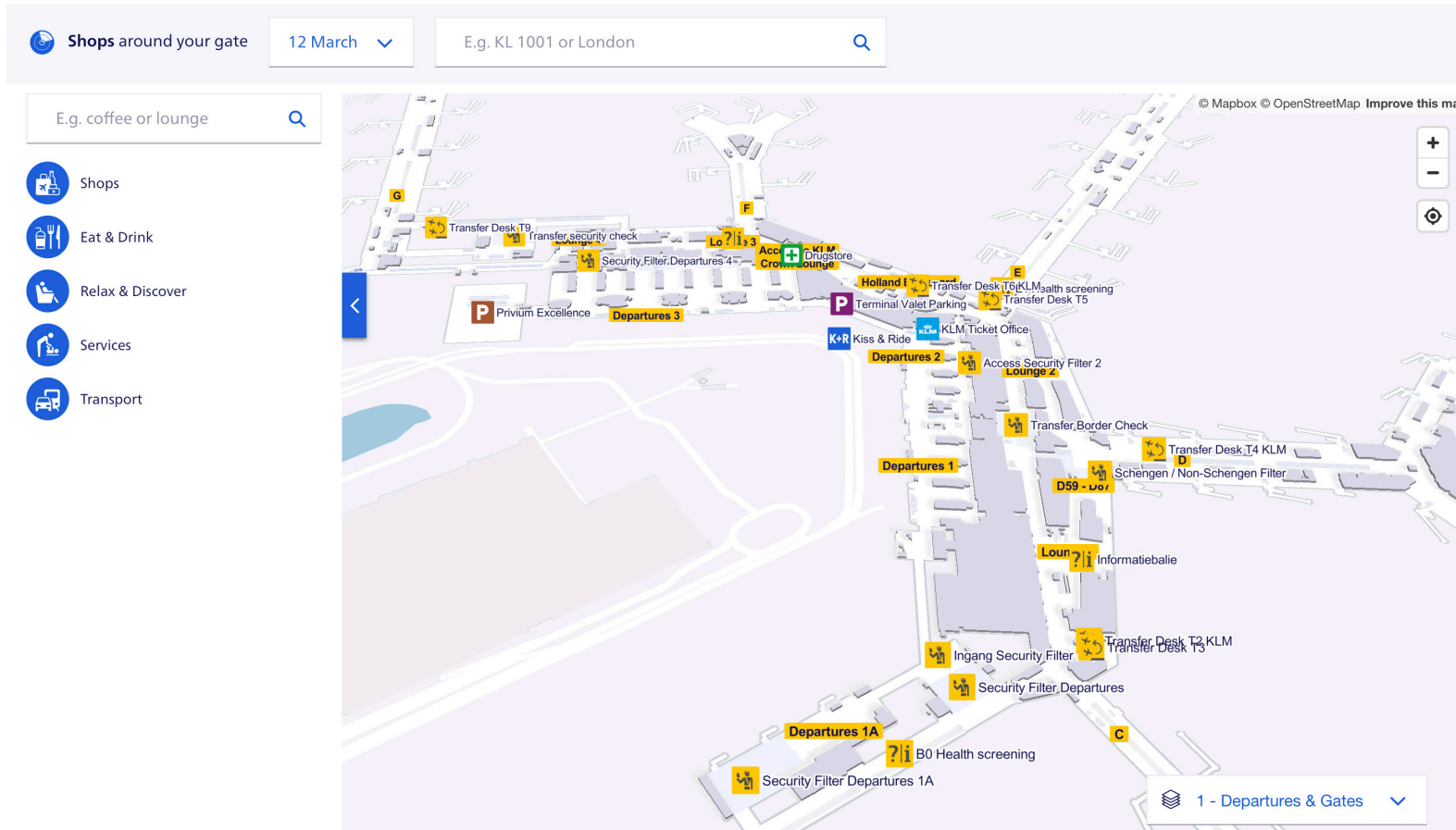
### Staff

Personal working at Schiphol will always remain the most flexible source of information. Although there are no manned information desks anymore, most of the passengers (in need) will in the end approach someone with their question. As more and more information becomes digital, the interaction with people and the option to have personal contact remains important, especially for passengers that fall into the category of 'Wanderers' (see Passenger Analysis).



### Schiphol app and website

Via the Schiphol website and app, a digital map can be retrieved and downloaded. Passengers can filter the information based on the location of their gate, they can search via the type bar or select a specific category of facilities. The Schiphol app and website are little used by passengers (see appendix 4).



## Appendix 3B: Commercial wayfinding per location

This appendix describes the different commercial wayfinding elements per location at Schiphol.

### Plaza

Schiphol Plaza is a shopping mall, which is part of the arrival hall for arriving passengers and is integrated with the NS station.

Many streams of people come together at Plaza. I made a division between Plaza central and Plaza peripheral. At Plaza central, the focus for passengers upon arrival is to find where they need to go next (check-in). Therefore, only functional wayfinding is shown at Plaza central, and no commercial wayfinding is used.

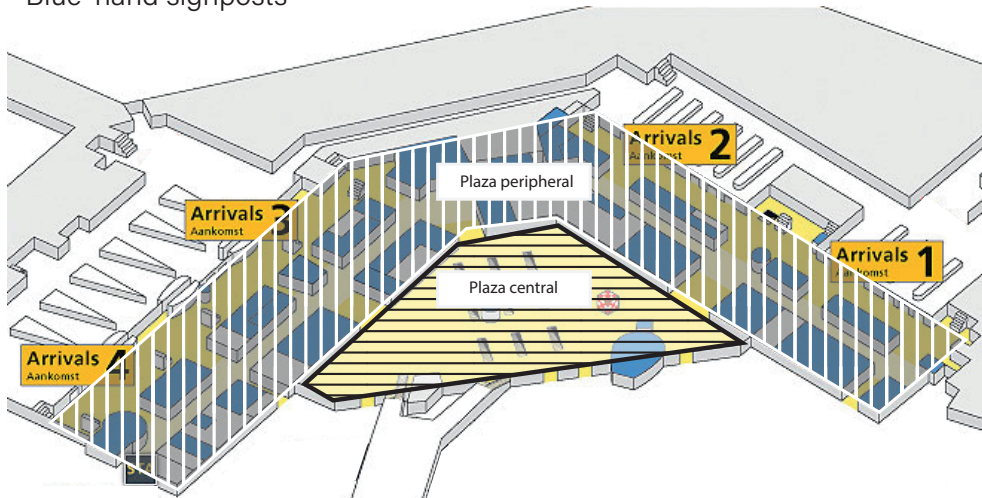
The area of Plaza peripheral is more designated to shops. Therefore, commercial wayfinding can be found here.

### Central

- Functional wayfinding

### Peripheral

- Self Service Units  
- Blue 'hand signposts'



## Lounge 1 - schengen flights

Lounge 1 has many signs for the functional wayfinding. However, if you look closely, the blue hand signposts for commercial wayfinding can be spotted in the middle of the picture. This is the only lounge that still has these blue hand signposts.

Lounge 1 also has an information zone, with SSU's and a static map.

Currently, Schiphol is redeveloping Lounge 1, which should be finished in 2025.





## Lounge 2 - non schengen

Lounge 2 has been renewed in 2016. It was then also decided to remove all blue/commercial signage, to keep the lounge clean and give (visual) space to the functional wayfinding. To replace these signs, banners have been placed at every rise/fall point in the lounge.

Just under the famous Maarten Baas clock, an information zone is placed, with SSU's and a static map.

It is remarkable that Yotel Hotel, a commercial function, is indicated with a grey Mijksenaar board.

Extra attention has been paid to giving passengers a good oversight at the moment of entering the lounge after going through security.

## Lounge 3 - non schengen

Lounge 3 has an information zone, with SSU's and a static map.

It is the only lounge that has a blue Mijksenaar sign, directing to McDonalds and other restaurants.

As can be seen on the picture, in the middle of lounge 3, besides a static map, a grey hand signposts is placed indicating secondary functions.





## Lounge 4 - budget flights

Compared to the other lounges, lounge 4 is very small in size. There is no further commercial wayfinding in this lounge. As one takes a short walk through the lounge, all facilities can be found.



## Holland Boulevard

Holland Boulevard is the connecting passage between lounge 2 and lounge 3. As this area serves both operational processes (catching a flight) and non-operational processes (recreation), little commercial wayfinding can be found here.

A static map is placed in the middle of the Holland Boulevard.

It is remarkable that the Rijksmuseum, a commercial function, is indicated with a grey Mijksenaar board.



## Appendix 3C: Overview commercial wayfinding per location

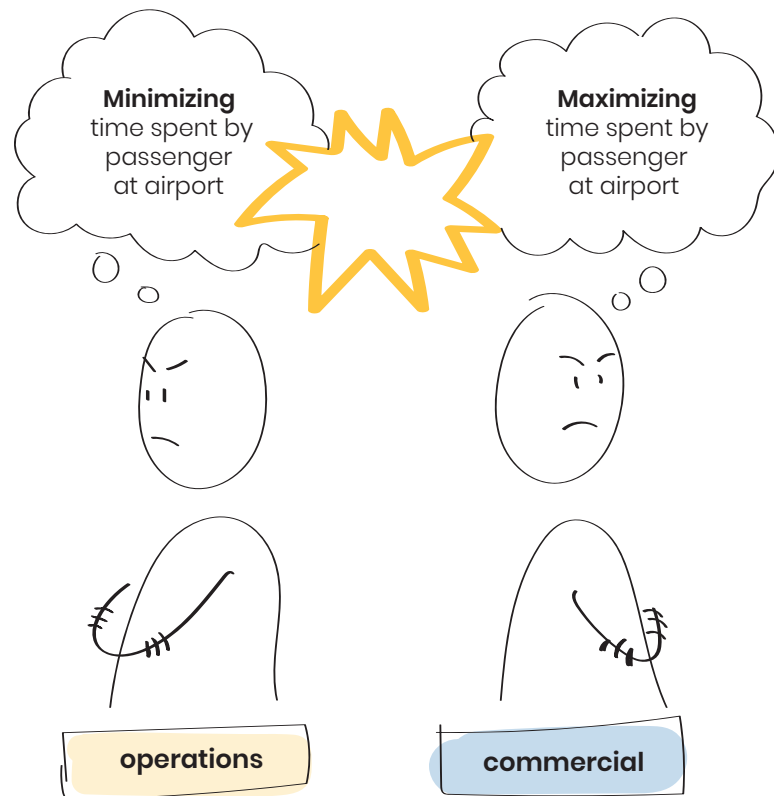
The table below gives an overview of the different commercial wayfinding mediums per location. See appendix 3A for a more detailed description.

Location	Blue hand signspost	Blue Mijksenaar	SSU	Static map	Banner
Plaza central	✗	✗	✗	✗	✗
Plaza peripheral	✓	✗	✓	✗	✗
Lounge 1	✓	✗	✓	✓	✗
Lounge 2	✗	✗*	✓	✓	✓
Lounge 3	✗	✓	✓	✓	✗
Lounge 4	✗	✗	✗	✗	✗
Holland Boulevard	✗	✗*	✗	✓	✗

\*Grey signs are used to indicate commercial functions (Yotel Hotel & Rijksmuseum).

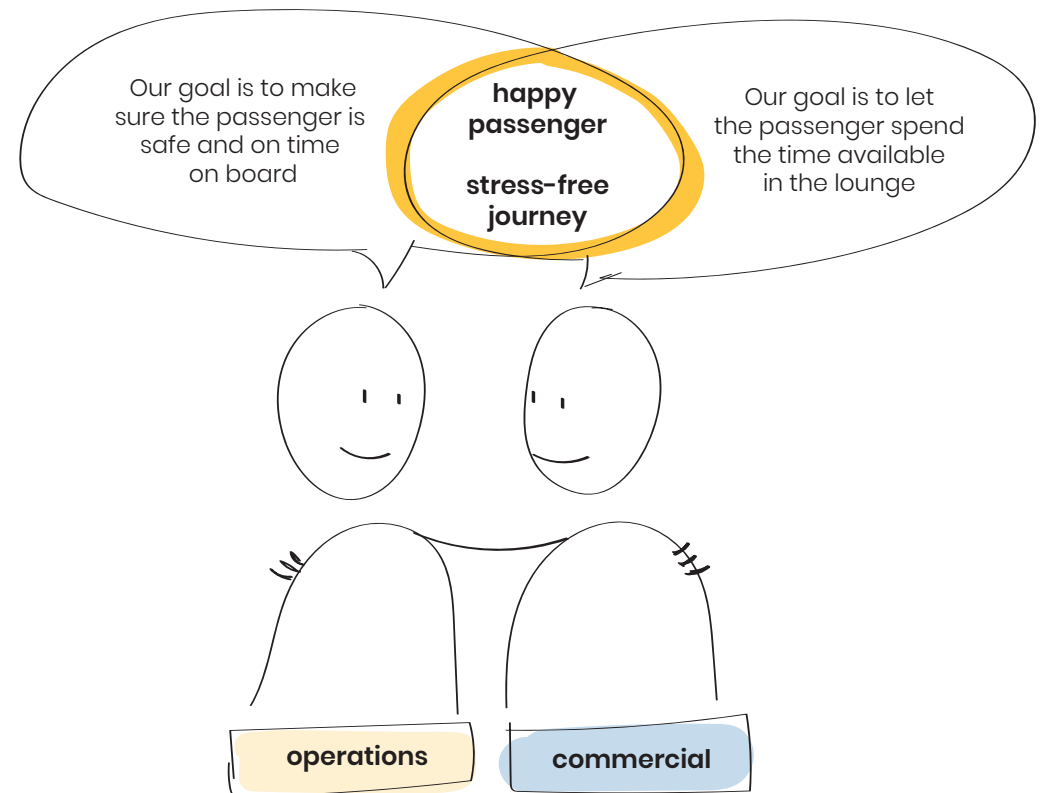
## Appendix 3D: Internal stakeholders

So at first sight it may seem like Operations and Commercial have opposing concerns. The goal of Operations can be described as 'minimizing the time spent by the passenger at the airport', whereas the goal of Commercial can be seen as maximizing time spent by the passenger at the airport. (image left)



But when having a closer look, it is evident that both departments have the same fundamental concerns: improving the passenger journey and making it (as) stress free (as possible). (image right)

The individual goals of both departments are measured along the Top Performance Indicators (TPI's). The TPI's for Operations are safety (safety index) and the On-Time Performance of flights (OTP). The TPI's for Commercial are the passenger satisfaction (Net Promotor Score, NPS) and the revenue created by shareholders (shops ect.) (Return on Equity, RoE)



An example of opposing concerns by Operations and Commercial can be illustrated by the example given by one of the employees responsible for the commercial services at the airport:

*"It would be ideal (for the Commercial department) that for passengers entering the lounge, there would immediately be a map placed in the middle. However, this would disturb the passenger flow (concern Operations department): if all passengers will stop to have a look at the map and thereby cause congestion."*

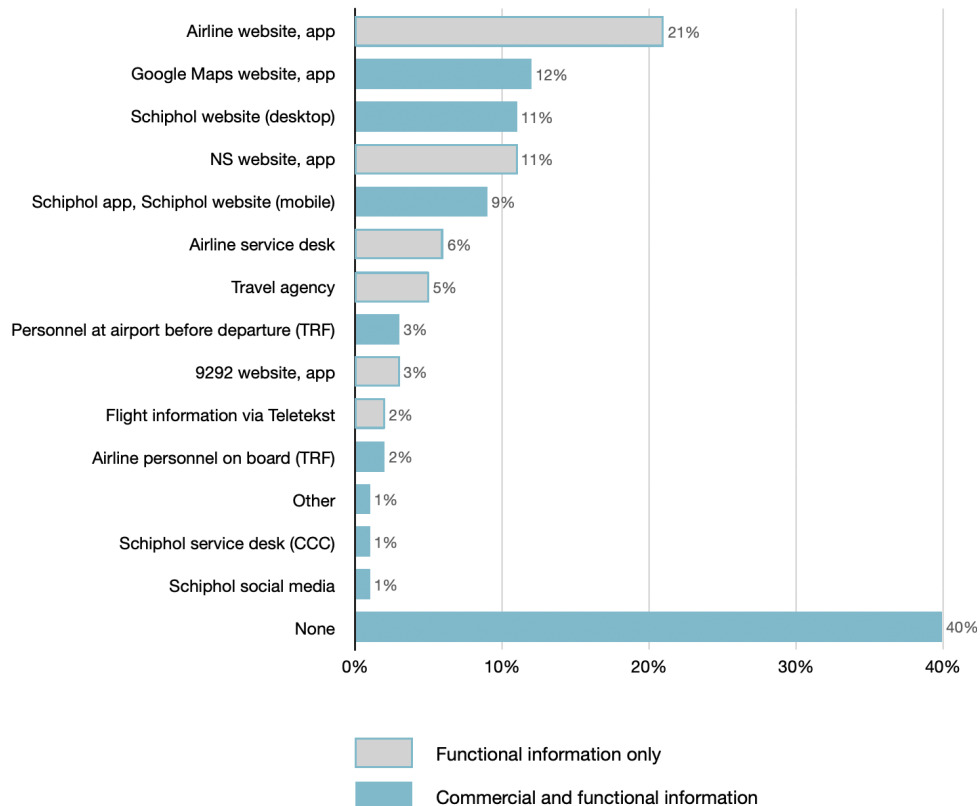
Another aspect that makes the improvement of the commercial wayfinding more difficult, is the fact that within the Commercial department, there is not a person responsible for the commercial wayfinding. The responsibility and the control of the commercial wayfinding is scattered over different departments. This complicates getting a holistic view of the commercial wayfinding, its history and why certain things ended up as the way they are currently.



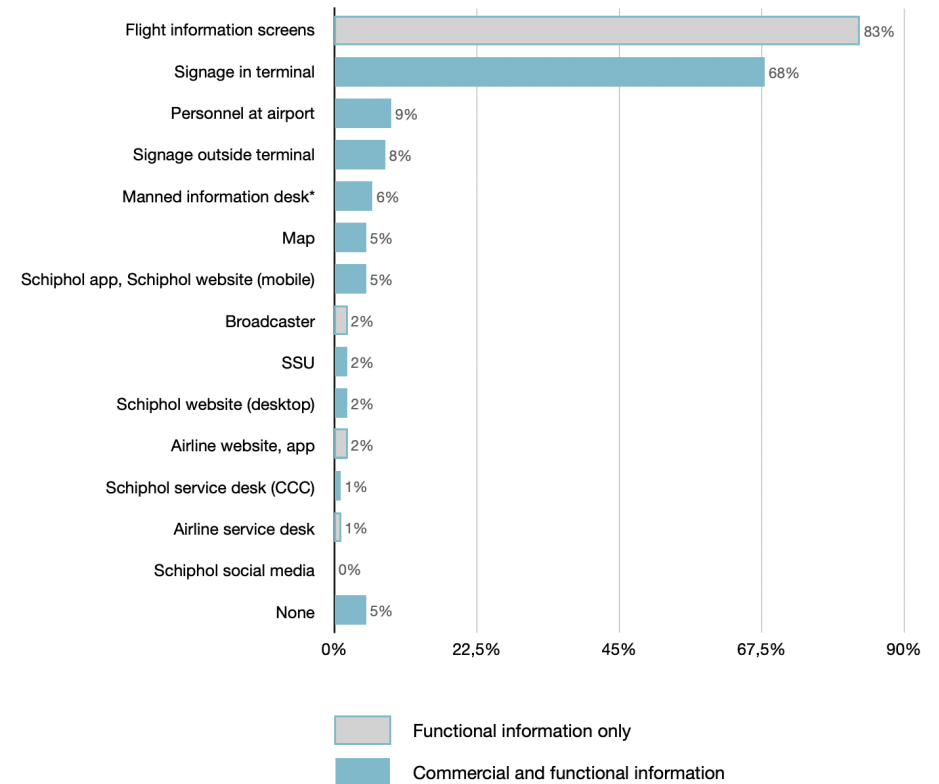
## Appendix 4: Used information sources

This appendix describes the numbers of information sources used by passengers. Passengers at Schiphol have the option to use many different information sources. The graphs below show what information sources are used by passengers, before arrival at Schiphol (left) and at Schiphol (right).

### Information sources used before arrival at Schiphol



### Information sources used at Schiphol



\*Currently, there are no more manned information desks

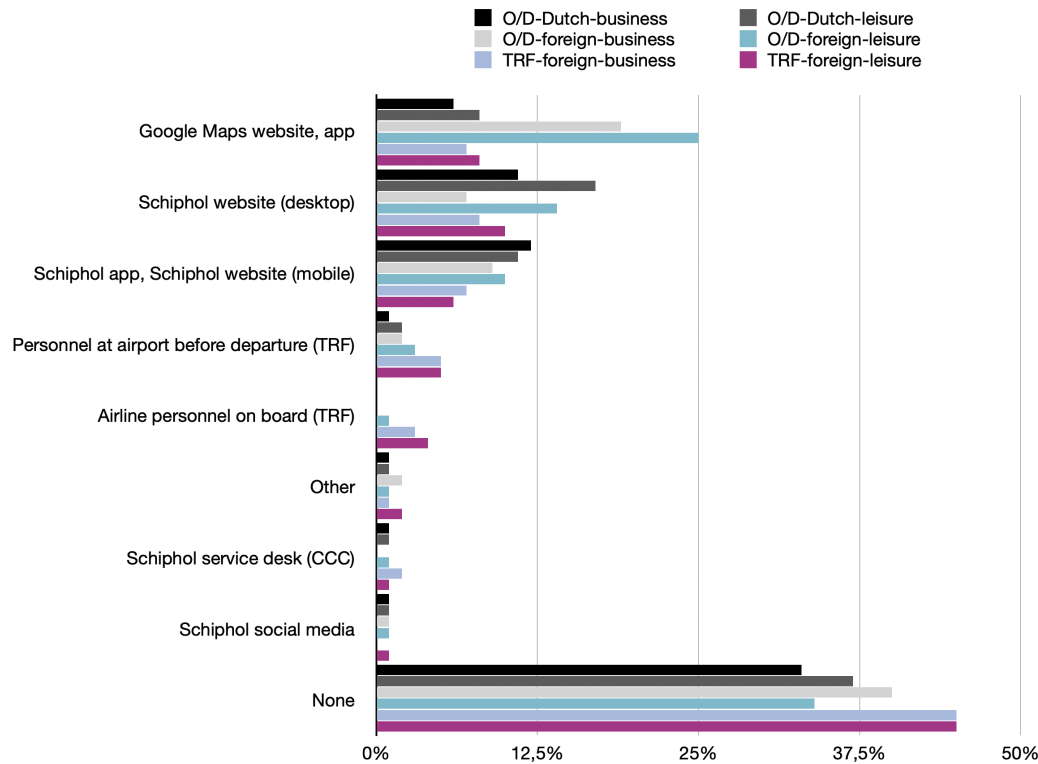
In the research from which this data is retrieved, no distinction was made between functional and commercial wayfinding. Therefore, the information sources that only contain functional (wayfinding) information are made grey.

Since no specific data is retrieved about the use of commercial wayfinding sources, it is difficult to draw conclusions.

However, it can be seen that many passengers do not use information sources before arriving at Schiphol. Also, the most used information source in both situations (airline website, app and flight information screens) is for primary wayfinding. Furthermore, it is interesting to see that the Schiphol app and mobile website are more used before arriving at Schiphol than at Schiphol.

The graph below shows the commercial and functional wayfinding information sources used before arrival at Schiphol.

### Information sources used before arrival at Schiphol, per passenger type



It can be noticed that:

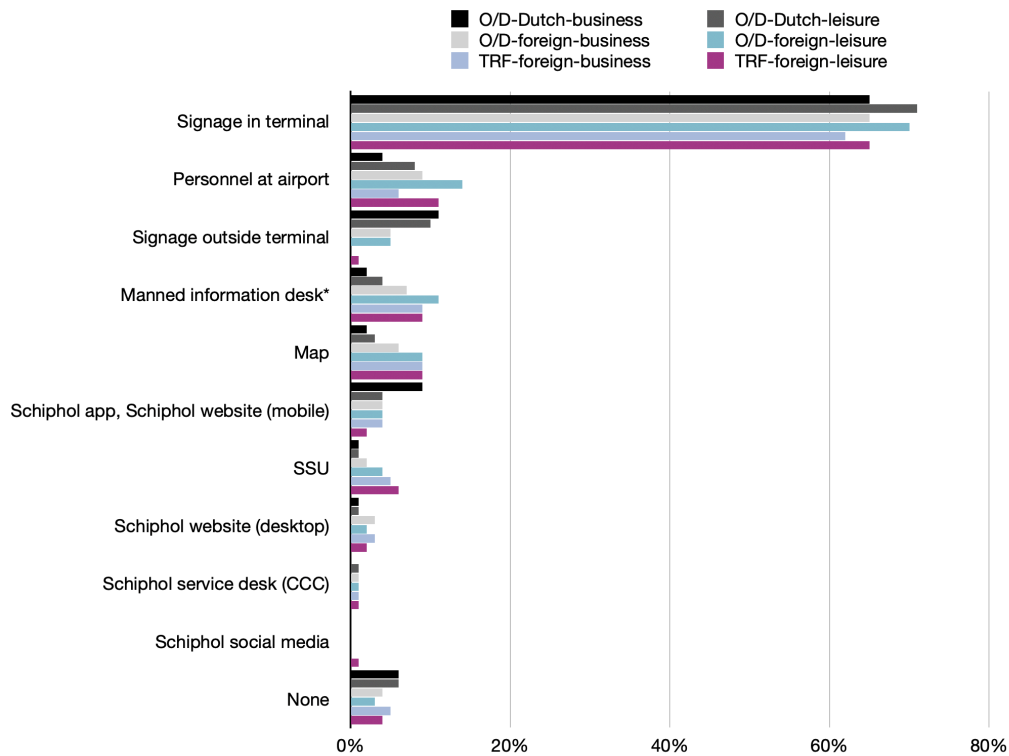
- Google maps is most used by foreign O/D passengers.
- Google Maps is least used by transfer and Dutch passengers.
- The Schiphol website (desktop) is most used by leisure passengers.
- Dutch passengers use the Schiphol app more than foreign passengers.
- The Schiphol app is least used by transfer passengers.
- Transfer passengers ask more help from personnel than the other groups.
- In general, transfer passengers use least information sources before arriving at Schiphol, except from information retrieved via a person.

Most passengers use none (40%) or one (40%) information source(s) before arrival at Schiphol.

A side note can also be made about the fact that the use of signage for finding one's way, is often an unconscious process. Therefore, the real use of the signage is probably higher.

The graph below shows the commercial and functional wayfinding information sources used at Schiphol.

### Information sources used at Schiphol, per passenger type



It can be noticed that:

- Signage in the terminal is most used by leisure passengers.
- Signage in the terminal is least used by transfer passengers.
- Leisure passengers ask more help from personnel than business passengers.
- The manned information desk (not in use anymore) was most used by foreign passengers.
- The map is more used by foreign passengers than Dutch passengers.
- The Schiphol app is most used by Dutch business travellers.
- The SSU is most used by foreign passengers.





# Appendix 5: Passenger segmentation

This appendix describes different ways to segment passengers.

## Based on drivers

In 2011, Schiphol made the visual below to describe different passenger segmentation and their broader values and drivers.

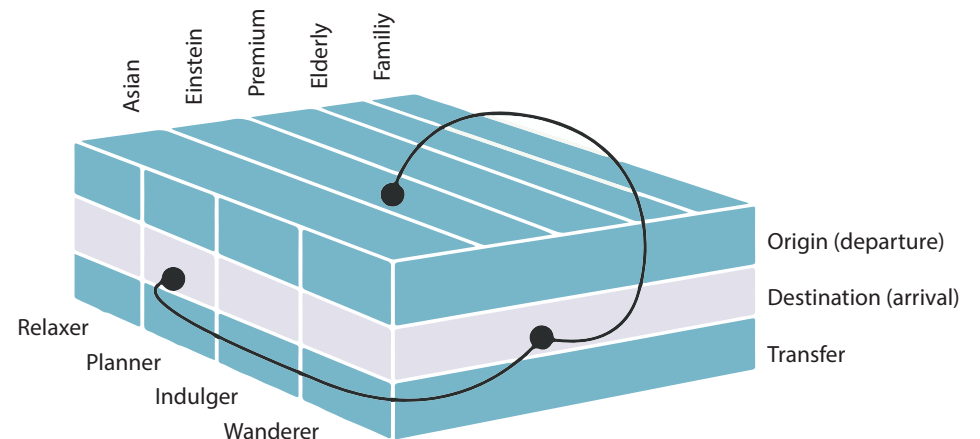
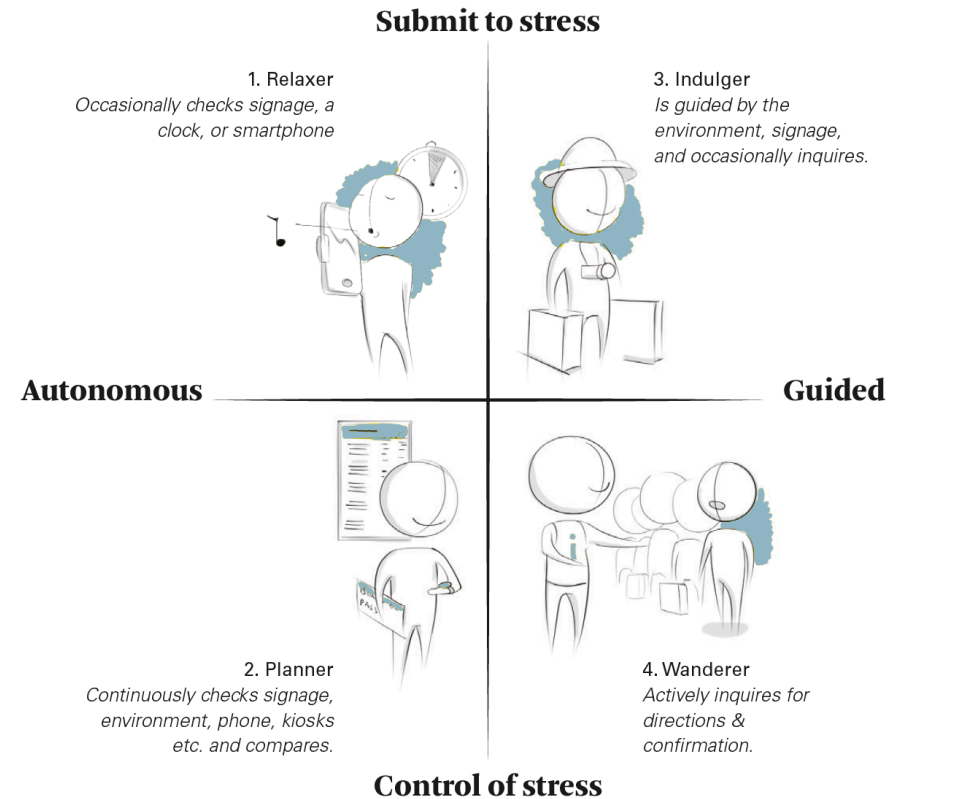
	<b>Aziaten</b> 2010: 8% van passagiers komt uit Azië en Midden-Oosten, grootste deel uit China; groeipotentie tot 16%	<b>Key insights</b> <ul style="list-style-type: none"> <li>Belangrijk: familiebanden, <b>groepsgevoel</b> en eigen cultuur</li> <li>Sterke voorkeur voor <b>high value (luxury) brands</b></li> <li>Gevoelig voor <b>gezichtsverlies</b></li> <li>Onzeker vanwege de <b>taalbarrière</b></li> <li><b>Zeer beleefd</b>, willen ook zo behandeld worden</li> </ul>
	<b>Generatie Einstein</b> 2010: 14% van de passagiers is jonger dan 26 jaar; deze groep wordt in de toekomst een van de grootste groepen	<b>Key insights</b> <ul style="list-style-type: none"> <li>Initieert veranderingen: <b>'Power to the people'</b></li> <li>Continue <b>interactie</b> via internet, mobile en social media</li> <li>Snel en dynamisch: <b>'latest best practices'</b> direct bruikbaar</li> <li><b>Kiest zelf</b> en heeft hoge mate van <b>zelfredzaamheid</b></li> <li>Belangrijk: <b>functioneel design</b> en <b>authenticiteit</b></li> </ul>
	<b>Business / premium</b> 2010: 30% van de passagiers vliegt vaker dan vier keer per jaar met een zakelijk motief; de groepsomvang zal stabiel blijven	<b>Key insights</b> <ul style="list-style-type: none"> <li>Frequent flyer</li> <li>Belangrijk: <b>snel, betrouwbaar</b> en <b>compact</b> proces</li> <li>Voorkeur voor <b>comfort</b>, exclusiviteit en rust</li> <li>Must: een (werk)plek met <b>internetconnectie</b> en elektriciteit</li> <li><b>High demanding</b> en onafhankelijkheid in opereren</li> </ul>
	<b>Ouderen</b> 2010: 10% van de passagiers is ouder dan 60 jaar; Deze groep zal verder groeien i.v.m. vergrijzing	<b>Key insights</b> <ul style="list-style-type: none"> <li>Belangrijk: <b>gemak</b> en <b>persoonlijke service</b> (niet tegen hoofdprijs)</li> <li>Wens: <b>meer zorg, zekerheid</b> en <b>begeleiding</b> (vanwege leeftijd)</li> <li>Goed geïnformeerd en zeer <b>(prijs)kritisch</b></li> <li>Hebben doorgaans <b>veel tijd en geld</b> te besteden</li> </ul>
	<b>Groepen / familie</b> 2010: 20% van de passagiers reist met 3 personen of meer; de grootte van deze groep zal stabiel blijven	<b>Key insights</b> <ul style="list-style-type: none"> <li>Belangrijk: <b>voorspelbaar, betrouwbaar</b> en <b>compact</b></li> <li>Willen als <b>groep</b> bij elkaar blijven, ook tijdens het proces</li> <li>Faciliteiten ingericht voor <b>families</b> (entertainment, playgrounds)</li> <li>Willen zo snel mogelijk <b>bagage</b> afgeven</li> </ul>

## Based on psychological profiles

Psychological profiles (image top right) have been established by IPSOS (2015) based on two dimensions: Handling stress and autonomy of passengers. These dimensions impact the behavior of the passenger during the journey at Schiphol.

The 'relaxer,' for example, will not prepare much in advance and will autonomously search for information at the airport. The 'wanderer' will continuously look for confirmation of information and accepts help more easily than the autonomous passenger. The I&W system should cater to different I&W preferences and needs.

The image at the bottom right shows a multidimensional passenger categorization combining the different passenger segmentations.



## Based on shopping motivations

Passengers can also be segmented into categories based on their shopping motivations. There is a fundamental difference between people shopping at a shopping mall (shopping is primary purpose) and passengers shopping at an airport (traveling is primary purpose). Shopping motivations can be split into utilitarian and hedonic motivations (Arnold, M.J. et al, 2003).

### Utilitarian motivations:

such as a good price, convenience, product assortment, and quality shopping.

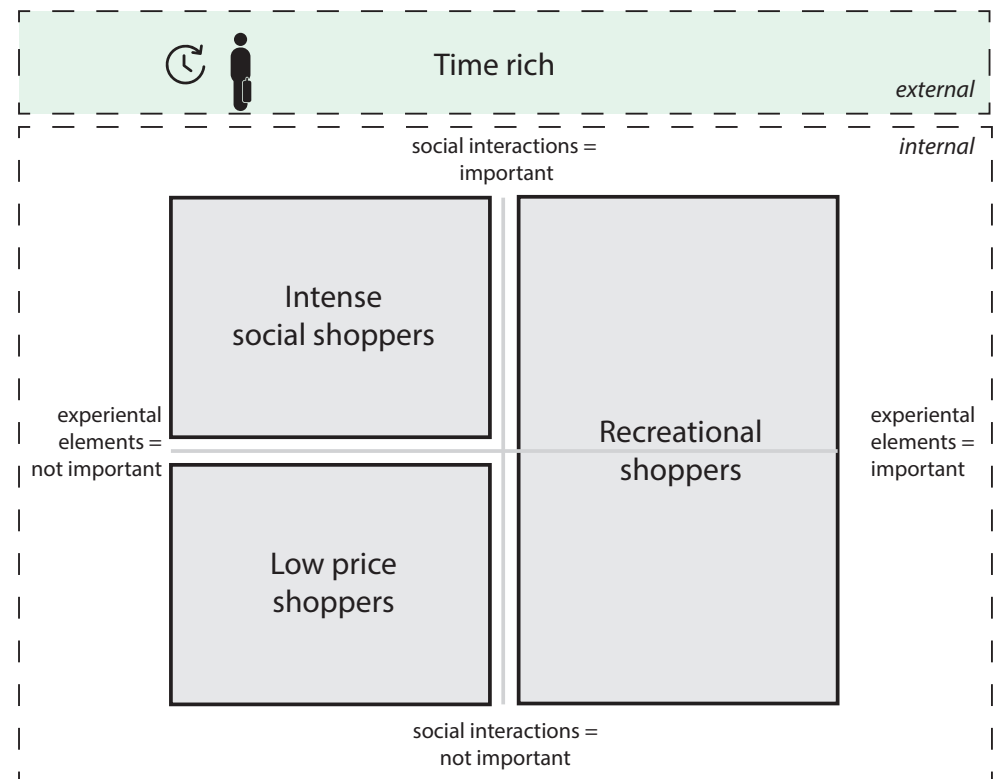
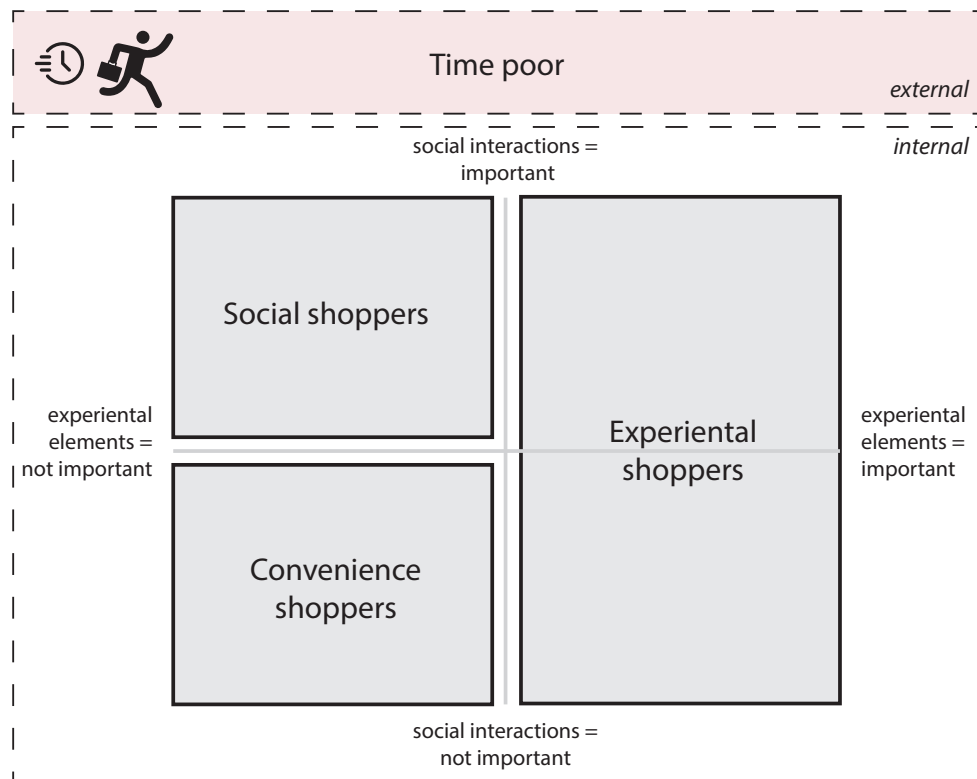
### Hedonic motivations:

Arnold, M. J. et al., (2003) distinguishes: social shopping, idea shopping, role shopping, gratification shopping, adventure shopping and value shopping.

## Travel motivations

At an airport, other motivations can drive a passenger to shop. Reasons can be to pass the waiting time, to get into the holiday mood, to spend last foreign currencies, to buy souvenirs or to make use of the tax-free environment.

The aspect of available time is highly relevant in the context of an airport, which is taken into account in the segmentation proposed by Geuens et al. (2002), see image below. They categorize shoppers based on the available time (time-poor or time-rich), the extent to which social interactions are important, and the extent to which experiential elements are important.





## Appendix 6: I&W needs lounges, gates

This appendix shows the different information and wayfinding needs for departing passengers (O/D and TRF) in the different areas of an airport. The needs are categorized into four groups: route & process, time, facilities and disruption.

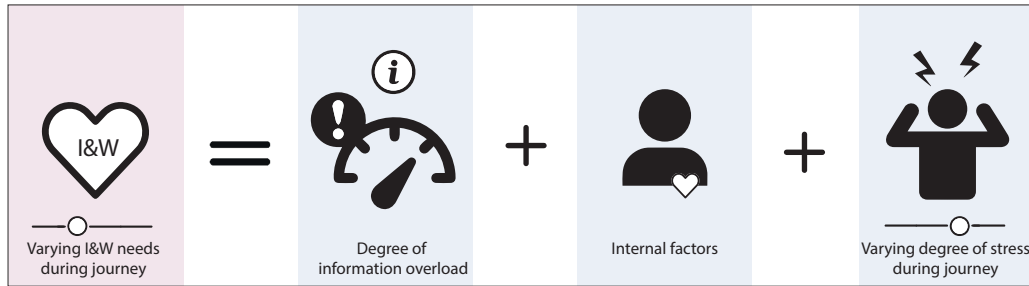
<b>I&amp;W needs departure (O/D and TRF)</b>	<b>Route &amp; Process</b>	<b>Time</b>	<b>Facilities</b>	<b>Disruption</b>
Lounge	Where am I?	Time until boarding	Necessary & informal discretionary activities	Gate change: route & time to new gate
	Boarding pass in shops	Final boarding time	Shoppers	
	Route to gate	Departure time	Only TRF: Resting & refreshing	
		Time to gate		
		Boarding alert		
Gate Waiting area	Gate number	Time until boarding		Gate change: route & time to new gate
	Flight number, destination	Final boarding time		
		Departure time		
Boarding	Boarding sequence			
	Instructions			

(Glastra-van Loon, 2017)

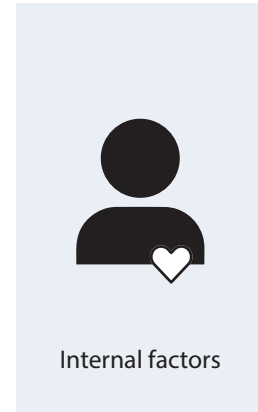


# Appendix 7A: determinants for wayfinding needs

This appendix describes in more detail which elements determine the information & wayfinding needs of passengers at an airport.

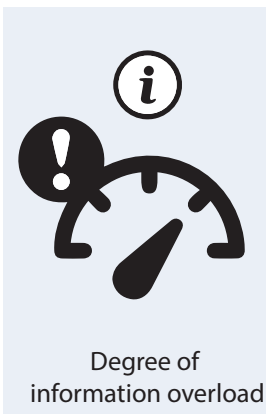


The information & wayfinding needs of passengers vary during the journey, as they are depending on the amount of information overload, internal factors and the degree of experienced stress.



## Internal factors

Each passenger is different and everyone has their unique response to impulses from the context. Multiple passenger profiles have been made to show different types of behavior amongst passengers. An example is shown below (also see appendix 5: passenger segmentation).

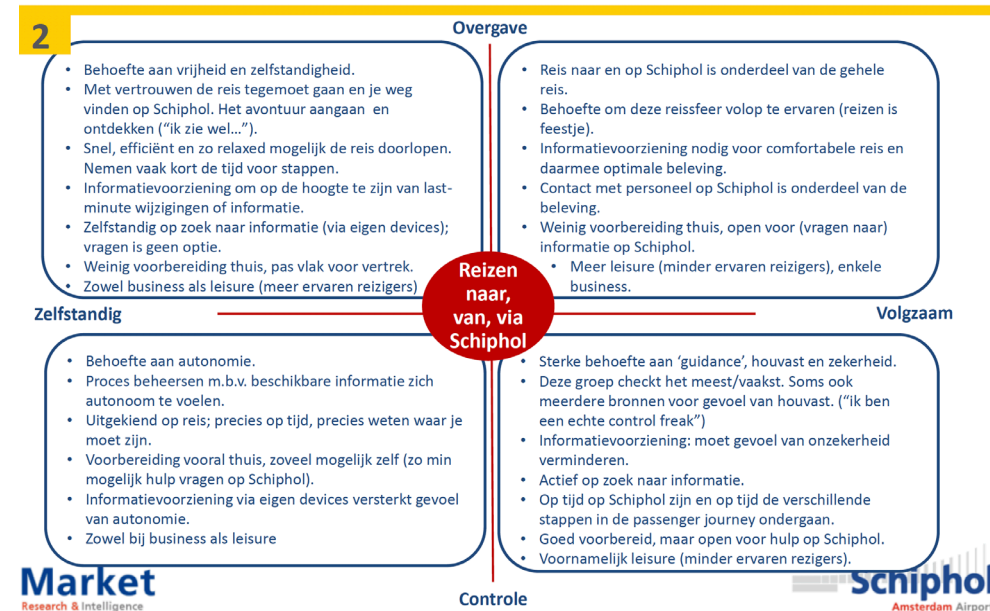


## Information overload

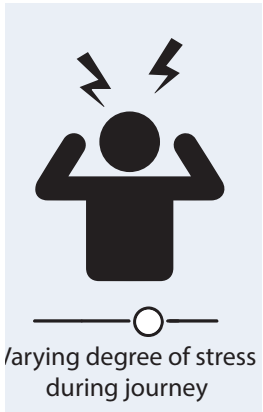
Research by Verhagen, A., & Stephanus (2015) showed that passengers are overloaded with information at certain locations at Schiphol (Plaza and lounges). This disturbs the wayfinding abilities and makes it difficult to filter between the things that are mandatory (primary wayfinding) and the things that are optional (tertiary wayfinding).

Hans Bouchier (operations department) (2021) stated that the current Mijksenaar (functional) wayfinding system is working as it should. However, the context in which the signs are displayed has changed, with many different expressions all competing for attention from the passenger.

## Verschillende behoeften t.a.v. I&W gebaseerd op individuele dimensies



(Verhagen, A., & Stephanus, 2015)

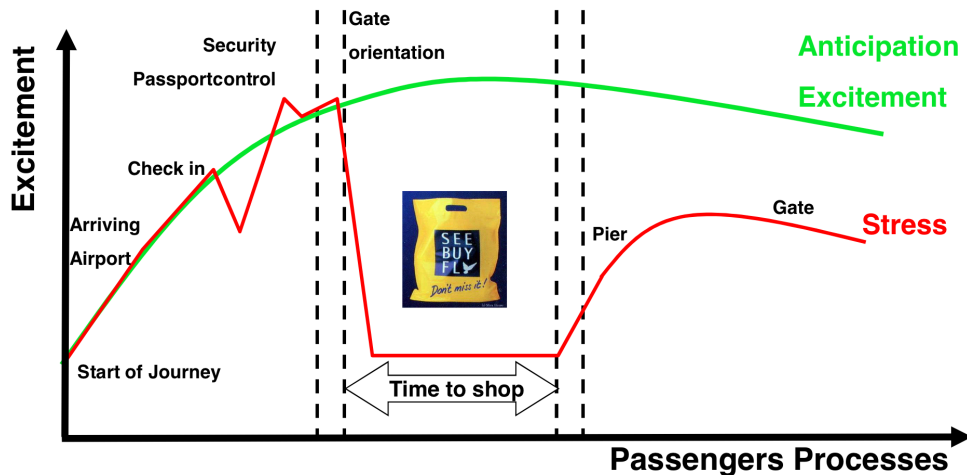


### Varying degree of stress

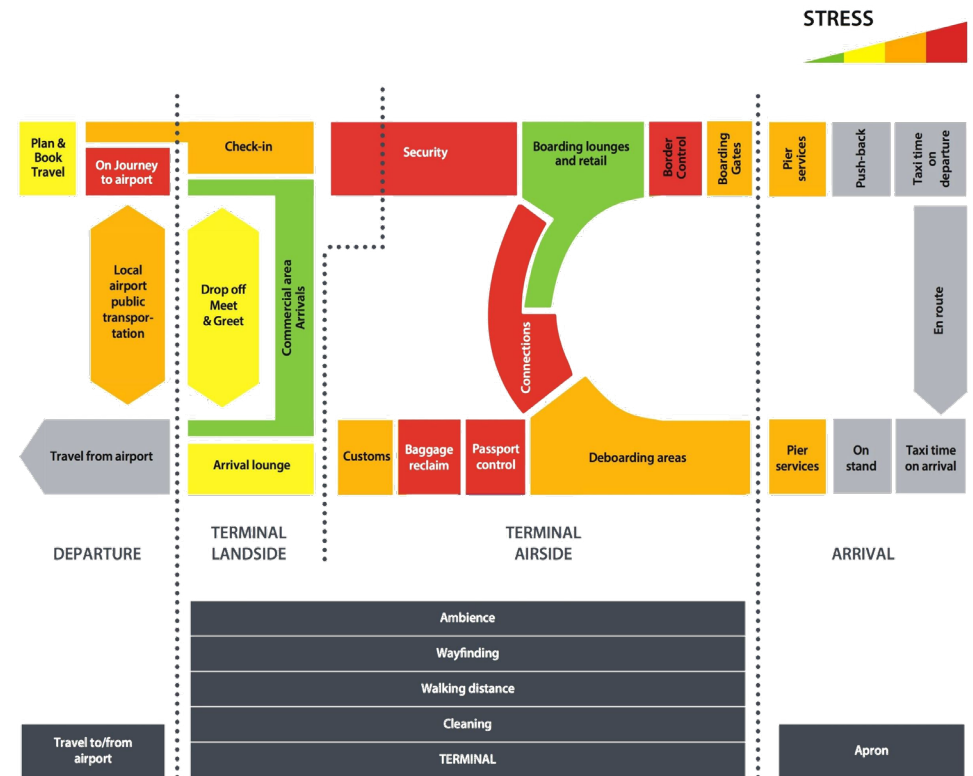
Traveling via an airport is always accompanied by a degree of stress. During the journey through the airport, the degree of stress varies (image bottom left).

The arrival at Schiphol, check-in, security/passport control and transfer are (generally) associated with more tension. The passenger is still relatively far from the flight and it is perceived that all kinds of things can still go wrong.

The lounges, retail areas, piers and gates are associated with less tension: Most of the 'checks' are over and the flight is relatively close. Also, anticipation and excitement are highest during passenger's stay in the lounges, which is also the 'time to shop' (image bottom right).



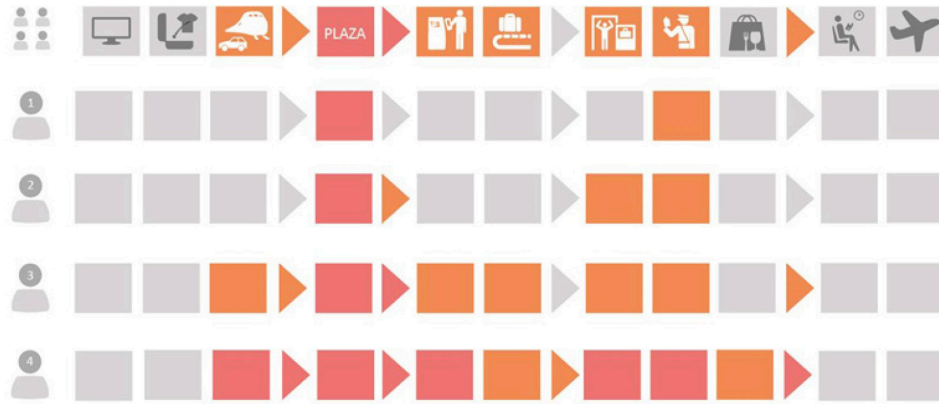
(Verhagen, A., & Stephanus, 2015)



(TU Delft, n.d.)



The image below shows how the psychological profiles devised by Verhagen and Stephanus are related to the sensitivity to stress at each stage of the journey.



(Aerts, 2015)



## Factors causing stress

/arying degree of stress during journey

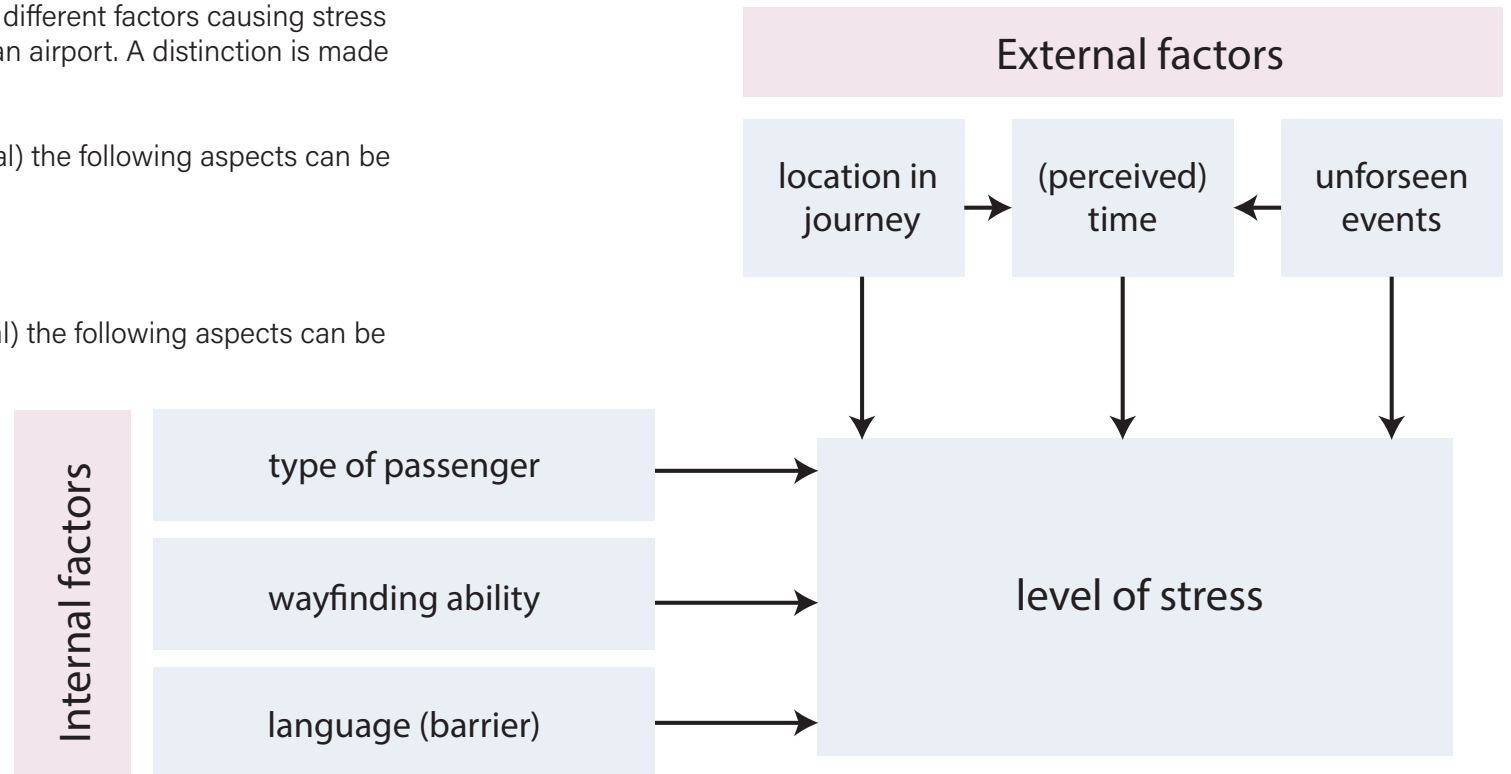
The image below shows an overview of the different factors causing stress for passengers during the journey through an airport. A distinction is made between external and internal factors.

Under the factor 'type of passenger' (internal) the following aspects can be grouped:

- How a passenger handles stress
- Cultural differences

Under the factor 'wayfinding ability' (internal) the following aspects can be grouped:

- Familiarity with airport (Schiphol)
- Sense of direction



## Appendix 7B: Reducing stress and information overload

In the described information & wayfinding and recreational needs of passengers there are some factors that could be positively be influenced:

The degree of experienced stress can be decreased by ensuring the passenger feels in control over the traveling process. The phenomenon of information overload can be minimized by creating a clear and calm environment. The image on the right combines information from Verhagen, A., & Stephanus (2015) and Mijksenaar (2015).

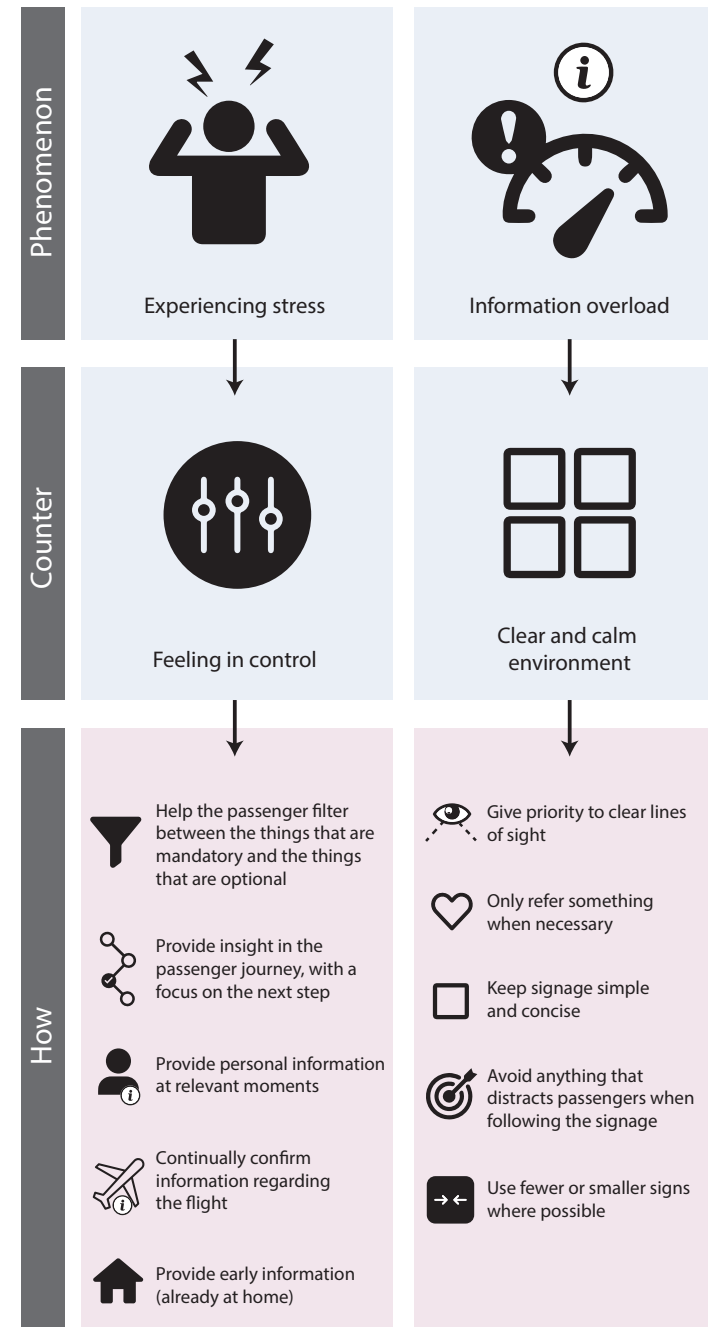
Verhagen, A., & Stephanus (2015) mention the following ways to improve the feeling of control for passengers:

- Help the passenger filter between the things that are mandatory (primary wayfinding) and the things that are optional (tertiary wayfinding).
- Provide insight in the passenger journey, with a focus on the next step.
- Provide personal information at relevant moments.
- Continually confirm information regarding the flight. (I know where and at what time my connecting flight will depart; I know how to get there; I know how long it will take me to get to the gate).
- Provide early information (already at home).

Mijksenaar (2015) gives the following guidelines for creating a calm and clear environment to decrease information overload:

- Give priority to clear lines of sight.
- Only refer to something when necessary.
- Keep signage simple and concise.
- Avoid anything that distracts passengers when following the signage.
- Use fewer or smaller signs where possible.

Currently, creating a clear and calm environment is a point of attention for the planning and layout of Schiphol. For example, to reduce the stress for passengers just after going through the security check, two things are done: First of all, the security check is placed at the second floor, while the lounge is at the first floor. The time that passengers have to descend to the lounge (by stairs or escalator) can be used to unwind. And secondly, passengers get a better overview of the lounges as they enter it on the second floor, improving natural wayfinding,





## Appendix 8A: Contextmapping research plan


This appendix shows the details of the research plan for the contextmapping sessions. First, the setup of the session is explained step by step. Then, the hypotheses per section are described.

### Goal: Getting insight in the recreational needs of passengers at Schiphol

- Are passengers aware of the current offer? How do they decide to use which facility?
- Based on the time that passengers have: What do they value to spend their time on?
- Would passengers like to receive information about the offer? When, and how?

### Many different journeys possible

- 30 min. transfer time: Only grab a coffee?
- 19 hour transfertime: Spend the night and other activities?



**Card deck**

**Sensitizing participants**  
**Conversation starter**  
**Awareness current offer**

### Step 0: card deck

- Participant receives card deck, a few days before the session, with a personal text explaining them that they are asked to have a look at the cards already before the session.



# Day of session

- Start with consent form + question to record sound

Use & wayfinding facilities



15 min

## Step 2: journey

- Participant chooses one of their current trips (via Schiphol - or other airport) and describes the journey, supported by the cards
- They can add extra information by writing/drawing

- Q: Were you traveling with someone?
- Q: How did you find the facilities that you used? (On purpose/accidentally)
- Q: How did you decide to use these facilities? Did you plan this or not?



Awareness current facilities



10 min

## Step 1: opening

- "You received the offer of the facilities at Schiphol in advance."
- Q: Was there something that stood out or surprised you?
- Q: Did you recognize some of the facilities?

Experience during journey



10 min

## Step 3: experience

- Participant describes their emotion per step in the journey
- They can also express this in their level of stress



Not main focus of session



10 min

## Step 4: communication

- Q: Would you like to receive information about the current facilities (for relaxation, shops, restaurants) at the airport via which you'll be traveling?
  - For the airport you depart from?
  - For the transfer airport?
  - For the airport you arrive at?
- Q: Which info would you like to receive?
  - Could the preferred information differ per travel?
  - Is this dependent on the hours you have to wait at the airport?
- Q: When would you like to receive that information?
- Q: How would you like to receive that information?
  - Digital/physical?



15 min

## Step 5: recreation

Make sure I don't reinvent the offer of commercial functions at Schiphol

- If you were free to decide: How would you ideally spend your waiting time at an airport? - Create an A3 (knippen, plakken, lijmen)
  - For which time frame? (1 hours, 6 hours? Or undefined?)
- Q: If this ideal would become true, would you arrive earlier at Schiphol to experience it?



10 min

## Step 6: profiles

### Shopping motivations

When I shop at the airport... (yes/no)

- This is because I simply need something
- This is to relieve stress
- This is to spend time with others
- This is to explore the surroundings
- This is to keep up with trends and new fashions
- This is to find a gift for someone else
- This is because I am looking for unique offers
- This is because of the tax-free environment
- This is to spend my last foreign currencies
- This is to buy souvenirs

(functional shopping)  
(gratification shopping)  
(social shopping)  
(experiential/adventure shopping)  
(idea shopping)  
(role shopping)  
(value shopping)  
(travel shopping)  
(travel shopping)  
(travel shopping)

(Impuls buying)

- Did you do an impulse purchase at the airport?
  - Are/were you satisfied with the purchase?



10 min

## Step 6: profiles

### Psychological profiles

When I travel via Schiphol/an airport: (Likert Scale 1-6: agree disagree)

- I plan my trip at Schiphol as much as possible at home (control)
- I do not worry to much, I will see what is to come (surrender)
- I want to be autonomous/independent (independent)
- I search for guidance and ask for help if needed (docile)
- I find traveling via an airport a hassle
- I enjoy traveling via an airport

hassle ————— ● ————— enjoy

self service ————— ● ————— personal assistance

## Hypotheses per section

### Step 1: opening

- Hypotheses:
- Passengers are unfamiliar with the 'relax' offer (Nemo, Rijksmuseum, Airport Library, Airport Park, Showers, Hotels)
- Passengers are familiar with the shops and restaurants, no surprises here

### Step 2: journey

- Hypotheses:
- Not many facilities are used
- Passengers found the facilities 'accidentally', by walking through the lounge. They did not plan this in advance.

### Step 3: experience

- Hypotheses:
- Passengers experience stress during their journey through the airport. Especially the passport check and security check are stressful
- Once the passenger is secured that he'll find the gate, on time, he can start to relax and explore the lounge.



## Step 4: communication

- Passengers would specifically be interested in information about the transfer airport (longest waiting time)
- They are less interested in the airport they are departing from (shorter waiting time)
- And even less about the airport they arrive at: immediately leave airport
  
- I think that the preferred type of information is different per passenger, so the information should be personal.
- However, passengers would like to have information that is not obvious: Something that they would otherwise not have found
- The type of preferred information differs per travel: If people are going on holidays they are in a different mood than if they are going on a business trip. Furthermore, this also depends on the people they are traveling with. Families have other needs than a group of friends or someone traveling alone.
- The preferred information is dependent on the waiting time: If people have more hours to wait they will be more open to entertainment.
- I hope people would like to receive the information before arrive at the airport (maybe in the 1st flight to the transfer airport). But if this is desirable will probably differ per person.

## Step 5: recreation

- Leisure passengers (holidays) will mention 'out of the box' ideas for relaxation/adventure (recreation)
- They will not mention the shops/restaurants as any different than now
  
- Business travelers will mainly want to have a good place to sit/wait/call/work

## Step 6: profiles

- Some of the profiles (aspects) might be linked to the awareness of commercial functions, or the desire for (information about) commercial functions

*Appendix 8B: Contextmapping results:  
Transcripts*

**See separate digital appendix for transcripts.**

## Appendix 8C: Insights contextmapping

This appendix shows the insights and quotes from the contextmapping sessions.

### Insights that are used as input for the design brief.

(most of the quotes are translated from Dutch see appendix 8B for the original transcripts)

Rianne: *"Then we walk another round and half an hour later we get a cup of coffee. So it's basically ... you have to think of it a bit like occupational therapy. So this is an or or ... but first a walk around and then we had a nice sandwich, then you sit down again and then you get a coffee. Then you sit down again for a while, and then maybe a beer, we will skip the luxury restaurants."*

Preeti: *"So maybe literally like take you through and a free experience. Yeah. That's like the ideal interactive. Yeah. Interactive, even. I mean, I would be okay with like, even going and going through a gallery or something. That's fine. But just Yeah, something which I can do."*

Ronja: *"I am very often bored at Schiphol and those shops... I won't buy anything there anyway. Usually I think they are way too expensive and they always have the same feeling, really for years. So I think I would like to just walk through that Rijksmuseum, even if I would only be there for ten minutes or so."*

Demi: *"You have something to do then."*

Rob: *"But then indeed those things, such as being able to do something in a museum or something there ... I find that interesting"*

### Passengers seek pastime to fill their waiting time before their flight departs.

Demi: *"Can be everything, yes, because... if you are just hungry, you will look for a restaurant. But when you've eaten - and you're like, well, I've got half an hour. Then it is in itself quite nice to also have a look of: okay, what can I do for half an hour now? Instead of waiting for a chair and watching the clock go forward every second."*

Rianne: *"But it is more... curiosity and interest and a bit of pastime ... And then just stimulate myself a bit and get inspiration... Rather than really looking for offers or cheaper products or..."*

Ronja: *"Yes, something that catches my attention, where you just... where sometimes the time goes a little faster, and I don't have that in a shop, but a lot of people do have that in a shop. I don't."*

Ronja: *"By the way, we were earlier than usual. Normally I think advice is given an hour and a half in advance. I think it was advised a little longer in connection with corona, so we were earlier. So we also had more time to kill. (...) And it was super quiet so yes, we actually got through customs in no time. So then we were like: Oh now we still have two or three hours, let's say."*

Rianne: *"It should just be a nice pastime for me, um and comfortable to ... so that it becomes more comfortable to just be there on time."*

Ronja: *"Yes, so it doesn't have to be fantastic, special, cool things. But just something that keeps your attention and is a bit entertaining."*

Rob: *"Just walking for the sake of walking. And then it is nice to look around you. And then indeed, if you have something like that, as the museum you could have a look at (...)"*

Demi: *"Yes, then I'm like, I'd better take a walk or do something, because then you sit down again and that's not very good for you either."*

Demi: "Yes, well, that's usually... you just arrive there. So that's the first thing you see too. And then I am not very much the person who, if I am not sure if, say, on the other side, there is something really nice, to go and find out. Because then I'm like, Okay here is food. So here I get food."

Frank: "If there is a switch, yes. I have to say that sitting just a bit more comfortable, because that's it ... being able to go to soda machines or to a bar with some snacks, I liked. So yes, that, that was a regular routine when I had to spend time somewhere at the airport that I wanted to check in advance because there is a lounge of skyteam."

### Passengers mostly visit known and obvious places at the airport.

Ronja: "Yes, the pubs and bars, one of which has really dirty coffee. And that one looks the best ... That's it ... Hey, I have opinions about Schiphol. Besides, I think Schiphol is fantastic. But you have one of those, that, what's the name of that thing where you see the customs? That room where all this is: lounges. One of those lounges you have on the right, Starbucks and on the left a thing where you can eat, that looks very nice. Mediterranean or something ... Yes, the dome above it: it looks really nice And every time I sit there and every time I regret, because my coffee is really gross and super expensive, but it's really dirty. But still I sit there over and over Yeah because it just looks nicer than the Starbucks So I like to sit there but that coffee is really gross Now I don't know if the Starbucks has good coffee But I get always regret the coffee ... That has already happened three times. "

Demi: "And yes, but usually I go to a restaurant coffee bar and then just pick a nice spot where you can sit. But usually that is, say in the general hall. So just that hall, say ..."

Demi: "No, I'm not going to get out of every corner of Schiphol before I go to my gate. No. Then I'd rather just sit somewhere with I know a lot of Netflix watching or something. And then wait until I can go boarding. Then that I am going to make a whole hike through Schiphol of: Well what do we have on this side ... although this now gives me ideas. No, I guess ... I usually don't do that no."

Rianne: *"Rianne: just to see, what's the news? But it is all more mine, so more curiosity and interest and a bit of pastime ... And then just stimulate myself a bit and get inspiration .. Then I really look for offers or cheaper products or. ... I never really have that approach."*

Rob: *"When we show shopping behavior, it is out of boredom. Then we will walk around, but relatively little is bought."*

Preeti: *"Oh, yeah, but I've never bought anything at shops but I... we... Correction: we do visit shops, just to kind of browse and kill time sometimes. Yeah"*

Rianne: *"Well ... Actually it goes like this, I think: take a stroll and then we go to eat something. Then there is still time to spend, so then Rianne will go here. Then we come back and then we probably got a cup of coffee. Well, then I guess I already visited NEMO, so then I went on my own path for a while, Oh, yes, and then we're going to do the useless shops, where you think: well, I have to pass my time anyway, or the pub. That is, it gets a little bit. So basically, and then we go boarding. Fly."*

## Passengers visit shops just for the sake of pastime.

Ronja: *"Ronja: It varies. Most of the time, I just go into the stores just to have fun, not to buy anything."*

Ronja: *"Yes, I think so, because at one point we went through some shops. That you are looking at the iPad a bit like: yes, I want to enjoy myself, I am not going to buy anything. But this way I enjoy myself. " (...) I wouldn't do if we had less time. But now we were so.... Yes, we are bored so we went into every store and we slowly start looking at everything. Just to entertain your eyes ... they could have put a big TV there too, probably. "*

Crystel: *"And then of course I think you first go to passport control. But then of course you have a lot of time. Then we often go out for something to eat, or just go into a shop."*

Preeti: *"Yeah. It's an it's an experience. I feel like I feel like the airport waiting at the airport can be made interesting. Yeah, I think that would be nicer. I would rather... and I really, I keep saying experiences, but I would much rather have like, the cultural experiences or just other like art and installations. I love installations. Interactive installations are really cool, rather than the shops, even though the shops are there, but I only browse the shops, mostly just because of boredom. You know, just because I there's something I want to do when I want to walk around."*

Crystel: *"That there really are a lot of things that I thought, "Does that exist?" (...) And I am also familiar with Schiphol, but XspresSpa... no, I had really never seen all of that. "*

Demi: *"I saw Nemo somewhere in between, but Nemo isn't at Schiphol, is it?"*

Rianne: *"I was very interested and I noticed that I thought: Oh yes! Hm? Is that there too? Oh yeah. I don't know if you recognize that. But that I really thought: yeah!"*

Crystel: *"While they also have that indoor playground, sitting there next to the restaurant, so to speak. A lot of people don't know that either ... (...) No, if you look at the panorama ... there is also a restaurant. And so there is also a kind of mini zoo-like. Really very small. No, a lot of people really don't know that, but we always combine that: great fun, but a lot of people don't know that."*

Demi: *"Is the Airport library that you can literally just sit there and grab a book from the shelf and read. And when you go boarding you put it back and then...?"*

Demi: *"Oh there are actually showers at Schiphol?"*

### **Schiphol has many (free) services to offer, which most passengers are not aware of.**

Frank: *"Express spa, was unknown to me. Meditation center yes, baby lounge not. Not Nemo. Library no."*

Rob: *"Oh, those things around the museum! I didn't know about them, no, about nemo, about night watch, at least about the Rijksmuseum... and the shops there, I only walked past: yes, I believe they are there."*

Crystel: *"Yes, the flower shop and the fast food chains are there, of course, and yes, so that is well known. It is of course not all the most prominent locations ... Rijksmuseum I did not know either. It is mainly those other services ... Look like this, everyone at the corner knows this and the drugstore is also in the same corner and the booklets are of course also very easy to find. But it was mainly those, like this meditation center, the massage things and I thought: No, no idea that that existed."*

Demi: *"Yes, I think I passed by there (Airport Park) once, but I thought it was kind of, what do you call that ... Yes, such a VIP thing or something ... I thought, well there go I don't go."*

Demi: "Well, I would have liked to encounter that one. Nemo and Rijksmuseum, showers never seen. Seriously there is a whole spa? Okay... Meditation center... Baby care lounge."

Preeti: "So these are all this is completely new. And I loved this. Like, I love that this ... I don't ... didn't see it there. But I think I like I was immediately drawn to this, and it's exciting to see these cards."

Crystel: "Yes, I always like to know what's out there. I think it affects what you do ... if you don't know, namely, like now, those things that I'm not aware of. You don't do that either. Especially with ... because of course you also sometimes have overlays ... yes, then we always browse those shops and so on, but I think I would find it quite relaxed if you know: Oh you can leave your nails somewhere do that you are going to do that."

Ronja: "Well, I am now curious where it is: the Rijksmuseum!"

Rianne: "and at this I was surprised: meditation center or a shower... how often do you think: o I can use a shower after such a long flight. I wouldn't, I didn't know there was... nor this one: hotels. (...) I don't know this one either: the cosmetics shop. And this one?! The Rijksmuseum shop"

## **The existence of the commercial services surprises the passengers and they would like to be notified about their existence and location.**

Preeti: "One thing which I've loved, which I had and actually haven't seen, and maybe it's because I didn't... Haven't gone to if it's already there, I haven't gone to Schiphol as much, but I really like the... well the NEMO Science Museum. But even there was another. So basically like the experiences... I like potential free experiences you know. Oh yeah. I would like it if it was a free experience... But... I like that aspect that, that, like I would rather I would probably end up doing that even if I have to pay."

Demi: "I just want to say why have I never seen this before, because I want this!"

Demi: "Yes, it is, I really never noticed that whole piece. I think that's a shame, because suppose there would have been a sign with that literally saying hey, go that way and I would be like okay. I have to wait another hour. Then I would have gone there for sure."

Preeti: "And I was with a friend of mine. So we were just talking, there. If there were things to see, I would have loved, I would have actually really like loved these experiences like the Rijksmuseum or Airport Park and things like that thing, we would have absolutely loved that. Rather than just sitting. Yeah, it depends, obviously on who I'm with... traveling, traveling with, but with my friends, especially. Even my parents, actually they would like that."

Preeti: "Airport Park. This was really nice. Like, this was something which I find like pleasantly surprising and would definitely like that. Also, again, it is a free experience."

Ronja: "Nemo seems fantastic! I think Nemo is fantastic anyway, I only went there once as a small child. (...) Yes, I would like, yes, I don't really know what would do with it ... I would look at it, but that ... You will enjoy it again for ten minutes you know."

Preeti: *"If it's if it's made clear, because I feel like... okay, talking like experiences or something I would not want to miss and if that is made clear, very clear at every time step would you take? I don't really care much about the shops, but then I would feel bad if I left that airport, and then there was something really cool. I should have seen. Yeah, then I wouldn't be like fuck I like missed that."*

Ronja: *"But when I opened this up, and then the Rijksmuseum was on top and then I thought: Wow are these all concepts you came up with? And then later it went through and then I thought, Yeah, I know most things ... So maybe it already exists. (...) Well I, especially in the beginning, I was like, are these concepts? Because I did not know them, so Rijksmuseum and showers, I thought that will probably be somewhere, but I have no idea, I have never seen that Spa on purpose. Neither is Baby Care Lounge. Neither does Nemo. I've never seen a library either. So I was like, well, those are concepts and then we were the rest of the cards: Oh, but I know them ... I'm just watching. Yes, I've seen all that. That's just all those different stores. "*

Ronja: *"So that's why I was with that of the Rijksmuseum of yes, that would be more fun. Or a playground or nemo..."*

Rob: *"Yes, just things you can do, of which I think: oh yes, if I had had that then, had known ... then you would have liked to make use of it in those two hours."*

**(continued)**  
**The existence of  
the commercial  
services surprises  
the passengers and  
they would like to  
be notified about  
their existence and  
location.**

Preeti: *"Flowers: this was a nice surprise, like toy store, I wouldn't normally think is part of an airport, but it was I mean, it's there and it's brilliant. Rijksmuseum also, I think if it's comparable to a souvenir shop, then yes, if I see it as sort of a souvenir shop. But I think that also is linked to kind of the experience."*

Rianne: *"Well, these are: such a Rijksmuseum, that would be something that I would look at extensively, if it is there. And really would search ... but it has to be advertised. So I wouldn't look it up at home: What can you see at Schiphol now? But I am the kind of person who likes to wander and search and is interested. So I would certainly look at a Rijksmuseum, but also such a NEMO, as an adult, yes, and I can really spend half an hour there: just sitting there."*

Preeti: *"We didn't know that any of this was there at the airport. So but I think as soon as you get out of the baggage claim center, then you kind of see the flower shop, if I remember correctly, you see a flower shop. And then you see like, Hema on Albert Heijn, and all of that. And yeah, so that was a good kind of surprise."*



Demi: "Yes, it is, but you don't necessarily have to get out of the airplane realms. But more from the waiting time"

Ronja: "Although that wandering is also nice to entertain yourself. Sometimes of course. But yes, that is possible ... I can also imagine that people get a bit of peace from that: oh, there is a library or a piece of something ... and then I can skip all this stuff. Because I like that better."

Ronja: "I think this is mainly my own mood. If I'm already a bit tired or something. Then all of that quickly becomes a bit too much. Uhm .. But sometimes you are just very happy the peppy: Yes, I'm going on vacation, oh nice! And ah: I'm going to discover this, discover that. And ah: A store here and ... But ... If I could skip it, I would skip it. It is not an activity in itself."

Demi: "And then perhaps also a bit of a kind of 'unexpected; or something. Because, if you say, you are not necessarily looking for anything. But that you come across something in that overview and then think: Ooh, I want that."

Ronja: "Because I like that feeling ... Well, very nice. You enter a lounge where you almost never come. You know. And then it is like: oh ?! What is here? And what is it now this time? Especially the first few times that I ended up in a different hall, a different lounge. But yes, now that I have been to the same lounge a few times..."

## Passengers do like to explore the surroundings of the airport....

Rianne: "If you really ask me, oh what is your ideal trip like? Well, that would be yes: experience, look. I always find it impressive to be at such an airport: It's big, it's high, sight lines, lots of people: adventure! and I would like to stir up that feeling. (...) Yes: adventure, yes exactly."

Preeti: "Discover again, it's not the thing... Imagine if that experience is like, brings imagination. and creativity, I love that adventure of interactions, something which I can do, I absolutely love."

Rianne: "Well, these are: such a Rijksmuseum, that would be something I would look at extensively, if it is there. And really would search ... but it has to be advertised. So I wouldn't look it up at home: What can you see at Schiphol now? But I am the kind of person who likes to wander and search and is interested. So I would certainly look at a Rijksmuseum, but also such a NEMO, as an adult, yes, and I can really spend half an hour there: just sitting there."

Demi: "That you can learn something new or discover something new while you are waiting."

Ronja: "Walk around, wander. I like that, yes ... I kind of like that or something. You can probably find it with signs, but I always like to just wander around there a bit and then at some point ... then it stops and then I go back."

Ronja: "Mmm yes, I would describe it as kind of exploring, because I just like it. Then I go on an adventure and I want to see things. And then usually I am disappointed because I have already seen all those stores. You know. So that's what attracts me to such a Rijksmuseum, because that may also change from time to time or not always look the same. Yes, I don't know. I think an airport is very nice when you are there for the first time. I also had it with Ibiza. The first time I was there it was: Wow! There is a bar with music and wow! I don't know the shops. I enjoy myself here. And the second time I was there it was: Yes, it was the same last year ... So yes, you have that coffee and after that I actually always go on a voyage of discovery. That's how it feels."

Demi: "And then, yes, if I have eaten and there is still waiting time. Then I assume that for a while. Or to a park, or to Nemo, or to the Rijksmuseum ... To say something completely different, but that you say ... What's that called. That you're doing something else but still ... Not quite anywhere else. Because yes, you just have to catch your plane, so don't forget the time and not catch your plane."

Ronja: "Yes, yes I panic about that. I also often look at those signs with the gates saying: Oh is it already there? I think I walk there every ten minutes.

(...)

Yes, I would love that if I could see that sign live on my phone or something. That I can check it, because I think ... It is no further those signs are everywhere, but it is kind of that panic walking back and forth is thus limited.

(...)

That you don't have to finish your activity just to check that board to see if everything is still going well.

Preeti: "No I think I would want to keep otherwise I get distracted really easily. And if it's complete different distraction that I'm like, in a different world, like, whatever I need, I will miss my flight. So I need the reminder that I'm still at an airport or I still like... somewhere tell me that. Okay. These are the airlines and this is boarding. This is not..."

### .... but want to stay connected to their flight.

Demi: "Demi: But I thought: It's nice to have a positive experience with one of those crazy things. Crazy things, they are just normal things, but it is not what is expected at an airport. Because you only think about airplanes and catching your flight. And yes, that you are kind of distracted from waiting, but not too distracted that things go wrong. I also see some people sleeping at an airport. I get stressed just looking at it. It would just happen to me that I stay asleep and sleep through my alarm clock and still miss my flight, while I was there two hours in advance."

Demi: "And so also that it is distracting, so that it is a bit quiet, because if you are sitting in a chair all the time and are looking at the time a bit. So you gotta have a little bit of it, yeah. There really has to be a balance of: You have to be a little distracted but not too much that you miss your flight."

Preeti: "Other aspects, I think, on the go and quick, are things which are characteristics, which it's like, some of the experience, not the big experience, but something should have this option, because a lot of times you are, you don't really come that, like you don't really have a big waiting time, but then you still want to experience something. So I think that's, yeah, nice. So that's what I like."

Ronja: *"Maybe yes ... maybe just a map of you arriving here with you ... plane, then you probably have to go through these corridors. There are the shops and eventually you have to be there again ... just that you know about it. "Oh so far I have to walk. And I have so much time for this. I can roughly expect this. I think that would be chill. (...) Yes exactly because if you say ... suppose it is half an hour walk. You have a transfer of an hour ... Then I would probably walk right away."*

Rob: *"And because you actually have the idea of: Oh, we will come on time, because there is so much pressure on that: You have to be hours in advance, while in hindsight it is often not necessary, the one time that is necessary. .. So there could also be something with that. As far as I am concerned, the moment you arrive you have lake view or just before you arrive that lake view or how much waiting time there is for your flight at that moment, if indeed there is already congestion and yes, you actually have to continue working. While actually yes, if you come two or three hours in advance, you may just have to wait two or three hours. But if you already know that, at the beginning, then you will not go yet ... Then you might be able to check in, but then you can just go to the normal shops at the front where everyone can come and do other things. And then it might be interesting to do some museum-like things, while now the pressure is on and only then, when you are here, you suddenly notice: Ah yes, plenty of time!"*

Rob: *"Yes I would use the spa, but then it must indeed be pretty sure that it really does fit in time.*

*What I feel ... pressure, time pressure that works hard for me. Much harder than necessary. But it does."*

### **Passengers want to have insight in how much time they have left for recreational activities.**

Demi: *"I think if you just give an overview of the things you can do that you can estimate yourself okay: I will make it within this time and I will not make this. But yes, you could possibly ... suppose it is really some kind of activity or something. Or for example, indeed with that, what is it called, that Rijksmuseum, say that corridor, you could perhaps add one or something, for example, what Google also says: 'people generally spend ten minutes here.' Or I just name a few."*

Rob: *"Of the: you now have to check in and then you can sit there for another hour. Yes. I find that intrusive. It is useful if you know ... and that route determination could be linked, so if you then walk all the other way and he knows that you have to be at the other side ... That he then indicates it becomes ... then he has 50 minutes left ... Or that it is somewhere on the screen or something..."*

Demi: *"Those things where you have to be there for a fixed time. So for example, look, with that Rijksmuseum like that, you can leave at any time, if necessary. And also with that park, for example. You can sit there for a while and smell trees or something. I don't know .. I saw something here with: Get some fresh air. But you can just leave the moment you have to board or go to your gate. And I think that's nice. And not that you are indeed in such a spa chair and that you miss half of your clothes because someone is massaging you and it shows shit: My plane is in 5 minutes. That is really not what you want."*

Rob: *"Well, only the excitement of the unknown, and of yes, what I just said: if you, in that row, you don't know where exactly it is going, do you have to be there? It almost always resolves itself.*

*(...)*

*Well more unknown of: Are we going to get this in that time? Yes, are we doing all checks properly? And it is not even terribly tension, but it is just a little bit, just a little bit of stress. And I don't think that can be completely prevented..."*

Ronja: *"Ronja: Nah, I once had that I ... that we were there so late ... Just tell me if you get there an hour and a half in advance, as is advised for corona. Then you spend half an hour getting into that lounge at all. And then you may be there for half an hour and then you can go back to the gate. And then actually, then I don't go for a stroll or something, then it is usually the only thing I do to just drink a cup of coffee and sit comfortably, but I find that quite flawed. And well, maybe for the fun of a shop or something, but that that ... I always have a rather hasty feeling, so I don't do that for too long. Then I go straight ahead and I think that's fine, just because yes, then you don't have too much time. But for example with such a, further flight or as now with corona, when you are there for two hours or so."*

**(continued)  
Passengers want to  
have insight in how  
much time they have  
left for recreational  
activities.**

Ronja: *"There are signs at Schiphol: from here it is a ten minute walk to the gate. That's chill.  
(...) and then you don't have to wait unnecessarily long at the gate, you know."*

Crystel: *"Yes, I wouldn't do that so quickly actually. Because that process ... of this actually already takes some time, which is recommended."*

Frank: *"Yes, I visited the Rijksmuseum when I, when I had spare time and passed by."*

Demi: *"When it comes to restaurants, I would include opening times. Most things are open a lot, but I notice ... for example on New York when all of a sudden everything closed. That was right when I had a transfer ... but it was also in the middle of the night. So yes opening hours is nice, because then you can still think of okay, I have to go to the toilet now, but it will close in five minutes. So maybe useful if I get food first and then go to the bathroom. What else should I put on it? Well, maybe indeed, how long people spend on average ... and maybe also, but I don't know how convenient that is, just say that you can indicate how long it is to walk from your current location or something then you also know about ok am I going to make this in time or am I not going to make this."*

Rob: *"This, this is allowed, but it must know that it fits. I do want to discover things. But if you somehow ... we just talked yesterday about how you walk through those corridors and so forth, and how much time is that actually? Yes, you cannot read that completely from the map or you should actually already know it and if you can also collapse that from: you still have ten minutes to run; Oh I still have an hour, so I can spend another 50 minutes on this. Because that that, that's what I think is funny about those airports just to discover: So what's it like, what else is going to happen outside? Can you go to a deck to see which planes are taking off? But yes, do we actually have the time for that? And does that fit? And then what not?"*

Demi: "No, but I never do that at all on my holiday myself ... so it would be strange if I say prepare Schiphol better than my holiday..."

Preeti: "I'm hoping... I do think that wayfinding is like should be very good at airports and a lot of money is going into that. So then if the signs are not clear enough, that's a problem for the airport."

Yeah, I do I well, that being said, Yeah, I won't worry too much. I'll see what's coming. Because I assume that I'm doing four for that again, because I'm assuming that's it, leaning to agree because I'm assuming that Yes, it will ... I am not going to plan too far because the signage should be good enough."

Demi: "I think that I am the kind of person who would check it or say only at Schiphol. Okay, I now have half an hour, what can I do?"

Ronja: "When I travel via an airport ... I plan my trip from home in advance as much as possible. Uhm ... Do I? Hm ... Abroad back to the Netherlands: Yes. At Schiphol: Not really, because I have been there before and I just know: It says on my ticket, I know what, where I have to go. And the signs are very clear, I never really had any trouble with that. I read the e-mail in advance and I check again what is my arrival hall and stuff, where do I go? So until then I prepare it. Uhm ... And then I just let Schiphol guide me."

Frank: "And then you did indeed, if I already went upstairs at the departure hall two, walked past the restaurants, then I walked straight to the lounge and then you also passed the Rijksmuseum. (...) So it was. It was more intuitive, impulsive, like: let's walk in! instead of us targeted walking in."

## Passengers find locations at the airport by wandering around (explore strategy) and do not plan their visits.

Frank: "Yes that must have happened there on the spot. That is not something that had also figured out in advance of: oh? No, the only thing I would actually find out about the airport and I did, is, um ... and that's a definitive one in the case of a transfer. Is it a 1 terminal building or is it a multiple terminal airport? I want to know that. But for the rest, no, I will ... To elaborate ... I will not look for: can I still be here after arrival. tax-free shopping? That does not interest me. So where the rental cars are or where the taxis are, I find more at the airport: Do I have to change? Are there multiple terminals? What is the travel time between the terminals: Will I make it or not?"

Preeti: "Uh no I haven't planned it because I just like ... I don't really seek out seeing it ... like finding information about it. But if I was provided like okay if it's a big airport and I feel like I will get lost, and they prove they show me that it's a big airport and I might get lost, then it will be nice to like, plan that. But then I now usually I don't plan on that. Okay, this is my depart. This is where I will be waiting. Whatever. Yeah"

Demi: "No, I don't plan my trip much from home. I check which gate I need and what time my flight is, and that's really basically it. So, 1."

Crystel: "No, I am ... Michael, would plan more, but now I think we have been together for so long, who is used to my way of traveling. I have also always traveled a lot with my parents. So I am me, I am very easy: You go there and you see it, and at most airports it is all so well indicated that I never really do research beforehand. The only thing I always research very much is how then ... how the accessibility is from an airport to, for example, a center or something."

Preeti: "Not really except when I have to go to a lounge then I know it's a lounge and then sometimes I will like look out so then... But I'm going to put four for that... and it will be like lounge specifically, I've never planned to go to a shop and then going there. And I've never had those experiences as such."

Rob: "No, I don't plan where I'm going: Whatever you just feel like doing at that moment..."

Cyrstel: "I came across it by chance, because I am familiar with the panorama roof. And that comes from my own childhood... Then there was not such a restaurant with a play area... There were restaurants of course. And that I now saw: Oh there is such a playground!"

Rianne: "Yes, but on the spot. Because, on the one hand, it is always nice to search a little and browse a bit ... But it is also ... if at a certain point you sit a bit and you think: I am sitting here and there was something else fun ... then ... so a bit of advertising for the Rijksmuseum, NEMO ... things. I like that."

Preeti: "We didn't know that any of this was there at the airport. So but I think as soon as you get out of the baggage claim center, then you kind of see the flower shop, if I remember correctly, you see a flower shop. And then you see like, Hema on Albert Heijn, and all of that. And yeah, so that was a good kind of surprise."

**(continued)**  
**Passengers find locations at the airport by wandering around (explore strategy) and do not plan their visits.**

Ronja: "Oh, but after that the gates might be yes then I'll walk, then I'm probably chilling downstairs most of the time or something. And then: You have to go to the gate and then I walk through the park. From oh: Here's the park. And then ... otherwise I wouldn't get there."

Rianne: "No, actually not, we walked there, and then we said: dude, football, beer..."

Demi: "Then somewhere in that area I choose something from okay what can I eat and then I have food. And then I go or coincidentally if I see a place somewhere, sit there or I just walk towards the gate, and then if I come across a place on the way to where I can sit, then I will sit there."

Cyrstel: "Especially if you are with children, I would find it very easy to know: where are the play things a bit? Now we usually just stroll through it and then you come across that..."

Rianne: "Well, these are: such a Rijksmuseum, that would be something that I would look at extensively, if it is there. And really would search ... but it has to be advertised. So I wouldn't look it up at home: What can you see at Schiphol now? But I am the kind of person who likes to wander and search and is interested. So I would certainly look at a Rijksmuseum, but also such a NEMO, as an adult, yes, and I can really spend half an hour there: just sitting there."

Frank: "And what I had ... at one point when the KLM lounge was actually on the ... also on the first floor eh, where I think it still is. And then you did indeed, if I already went upstairs at the departure hall two, walked past the restaurants, then I walked straight to the lounge and then you also passed the Rijksmuseum. (...) So it was. It was more intuitive, impulsive, like: let's walk in! instead of us targeted walking in."

Rianne: "Well that pub and bar that was really a gift. I was really happy with that. I often think back to that: we took a picture then, when I see that picture, I always think: oh yeah! Remember that 'coincidence' it really felt like that."

Demi: "Depends ... if it ... I think that digital is easier because you just always have it with you, but if it is, for example, a map that is in several locations, so that you can quickly reach a map, then is that nice too. But yes, I think because it is of course quite large that it does not make much sense to put 80 of those floor plans everywhere. In every hallway .. So I would say digital."

Ronja: "If that offer was personal to me, it might be if you check your interests ... in advance, because it will change from time to time. Yes, I now know what kind of always been there. I might like, I guess if... From: You might like this..."

Demi: "Yeah, yeah, actually I just think I would like some kind of a map or something. Because I also say ... if I say just get food or something to drink, it is often with the same things, because I just don't know where other things are. And I'm like, yeah, I don't really have the time to really figure that out right now, so I'm hungry and I want to eat. Whereas if there was some sort of a map or something or something ... or do I know a lot in the app or something? I have not explored it very extensively, but I do not know if it is there, but that you have a list with all the facilities in the app or something and that you can click on one. And then he says where things are or something. I think that would be nice. Because then you can say just go to something different than we normally go. But then it won't take you time to find out where it is. And then you can just go right away. And then, because it is, don't say you ... At least usually you have six hours to do something. It is usually just an hour, so you don't want to go all the way to the other side of Schiphol. When your gate is on the completely different side again."

Crystel: "Yes, if it all turns into pamphlets again, I don't have to. So I think digital is the easiest."

Rob: "I actually want to be able to consult it at the moment. So the best thing would be if it is in an app or something that you can call it on your phone."

### **Passengers prefer to have the personal and location-based information digitally (on a mobile phone), so that they can take the information with them.**

Ronja: "I think we were just looking for something light to eat and everything was very heavy, those salmon sandwiches and stuff. And indeed McDonalds. That you actually think: Yes, I just want yogurt with muesli or something.."

Preeti: "Hmm .. it'll be nice to know what's available there because sometimes especially like if we're trying to, let's say ... find the lounge and then you don't really have too much time ... Then it takes time to really... and if it's a huge airport, it takes time to really like go around. It would be nice to have access to seeing what is there at the airport."

Demi: "That is yes, it is just the easiest, because you always have your phone with you and that is especially if you travel alone about your best friend, because yes, or you have to be very social and go with other people chatting. But I usually don't, so you just have everything at your fingertips."

Rob: "Yes, and then it usually turns out that we are more than that that actually have a certain wish and planning in advance would have been useful.

(...)

Whatever you just feel like at that moment. That is sometimes also different: one prefers to that, the other to that. How can you combine that? And then those squares are a square where you can sit in the middle. And then you can walk to the various collection desks. That is handy. Those locations have the preference."

Demi: *"Yes, I don't know, I'm just hungry, so I just want to eat then. Yeah, okay, but I think I'll say just want to eat some kind of chill somewhere or something. That you can kind of see in advance of okay: there is Italian there, I know a lot of croissants, there that is. There that is. And then based on that, okay, what am I hungry for now? And say and then you can just choose that and then you can go there. Instead of you kind of walking into such a store and always coming out with such a cooked sandwich, because that is the best option at that moment."*

Demi: *"Because yes, look now and then, then you just have such a moment and then you just really feel like a croissant. And then nothing else will do but what you want at that moment, just that little croissant. And then it is chill if you can just type: Where can I get a croissant. While at other times, you're really kind of very open like, dude, I have no idea what I'm craving, but I'm just hungry. And then it is chill when you can just explore a bit and see what is possible. So I think that is ... I think that would be nice if there were."*

Frank: *"So yes, that, that was a regular routine when I had to spend time somewhere at the airport that I wanted to check in advance, because there is a lounge of skyteam. (...)  
Via the Internet. I think I went to the KLM website. I am afraid to say that with certainty and it made me wonder: where are the lounges located?"*

**(continued)**  
**Passengers prefer to have the personal and location-based information digitally (on a mobile phone), so that they can take the information with them.**

Cyrstel: *"Especially if you are with children, I would find it very easy to know: where are the play things a bit? Now we usually just stroll through it and then you come across that..."*

Rob: *"But then indeed ... there are a few filling activities here. They would be nice then. Suggestions from: You can do this there."*

Demi: *"Can be everything, yes, because... if you are just hungry, you will look for a restaurant. But when you've eaten - and you're like, well, I've got half an hour. Then it is in itself quite nice to also have a look of: okay, what can I do for half an hour now? Instead of waiting for a chair and watching the clock go forward every second."*



Ronja: *"I wouldn't download an app. My phone is already full. I only download apps that I use every day. And for Schiphol, once a year or so: I'm not going to download an app for that. This might be a bit more convenient for the business traveler."*

## **Passengers won't download an app.**

Frank: *"I have rarely used the Schiphol app and I think if I used it it was for the departure times."*

Demi: *"No I wouldn't download an app from an unknown airport."*

Demi: "On my own then yes, I don't know. I always find it a bit uncomfortable when you sit down for dinner or breakfast on your own, sort of. So, yes, I don't know, usually always look for places where not many people are. Because then I'm like yes, then I can just chill here on my own."

Preeti: "I would rather I would probably end up doing that even if I have to pay for it then let's say go to a spa that's like personally for me, like the Rijksmuseum."

Rianne: "And so that one time was super fun to be in that pub. That was really fun."

Frank: "Why would I do that if I wouldn't do that at home either. Why would I go to a massage chair at Schiphol if I don't go to a massage chair here too?"

Ronja: "And the library sounds nice, because it sounds like it is silent. And I am quite over-stimulated quickly... and there is not really a place where you can withdraw for my feeling at Schiphol. So that sounds nice."

Preeti: "Baby care lounge important. Obviously never use that. Spa again, I'm linking up with the massage thing ... that I don't see the need for me to do it but then I know that other people may see the need. Showers"

## Passengers have personal preferences for recreational activities.

Rob: "So things like watching such a museum thing or just reading about ... or seeing movies of..."

Rianne: "Yes, yes so the investigating people or the paintings, or. What I can remember is that they are also placed at the front, but that was on the plaza, once such a piece of a plane was put down. Yes, I just really looked at that one time: From dude ... How impressive this is, and therefore just technique. And. I am always very much for that."

Frank: "It will undoubtedly have to do, also with some time left, I just assume. But it also has to do with, eh, because if you have time to spare, where are you going to put it out to tender? That is the follow-up question. And then I do indeed think that generic museums is one of the things, one of the places I think of: I like that, even outside the airport, to go to a museum. That compared to ... I was talking about it, but that's America, sitting at one of those bars watching a sports game with a glass of beer in front of me. Yes, I am not, I am not, so I will go into the Rijksmuseum for a while."

Preeti: "I would rather... and I really, I keep saying experiences, but I would much rather have like, the cultural experiences or just other like art and installations. I love installations. Interactive installations are really cool, rather than the shops, even though the shops are there, but I only browse the shops, mostly just because of boredom. You know, just because I... There's something I want to do when I want to walk around."

Preeti: *"The airport I am arriving... not as important, but it could be useful, but just not in my face. Like, let me... just have that option somewhere. And then I can like, check it out if I want."*

Crystel: *"Yes No. There you actually walk ... that is often not possible. Because you always just walk straight into that exit. And not so much ... you may not say more than that airport."*

### **Passengers do not wish to receive information about the airport of arrival**

Demi: *"No, I don't think so, because then you always just go, pack your suitcase and go outside and you go to your hotel or apartment wherever you go.."*

Rianne: *"No, leave as soon as possible. Paying by card is still interesting. I always want to pin if we haven't done so yet."*

Frank: *"[...] Yes, I think that silence is significant. For me is an airport, eh a transit place. And certainly on arrival, on departure I find it a different experience. On departure it is nice to have a place where you can wait somewhat comfortably. A lounge is great, but if there isn't one, that's that you can wander through the shops ... or something, if you can eat something. But upon arrival, I'm like, give me my luggage as soon as possible and take me to the taxi driver as soon as possible."*

Ronja: *"Uhm ... Yeah I don't usually worry about that. Yes, that ... I usually just follow the crowd and then at some point you arrive at the right luggage thing. And then you wait there and there is often the exit quite quickly. I never really had any problems with that. "(...) No, I do know that ... no, yes, I don't go shopping there or whatever. Usually, usually when you have a flight, then stands there, such a bus in front of your hotel or something, or a taxi or a rental car ... And that has been fixed. It might be possible to see in advance where that is, but usually it is fine to find the signs."*

Preeti: *"Actually when I'm arriving, it might not be necessary for me to know from before when it just make it clear when you arrive, like to have good signs and like things like that. So I can figure it out there is just don't necessarily need to know."*

Rianne: "An important difference by the way: Because I see 'laugh' here: I really wouldn't want that. I would not be entertained: I would like to make the choice to go there to choose one of these activities myself. I don't need a hopping rabbit, can you suggest anything? Something that looks up to me. You really don't have to. (...)

Because I did see 'laughter' here, at the same time 'joy' and 'unexpected' then suddenly I thought: It actually all appeals to me, but when I thought, I thought no: I don't want such a Duinrell frog or... The associations..."

Rob: "Of the: you now have to check in and then you can sit there for another hour. Yes. I find that intrusive. It is useful if you know... and that route determination could be linked, so if you then walk all the other way and he knows that you have to be at the other side... That he then indicates it becomes ... then he has 50 minutes left... Or that it is somewhere on the screen or something..."

Frank: "Oh fine. But that they present it a little... Better and a little slicker... But after reading it I must have the feeling that, order of magnitude, 90% of what it says is actually correct. And not that only 10% is actually correct and the rest is commercially written."

Ronja: "Yeah, but then I should know that's there. Yes, maybe I would, I might open an email if the title is very much like: activities tailored to you, you know. But usually those mails, with ... that are clear advertisements and then you open them and they are full of flashy images. And then you think yes: sure."

## Information should be available, but not too intrusive/ subjective

Preeti: "But I don't want it to ... like I wouldn't want a lot of like messages and things coming my side ... like it should be an option maybe of like okay if you want to see all the things which are available then they click on this and I'll show you a map or something. But like I don't want to get multiple random emails nor do I want like if I get my tickets ... or they can important messages from the air airport, then I don't I don't want it to be all like so much information like if you see an email, you don't want it to be super long. You want to be able to find the important things."

Rob: "Nice cards by the way, the texts are... They are easy to read, but I wonder if they still maybe still... It may be in language. I almost found them... a little commercial on the one hand, a little long on the other. Especially happy: advertising."

Interviewer: Yes, exactly yes, it comes from the Schiphol website.

Rob: And because of that, I have a tendency with things like that like: Hmm, sure. I have to see that, it is a bit over the top.

Interviewer: How would you like..?

Rob: Because look, the ideal place to relax is of course... It is of course a bit more... 'You can get some fresh air' that appeals to me. And that comes after a lot of ad spells like 'ideal place', 'relax', 'green place', while I think: yes, is that tree really standing there? I do not think so. So one thing is green... then I come across three things of which I think: Hmhmh... And then what it is about then falls for me after three 'no's' or after three oranges it almost disappears.

(...)

Yes, or or it must indeed be what you say about... At Kuala Lumpur they really have such an inner garden with real kind of plants and I know a lot what you have ... then, then, it will fit, so it may be praising, but make sure that it is credible, that it is indeed the case. Because when I see this I don't think of well this is the greenest place to be.

## Insights that could be valuable, but that are not part of the design brief.

(most of the quotes are translated from Dutch see appendix 8B for the original transcripts)

Preeti: "Uh also, I think at the Dubai airport, I didn't know from before. But now if I go back, I do know it. Because I saw it. There's a lot of like art and sculptures and stuff around so I would walk around and I would take our time like even if I go to a lounge it would be like I spent this time without them walk around. I know that now but I didn't know that when I went there. And so now I know that."

Rianne: "Yeah, but I don't remember what that was. Just something touristy, something typical of the Netherlands... That I then thought of: oh how funny that they have exhibited something here."

Rianne: "Oh yes, I also like that one, I really just forgot about it: watching planes. You always have such a platform: Oh I always like that so much! The panoramic roof: great, if I can go there and see all those men. I also like to sit in front of the windows and watch the loading and unloading ... so I would really like to have an information corner there: How does that work at the airport? And if you look at such a loading and unloading system, maybe even all suitcases behind glass or something. That is also something that is fascinating."

Rianne: "For real?! Well there (see-through baggage belt) I would really really like to go once, just to have a look, but that that that ... activity I would really like, and in particular on airplanes and the operation from an airport. Because yes, it is not without reason that there is so much TV programs and interesting information about it that I think: you can engage a lot of people with that."

## Highlights (bezienswaardigheden) could also serve as pastime

Rob: "So things like watching such a museum thing or just reading about ... or seeing movies of..."

Rianne: "Information about fun innovations at Schiphol often includes Rijksmuseum, nemo, but also the large eh aircraft part that is in the hall ... or the sights, maybe that is a better choice of words. And activities."

Ronja: "If you really put it in the lounge, it really has to stand out in some way ... And then ... yes ... Maybe it has to be an artful object in itself, that it won't get out again looks like a sign ... But more like an experience."

(...)

Yes, because that stands out. I would look into that. And then you know, from: That is not something that leads me to the gate, but something that you look at and are curious about. And there are so many signs at Schiphol ... So a sign, yes .. That doesn't do anything. Another sign, that won't..."

Preeti: "Well, actually, with like, let's say, with people, I think both senses I would, like ideal would be experiences for sure. If it's a new culture, or a new country, especially like, I mean, maybe especially during the layover thing, because it's usually in that case, you don't you're not actually getting out and exploring, like you're not leaving the airport. So that'll be nice to experience something from there. There'll be nice to have like, I love interactive installations. I love like, being able to have art but then not just art... like art which stands out not just art, which is just kind of to decorate the room because sometimes you turn a blind eye... like it's nice that it's there. I would rather that that be there than not but then you turn a blind eye to that sometimes it's there. So maybe literally like take you through and a free experience. Yeah. That's like the ideal interactive. Yeah. Interactive, even. I mean, I would be okay with like, even going and going through a gallery or something. That's fine. But just Yeah, something which I can do."

Preeti: *"And then yeah, but that being said, it should still stand out that that's there because sometimes I don't read the fine lines later... Like if the information is there, and then there's always this random text afterwards, which is not related to let's say my ticket. Yeah, then sometimes I don't read it. So if there's like some visually something stands out, then I will be like, Oh, yeah, I can. I can go and check that out."*

### Information about the highlights should be well promoted

Ronja: *"Yeah, maybe they should advertise it or something, in the hall. Because look, I think most people just stay in the lounge for a bit. And if something is fun outside the lounge, yes, I don't know. And I think if they would send me a list of everything, well then you scroll through it and then: I don't feel like it, you know ... Yeah, maybe if they advertise it in the lounge or so. You might have a screen or something ... With something random from: Now in the Rijksmuseum huppeldepup. Here you can go and that you would know that it is there or something."*

Ronja: *"If you really put it in the lounge, it really has to stand out in some way... And then... yes... Maybe it has to be an artful object in itself, that it won't get out again looks like a sign... But more like an experience.*

*(...)*

*Yes, because that stands out. I would look into that. And then you know, from: That is not something that leads me to the gate, but something that you look at and are curious about. And there are so many signs at Schiphol ... So a sign, yes .. That doesn't do anything. Another sign, that won't..."*

Rianne: *"I like ... what I said, I always like safe and I'm always happy when I get through this. So then indeed, if we have gone through that phase of: check fixed tick tick. Then we are there and you think: Yes! Buy a book, eat a sandwich. We are... actually the holiday starts then, in that place."*

Ronja: *"But sometimes you are just very happy the peppy: Yes, I'm going on vacation, oh nice! And ah: I'm going to discover this, discover that. And ah: Here a shop and..."*

### **Holiday feeling starts in the lounges (for leisure travelers)**

Rianne: *"And then get that sandwich at that regular restaurant ... That's always the moment of: let's go! that that that ... I don't know if it always feels a bit like a La Place ... Where we never eat in the Netherlands. And then, when we go to the airport, you think: that's part of it... start of the holiday."*

Frank: *"When I go on vacation with Chantal, for example, then for her that vacation indeed starts at the airport, for me no, no, and I think it is, so I don't know if it is because of my, my business trips."*

Demi: *"As soon as you are at the airport, your vacation has begun. That's okay, one thing. Because yes: Then there is simply nothing you can change. You packed your things, loaded it onto an airplane by a Pole. Then it really started. So maybe a 4. Because yes, it does give a holiday feeling, but it's not that I'm really looking forward to being at an airport again. No, not that."*

Rianne: *"But I would really be willing to pay a little extra to get those four hours to start my vacation earlier. That you think: Delay so be it, while if I am at a Rotterdam The Hague airport with a restaurant and that's it: I would rather go to Schiphol."*

Demi: *"Enjoy traveling through an airport ... I still want to snap my fingers and lie on a beach in the sun, but that just isn't happening yet... The airport is not a getaway for me."*

Ronja: *"Uhm ... No. No Yes. I am going to Schiphol for the journey, and I think the journey is long enough. I would not come to Schiphol sooner purely because there is an activity. I also don't think that is very useful, if there are all people at Schiphol too early..."*

Frank: *"No business, not even private by the way. See me, me. I. For vacations I would not go to an airport, to an airport for entertainment there. Yes, if you are indeed going on holiday and you do not have your work with you and a laptop, yes, then I think it is marginally more fun to know that there is something. I remember, I don't know if it is still there, but at the airport of Kuala Lumpur ... There you have a kind of tropical garden, or so quite special, funny to see I might walk through."*

Ronja: *"But ... If I could skip it I would skip it. It is not an activity in itself."*

## Visiting Schiphol is not a trip or destination on itself

Demi: *"I'm like let the plane take off quickly, because then I'll be in a warm country quickly. Lying quickly in the sun, then I am completely happy."*

Frank: *"[...] Yes, I think that silence is significant. For me is an airport, eh a transit place."*

Frank: *"But it is a means of getting somewhere. And it is nice, isn't it, just like now I might elaborate, just like at Utrecht station, where you sometimes come, the central station. It's nice that there are shops there and I sometimes walk into the AKO to browse through books, but that is not necessary for me if the train connects nicely, the train from here to Utrecht, or the one from Utrecht to Maastricht, because then I usually have to go to Maastricht. Then you think well, let that bookshop leave that bookshop, I have that, I do have that here too."*

Demi: *"Because it's not: I'm just going to Schiphol, just for a day at Schiphol, just for these kinds of things."*

Preeti: *"Actually, it'll be nice to know what's there in both, but the chances of me really waiting at the airport unless necessary..."*



Demi: *"Then I'd rather just go through the whole process, and then go to a restaurant, because then you've just done everything and then all you have to do is go to the right one. So I find that more relaxed."*

Ronja: *"Yes I guess ... Yes maybe, I just think that's all pretty overwhelming. Then you arrive there and then you also kind of want to claim your place in that space. (...) because you have often lugged your bags and you may also come by public transport. Then you just want ... you are, you have passed customs ... all of that worked. And then you just want to sit down and have a bit ... with a cup of coffee."*

Rianne: *"And then in between you have that break, of course, between passport control because we fly through that as quickly as possible until that boarding. And there is a bit of the moment. And then I have to admit that we actually always go to a regular restaurant to get something tasty, because we always treat ourselves. And so that one time was super fun to be in that pub. That was really fun."*

Rianne: *"Yes, but: where do I come from? how am I supposed to do that again? Then we are always the one who will hand in our luggage as soon as possible. Because we prefer to be back there in time, and then we will see further, but we always forget to drink our water, so then we need to add some water."*

### Passengers are relieved when they have passed the security and passport control

Rianne: *"I like ... what I said, I always like safe and I'm always happy when I get through this. So then indeed, if we have gone through that phase of: check fixed tick tick. Then we are there and you think: Yes! Buy a book, eat a sandwich. We are... actually the holiday starts then, in that place."*

Demi: *"That I want to keep this whole piece ... the same, so I say from check-in to the passport security check, that it just remains the same and that I just say nice and fast consecutively, that you get through it nice and quickly. Then we have had all that, then you do not have to think about anything and then it is just: You are free to go."*

Demi: "Then you just throw your suitcase away and then you had a kind of stress for three hours until you landed because of course you put your suitcase in. So you think okay, I'm fine because I don't know how capable I am. (...) Yes, say, look like that, lady behind the desk or something, she can also make a mistake, but you are more like: Yes, this is her job, so she probably does it right. And at that drop-off it is really okay, I hope it goes well."

Rianne: "After a flight you are already much dependent on ... you have little control, let me put it this way. There can be so many risks on a plane trip that it makes me more stressed. But that is also because I am a train traveler and occasionally do things by car. But that train, because for me that's just check-in and sit down and you transfer and miss it? Then you take the next one. And that is with an airplane. It is a time-bound product, by name, depending on a passport, depending on a time, depending on the weather, there are so many factors ... that you cannot influence, that my preparation for the trip in advance then starts with a journey by train."

Crystel: "I actually think the whole process, yes. Whether it is all going well ... whether you are not having problems with your luggage somewhere, or whether something unexpected has to be removed from your suitcase. You know, things like that. Whether it is on time?"

## Passengers mainly experience stress related to their baggage

Rob: "Yes, if you have experienced or two of these, then at the check in the rows, so long that it is difficult to see where the end of the row will immediately end at which counter, and whether the parallel actually also goes to the same type counters leading or not. And that does lead to either helpfulness or aggression in between the rows. Not really the aggression, but of: "heuijehuj yes, yes, that's the same row! Yes, but then you shoot for it!" things like that when they get out of the boundaries. At the point where they start originally there is usually a flight attendant or someone who can still give. But sometimes you are actually already waiting for that and then it is not clear: where does this row go, where does it come from and to it? I find that a bit, yes, a bit exciting, uncomfortable. Yes."

Demi: "And then also a kind of mini stress moment of okay, my suitcase will have arrived really well, right?"

Preeti: "And but I think we were really stressed about whether ... because we only had a carry on suitcase. And we didn't know whether it fit and we didn't know whether ... and I think it's a different system here. Things put ... whether it will fit and put it up or what you're allowed, which in India ... it's like anything we're completely used to ... But we ... the entire time until we reached the until they announced which gate we were leaving from ... until we reached there. We weren't sure. And then there they had that little triangle kind of like put it in. And then we realized was bigger. So then we ended up taking ... it was winter. So we ended up taking like all our winter coats out and wearing it."

Rob: "And on the way back that is of course just before that, it can still go wrong with the luggage and to customs. (...) Or that there is no suitcase, or that it takes a long time before it arrives. That you think: do I need longer? Did I not look closely? Ah he enters the other band here; I see it there!"

Ronja: "Because it is a kind of stress, your suitcase will be fine ... And is it the right weight and so on. While you can just weigh it at home. But I always find it a bit exciting. When you get there. at the check-in desk."

Rob: "Yes, well, in the end it all dissolves easily, but that's not the feeling I have when I'm standing there. Like: Can this backpack really fit in? Hey, because they actually say that they are very strict and you see all those people walking along I think: yes, you say that it is not allowed, but..."

Demi: "Uhm, yes, passport control, but that's yes, I don't know, that's not really stress or anything, but that's just more of what, if suddenly there is drugs somewhere, while ... never in my hands had, never used, never been in contact with ... but just that you have that stress of okay, these people are like ... at least some are armed, some are very angry about it. Please let everything be good, while it is just fine too. But yes, I don't know, you always have ... also at the security check, that you really think of it. I really don't have anything with me, no ... I really don't have anything with me, okay, and then you're in that device and so I hope I really don't have anything with me. And then you get out of there and it goes like this: Okay, keep going. And then it is like this: great!"

Demi: "Uhm ... here a little stress at the baggage drop off, to see if everything is going well. I always check, say you get such a label that then has to stick around your suitcase. I always check which destination is on it to make sure that it is going well."

(continued)  
Passengers mainly  
experience stress  
related to their  
baggage

Rianne: "But I would, for example, choose to skip risk steps, for example not to take luggage, but only hand luggage, which is a choice that I make very often, because I think that is a time risk that I think takes quite a long time, at the front and at the back. And especially if my luggage can still be gone. Not to forget that ... I always think luggage is really in my head, a risk thing: Is that bag properly closed? Uh ... Don't tear the zipper, I know what's going on ... Anything can happen with that luggage. Then I prefer a small backpack with underpants, a pair of shoes. And then I buy my shampoo and sunscreen on the other side. So I think I'm risk averse in that. So with that also the online check-in in advance. If they really wanted to make that more attractive to me, then they should take the risks out of that, I think."

Rob: "Well, only the thrill of the unknown, and of yes, what I just said: if you don't know where exactly it is going in that row, do you have to be there? It almost always resolves itself.

(...)

Well more unknown of: Are we going to get this in that time? Yes, are we doing all checks properly? And it is not even terribly tension, but it is just a little bit, just a little bit of stress. And I don't think that can be completely prevented..."

Rob: "Yes, somehow I find it a bit difficult ... because digitally to get it in order so that I know for sure that it is correct, the papers: that you have the correct papers, or that you indeed still have to print this there or not. That that screen, that screen, sequence that ... I thought it was not entirely unambiguous. Afterwards, it can still go in any direction who thinks it can go: that is still possible. It seems as if they prescribe it very strictly, but then it turns out afterwards: All three are possible."

Rianne: "Yes, you just already know when you leave, indeed, you don't have to do those steps. I am a bit of a control person ... yes, luggage, security passport control then I go to the bathroom."

Ronja: "Yes, where you have to spend a long time, that would calm me down I think. Because it's ... I think a lot of people secretly find it a bit stressful. It's fun, but it will all turn out okay ... Expensive tickets you know, if something goes wrong it sucks."

Rob: "Well, only the excitement of the unknown, and of yes, what I just said: if you, in that row, you don't know where exactly it is going, do you have to be there? It almost always resolves itself.

(...)

Well more unknown of: Are we going to get this in that time? Yes, are we doing all checks properly?"

Rianne: "But I am also really very much a train passenger and those questions from just that trigger but very much: in a flight you are already much dependent on ... you have little control, let me put it this way. There can be so many risks on a plane trip that it makes me more stressed."

## Passengers would like to stay in control and get confirmation

Ronja: "Yes it is nice when it is there. I'm not sure if I would use it or look it up, but I think that will calm down or something that if you know, Oh, I can find what I need there."

Rob: "Oh and what helps me... if it gives the feeling of that predictability, that relaxedness. (...) That actually has to do with the expectation: if if you expect it to go like this, and it will, then..."

Demi: "Say things where you have to be there for a fixed time. So for example, look, with that Rijksmuseum like that, you can leave at any time, if necessary. And also with that park, for example."

Frank: *"I don't know what caused it, but it is true. When I go on vacation with Chantal, for example, then for her that vacation indeed starts at the airport, for me no, no, and I think it is, so I don't know if it is because of my, my business trips. I just think it's a lot eh... How is that good... to the body is the word. Before I get on that plane and that plane is off the ground. I find it hard to accept that there are at least two hours between when I arrive at the airport, when that plane retracts its wheels. And the same applies upon arrival, that when I arrive and those wheels are on the ground and before I have my luggage, especially at Schiphol, because I think Schiphol is a... well not really nice airport in that respect. That I think why does that have to take an hour and a half... eh, I get through customs in no time, that goes great and sometimes I have to wait half an hour, 45 minutes. How hard ... it's not fair what I'm going to say isn't it, it's not fair, but how hard can it be to get that suitcase of mine out of that plane, throw it on a tire and bring it up here? There's a disproportionate amount of time in front and back for me which I think is..."*

Frank: *"Yes, you know, stress may be a loaded word. I always liked it, but that may not be the answer to your question. By the time I started traveling again I was always with some of that bacteria in my body like: oh, this is exciting, this is fun and as soon as I arrived at Schiphol, I thought: no, this is exactly the same as the last time and also when I was at the destination. I hated it, but that's ... The word stress might be the biggest word. I thought it was annoying, really annoying and increasingly ... those security checks. Which became more and more strict. I thought it was annoying: Waiting in at the gate, then you go for boarding, I thought it was annoying and you are not interested in the arrival airport, I assume?"*

Demi: *"I find traveling via an airport a hassle. No. No. I think I might be waiting all over, that I'm thinking of: This could be more efficient. But it's not that I think it's a hassle, because you take it into account anyway. You don't have a lot to say. So you can indeed be very difficult about that, or you can go after the masses."*

## Passenger experiences travel process via an airport as long and unefficient

Preeti: *"I find traveling around airport, a hassle. Uh. No. I don't because I think it's important, but also like, I know it's unnecessary. But then doing all of the passport checks and all of the 100 million things when you're traveling internationally is not the smoothest thing, but I know it's necessary. So I'm not doing a full disagree. But yeah..."*

Cyrstel: *"The only thing I might... traveling through an airport is a hassle... I should perhaps give a two: I think it takes a lot of time... and above all, especially on short stretches."*

*Yes, I think that is a real shame... if you go to England or to ... And that you always think: gosh. Do you have to be so far in advance... That has more to do with this (security) of course that all those travelers have to go through here. When I go to America then, I don't mind as much because then I also focus more on it. But I always think it's a shame with European flights."*

Ronja: *"I find traveling through an airport a hassle... Hm... Compared to something like a train or something: Yeah. Because you have that whole process up front. But if you go to another country by train, you also have that whole process in advance, don't you?"*

(...)

*Uhm... Yeah I think it's a bit of a hassle. But I don't necessarily mind. So yes: A hassle, but not ... I don't mind that it is a hassle. But it is .. You don't do it that often and you have to go through quite a lot of checks, and many different places and with your suitcase .... That is a hassle. So I already find traveling in general a bit of a hassle. And do you get on that plane, and some people may fly very often, but I don't: I fly maybe once a year. And then I always find that a bit exciting or something. Also nice: rising, falling. Hassle with the seats... So the whole flying experience: It takes so long before you finally get to your location. While in total it is shorter than if you go by car or train. But it is a lot of impressions, a lot of stimuli at once. And yes, that's a hassle. But it is worth it. But that is why I would really like it if there would be a quiet place or something at the airport."*

Demi: "In terms of overview, I would just think literally all the activities you can do, so where are the restaurants, the shops, the ... What's that called? Well, the spas, the airport park, luggage storage, just literally everything. (...) Yeah, I kind of have an amusement park map you know for me. Then you have, say, a map and there are just numbers or symbols in it and then you have a kind of legend next to it. And then you can say: number eight is that is this. And number six is that."

Rob: "By car, with your own car, so then it is put in a parking lot or in another parking lot, and then you arrive here by van. And then you walk through the entire amusement park."

## Passenger compares the airport with an amusement park

Rianne: "My ideal you ask? Those are really fun, innovative little things like doing it as a day out, but in then a small version of it. So here I have nemo Rijksmuseum, technology. Yes, I would love it..."

Rianne: "Well, I would go to such a ... I imagine a kind of an Efteling sign. Do you understand what I mean by that? Where can you...? How big is this airport? And where can you go? Where are the highlights? I would... I would stand in front of that and look: 'Oh then I can now walk that part like this, and then I see that...' or ... I would do that yes."

Preeti: "Yeah, I can, like carry it around and see. It's almost like an amusement park maps type of thing. You just carry it around, know which experiences are there. And every..."

Preeti: *"It's usually so... usually my transition. I usually I it at Qatar, but this time, the first time I think it was usually like, about four hours. Yeah, let's say but at that time... I so I've never used even for that I've... we have access to the airport lounge. So we basically just goes over straight to the lounge, and then it's just always cleaner bathrooms, and there's free food over there. And there's Wi Fi"*

### **Business traveler mainly visits business lounges**

Frank: *"I had access to the KLM lounge. I still have it, so off it went ... So when I had done the shopping, I usually went to the lounge. Then I grabbed a soft drink there ... maybe a snack ... went to the toilet, washed my hands and then to the gate not too early, especially not to the gate too early. Actually, if they were already boarding."*

Frank: *"Yes Yes. If there is a switch, yes. I have to say that it is just a bit more comfortable, because that's it ... being able to go to soda machines or to a bar with some snacks, I liked. So yes, that, that was a regular routine when I had to spend time somewhere at the airport that I wanted to check in advance, because there is a lounge of skyteam. Via the Internet. I think I went to the KLM website. I am afraid to say that with certainty and it made me wonder: where are the lounges located?"*

Preeti: *"And then we go to a shop on the way then he'll wait there. But it actually hasn't happened that often. Because usually the lounge is kind of away from the shops."*

Frank: *"I think I am, yes, quite basic .... Looking at this, I would say, ideally I want to spend as little waiting time at the airport as possible.*

*And I would prefer to spend it ... in a relaxed, calm way. Here it says relaxed and calm and things like that, I think that is what ... what matters to me. That's nice if there ... what I said, is the option to have some some, some water or some soda, if you can have some nuts or some hot snack. If there are newspapers, it is important to me. I'm still fond of the printed information in that regard. That it is quiet. That there isn't too much noise around me. That I have a certain private space, isn't it ... that I am not sitting next to my fellow traveler, at a distance that you do have the gate: two plastic chairs facing each other. Those are the important things for me, I think. I don't have to, I don't have to do the sports, I don't have to go to the Rijksmuseum. Perhaps a slight exception for especially non-cosmetic shops to be able to go there. Some duty-free shops, but as an side issue."*

Frank: *"I think so, but well that's a cliché that I know, I think Schiphol is well established. I also think Schiphol is a pleasant airport because of its compactness."*

Preeti: *"And yeah, it it wasn't a drastic... Like there's no cultural... Culture difference when you go, because I feel like airports are very similar in around the world. So I guess it was an easy kind of transition in a way of into... The Dutch culture, I suppose. But I mean, I don't think it would have been a big jump anyway, but I'm just like it wasn't like you stepped out and you were like, oh, OK. I don't understand things. I don't I don't know how things would work. Maybe it's because everything's in English, but, I don't know, that's just kind of like... it wasn't difficult to navigate around."*

Preeti: *"So I like the fact that it was just kind of publicly accessible to the public. And, well, we had just gotten off a big flight and I think there was some basic things we kind of needed. Again, we were going straight to someone's house and then we ran to HEMA. And I was just so happy, though, that that was there. And I just like grabbed a bunch of different things."*

## Passenger experiences Schiphol as an airport where it is easy and pleasant to find your way

Preeti: *"But America was always like a long conversation, it is very intimidating. It wasn't intimidating at all. They were also super nice. So it was it... That was like the first contact with people here. Like when I first came."*

Ronja: *"Well. If you look: Schiphol is really fucking big. But I never really get lost there. And the signs are clear and I can find it all. I know they innovate quite a bit. Then ... Yes I just think that is cool. And I've also had airports where things fall apart and ... that you can't find anything with the signs and that it's all chaotic with the signs. And that it is a very small airport, while Schiphol is really very large. But I can find it all. Then you think: Then they have something good for each other. I don't know what, but .... In that respect I think Schiphol is very good compared to other airports. But yes, maybe that is also because I am Dutch and in any case understand the environment more easily. So I don't know ... I just think it's very clever how they have made that so clear in such a large system. And I admire that, even as an IDE student you know."*



Demi: *"And I always, yeah, somehow, always kind of gate D88 or something. So I am always at the very end in a corner, in a corner and I don't see anything else."*

**When focussing  
on the functional  
wayfinding process,  
the passenger sees  
nothing else**

Ronja: *"No that is not noticeable. So much is happening. You really only look at the yellow signs. They are also much bigger. No I wouldn't see that."*

*(...)*

*It is also: They have to compete with those big yellow signs. Well, they should be the same size to stand out at all. But they are much less important than the big yellow signs, so you don't want that at all."*

Rob: *"And then you can just look around it and you say: Ah! Here is a beautiful waiting room in Haarlem, can you ever go in? Or just the Queen? Hey, those are the same tiles as there. Then you have time for that. But I did not fly enough for that."*

*Interviewer: So you have a lot of focus on making your flight.*

*Rob: Yes, so that's why the word 'routine'."*

Rianne: *"Then I really look very systematically at the signs. So then I look at my piece of paper: d. 27, okay, 27, and then I actually never look at a map at all. And then I actually just walk through a step pattern ... completely different signage."*

## Insights that will (probably) not be taken into account further.

(most of the quotes are translated from Dutch see appendix 8B for the original transcripts)

Rob: "Yes, then you are and in an unknown place and and then the time becomes ... and maybe an unknown language as well. And then the time pressure is even more exciting ... Because yes, if you go wrong in Amsterdam, well, then at least you are in the Netherlands.

Yes, your alternative options are then ... And suppose you get stuck in Amsterdam, because the plane does not take off, yes, well, that is somewhere."

Demi: "In the case of a layover that is nice, yes. Because certainly ... look at Schiphol that you know you a bit by now ... they may also be the same things, but you can say red there. But when you come to another airport for the first time - and you have no idea what you can do there - then it is cool to know that ok, I can eat there, I can go to the toilet there and apparently there is another fun interactive hall or something."

Rob: "Yes, for a transfer flight with a reasonable transfer time that you will be bored there, then the things you can do are interesting. Food of course, too. But then indeed ... there are a few filling activities here. They would be nice then. Suggestions from: You can do this there.

(...) if if Schiphol were the transfer point, then I would like to know: where is that museum, how do you get there? And where is that activity with NEMO? Or where is a sports cabin, a gym where you can exercise, but where you can also take a shower. Because I think that now that combination can be made, but I had never thought of that (showering). Because I can also imagine that I think I have seen something of indoor training."

Ronja: "And I do have that when I arrive at an airport that I don't know. That I might want information about it."

## Especially for TRF flights information about pastime is relevant, because of longer waiting times and unfamiliarity

Crystel: "Especially with ... because of course you also sometimes have overlays ... yes, then we always browse those shops and so on, but I think I would find it quite relaxed if you know: Oh you can leave your nails somewhere do, that you are going to do that."

Preeti: "The airport, I'm doing a transition at, like, both of them are the most important for me to get information from."

Frank: "Yes I think so. I think that a foreign traveler who only has a transfer at Schiphol Airport, that uhm... would have his information need mainly at the airport itself."

Ronja: "Oh yes, I did have a transfer of six hours or something to Bangkok once. And I thought so ... look my parents were there, so they took care of it. But if I had that myself, I would really be like, Where the fuck do you have to go and do you arrive on time? Because you don't know it here. I know that at Schiphol ... the signs will work, that will be fine. But that is quite exciting in another country. And if you get stuck there: What do you do? And I remember at this particular airport, that I think all lounges were connected to each other. Because it was, say: you had such, a kind of shopping street in a building like that. With shops and after 100 meters or so the shops repeated themselves again and after 100 meters again something like four times or so. It really felt like we were going through a nightmare. And because of that I had at one point I was like. How do you know where you are?"

Preeti: *"And there was some issue in the car wasn't... like we went to I think it's good that there are so many different car rental services at the airport. Because I think we went to one we booked it online, we went to one car rental service, I think we ended up losing money because something happened. And it was, I feel like it was from their side it was or maybe not directly, I don't know exactly what happened. But then we couldn't get the car. So then we ended up just going across the, to another service who had a brilliant like, I can't remember which companies but had brilliant like service at that time."*

Crystel: *"You go there and you see, and at most airports it is all so well indicated that I actually never do any teaching research beforehand. The only thing I always research very much is how then ... how the accessibility is from an airport to, for example, a center or something."*

Frank: *"Never experienced it through the travel agency or destination airport of: Joh, this is what you can expect here. What you have to pay attention to is when that information is supplied, for example by the airport of Kuala Lumpur."*

Frank: *"I will not go looking for: can I still be here after arrival. tax-free shopping? That does not interest me. So where the rental cars are or where the taxis are, I find more at the airport: Do I have to change? Are there multiple terminals? What is the travel time between the terminals: Will I make it or not?"*

## Transport information is relevant for airport of arrival

Ronja: *"So Michel and I had this year that we arrived in Madeira and then we looked ... Then you come in such a hall and we rented a car in advance. Then you come in such a hall with all the names of the car rental companies, but ours was not listed and then went outside, and we could not find him. And that was all very confusing."*

Frank: *"Yes I think so. I think that a foreign traveler who only has a transfer at Schiphol Airport, that uhm... would have his information need mainly at the airport itself. And maybe if you have a long transfer time, you can get on a bus to Keukenhof. Such small trips. But that you do not have to tell about the train connection to Amsterdam, or the taxi costs by approximation..."*

Demi: *"I think I can say almost all those cream cards, I recognize them. Not that one (Rijksmuseum shop), yes. The shops and so on ... especially this one (tobacco & liqueur shop)... this is what I think you will run into when you come out of customs from the European side."*

Ronja: *"Yes, I think yes, I have seen that at all those shops, although I would have a lot of those tickets that are separate. I would see them as the same ... I think many of the shops at Schiphol look alike for one reason or another, as if they all sell the same thing, while that is not the case. But that is how it feels."*

### **Shops are little surprising for the passengers**

Ronja: *"A small piece, practically always the shops, so the bookshop an electronics shop, that remains and a restaurant to get a sandwich ... But they are a bit shorter. So the the diner... it was more of a check."*

Preeti: *"So I don't really remember if we, unless there's something I really want to see, like I have done times where they're like usually the shops at airports or shops, which are available everywhere else, but little more expensive. And so then if I just want to check out something, I would go and maybe check it out. Like if I have to try something on I'll try it out. And then I will know that it's available and then go to a shop outside."*

Preeti: *"Well, the liquor store and souvenir shops, things like that: these are very like I would say, is kind of what an airport has, normally. Electronics shop is not doesn't really stand out as that. Maybe a bookstore. Yes. Drugstore, yes."*

Demi: *"No, I recognize those bars, McDonalds anyway, even though I often don't go there. I find these things the chilliest, that normal restaurant."*

Demi: *"While I have the idea that it is more expensive than normal. I never actually buy anything there."*

Preeti: *"But there may be at the last minute if there is something, usually I would buy it somewhere else because I think it might be more expensive at the airport. But like for me, I would see. Yeah, that's just generally my perception that things are more expensive there."*

### Passenger experiences the shops at an airport as expensive

Ronja: *"I am very often bored at Schiphol and those shops, I am not going to buy anything anyway. Usually I think they are way too expensive and they always feel the same, really for years. So I think I would like to walk through that Rijksmuseum for a while, even if I were only there for ten minutes or so."*

Demi: *"And then yes, look at those shops are very nice, but five euros for a bottle of water ... No, I think it is not too bad. But I always have the feeling that at least they are quite expensive, because it is the only option you have there. You can't just go out and go to another store, namely. So for water I always think yes, I can get that from the tap, especially in the Netherlands, so why would I pay for it?"*

Demi: *"I usually do it on the holiday itself, because it feels more like you really got it from that place than it does from an airport.*

*But then every now and then you have forgotten it a bit or then I had not really come across something nice and then I always looked at the airport."*

Crystel: *"No, no, because those gifts and souvenirs I really prefer to buy at the destination."*

### **Passenger prefers not to buy souvenirs at the airport**

Preeti: *"But there may be at the last minute if there is something, usually I would buy it somewhere else because I think it might be more expensive at the airport. But like for me, I would see. Yeah, that's just generally my perception that things are more expensive there. But I would see like maybe last minute I'll probably go and buy stroopwafels or things like that, like the little tiny things."*

Ronja: *"Yes No. In principle not. I think it happened once, but generally not. It doesn't feel like a real souvenir, it feels like junk. But it is probably just the same souvenir as you do in the towns where you are on vacation. In some cases, not always of course... But it doesn't feel like a real souvenir if you bought it at the airport."*



## *Appendix 9A: Questionnaire passenger interviews*

This appendix gives an overview of the questionnaire used during the interview for wayfinding at Schiphol. Notes were taken on a tablet.

1. What is your destination?
2. Where are you coming from?
3. What is the goal of your trip?
4. And may I ask what your age is?
  
5. When is your flight departing?
6. What are the main activities you do while waiting at the airport?
7. Would you do different things if there was no covid?
8. Did you search before departure what facilities are available at Schiphol?
9. Did you already use any information sources at the airport? Which?
10. Did you notice any signage in the airport?
  
11. Do you know that there is a small exhibition of the Rijksmuseum at Schiphol, with different paintings?
12. Now that you know that this museum exists: How would you find where this location is? (say)
13. Would you mind searching for it now? You can go ahead and I will follow (do). You can think aloud while searching for the location.

At this stage, the passenger is asked to actually search for the Rijksmuseum. The passenger is observed and shadowed during the search and is asked to think out loud.

14. How was this for you?
15. Did you notice any signage?
16. Did you ever see signage like this (at Schiphol)?
  
17. Would you like to be informed about what you can do at Schiphol?
18. What kind of information would you like to receive?
19. When would you like to receive that information?
20. How would you like to receive that information?



## Appendix 9B: Results interviews/observations

This table gives a summary of different information sources and wayfinding strategies applied by the interviewed passengers. Some passengers applied multiple strategies to find the destination.

No difference was found between what people say and what people do, to find the Rijksmuseum.

	Information source	Origin	Destination	Reason not successful search	Participant
✓	Google maps	Lounge 2	Rijksmuseum	-	P1
✓	Google maps	Lounge 2	Rijksmuseum	-	P10
✓	Following signs*	Lounge 2	Rijksmuseum	-	P4
✓	Asking personnel	Lounge 1	Airport park	-	P11
✗	Search for signs or map	Lounge 1	Airport park	Could not find sign or map	P11
✗	Static map, Holland Boulevard	Airport Library	Rijksmuseum	No information about facility at source	P2
✗	Google maps	Lounge 2	Resting places	No information about facility at source	P6
✗	SSU, map	Lounge 2	Resting places	No information about facility at source	P6
✗	Exploring surroundings	Lounge 2	Rijksmuseum	No information source found	P12
✗	Static map, Lounge 2	Lounge 2	Rijksmuseum	Map gives wrong impression of building lay-out	P12
✗	Schiphol website, map	Lounge 2	Rijksmuseum	App provides unclear directions	P16

\* This person noticed the museum signs already before she actually started searching for the museum.

## **Covid**

Passengers think most locations are closed because of covid. Also, they are not active because a lot of the shops are closed.

## **Passengers want to have information about how they can spend their waiting time**

- If passengers have a short waiting time (around 1 hour), then information about activities is not needed. For longer waiting times, this would be appreciated.

## **Passengers are not aware of the existence of the Rijksmuseum**

- Passengers do not know if exist: 5/15 found out by walking past. 1/15 heard via a friend.
- If passengers know it exists, they still do not always visit the museum. Only one (out of 16) visited the museum before.
- One passenger mentioned it might need more advertisement.

## **Commercial wayfinding should be low effort**

- Passengers are lazy/tired, or not in an active mood/setting.
- Passengers do not want to put a lot of effort in finding a facility that is for recreation.
- Only if passengers should really find a specific place, they would ask someone (however, commercial functions are (almost) never a must).
- Passengers do not want to take all their luggage.

## **Passengers do not plan their (recreational) activities at the airport**

- Passengers do not search beforehand what facilities are available at Schiphol (15/16). One passenger did search via Google and found the Rijksmuseum, resting places and spa, but did not visit them (yet).
- Most passengers find locations by just walking around.
- It is now based on coincidence whether people find a facility, as they coincidentally walk past.
- Passengers decide last-minute/on the go where they will go.
- At the moment the passengers enter the lounge, they make a plan of where to go.

## **Commercial wayfinding should be location based**

- Passengers do not want to walk too far (luggage), they only want to visit things that are close.
- Passengers want to know the walking time.

## **Commercial wayfinding should have an explorative nature**

- The search for facilities should remain explorative, not a quest!
- Finding facilities must contrast with functional process (explore vs quest).
- Passengers must want to explore the surroundings, not be forced (like functional process). Maybe a game element can stimulate them to explore? (Pokemon GO).

## **Passengers search in the environment for cues leading to the Rijksmuseum**

- But the current cues do not guide them to the Rijksmuseum.

## **Before arriving in the lounge, people are mainly focussed on the functional process and specially look for functional (wayfinding) information and overlook commercial wayfinding**

- During the functional process, passengers wear blinders. Once they enter the lounge, this should be neutralized so they have an explorative mindset.
- Passengers mostly only notice functional wayfinding signage, as this is what they focus on.
- At the information zone, some passengers only noticed the flight info screens and not SSU and static map below. Some passengers did not even notice the information zone at all.
- Passengers are happy with the functional wayfinding, many and clear signs.

## **Passengers need guidance throughout the search for commercial facilities**

- Passengers are afraid they will not find their way back when searching for a facility.
- Passengers need more confirmation to feel assured they are walking the right way.



## Appendix 10: Points of attention current commercial wayfinding

This appendix describes issues, or points of attention that were found for the current commercial wayfinding.

### 1. Not everywhere blue signs

As described, blue signs for commercial wayfinding are not used at every location. The Operations department decided (in consultation with Commercial), that in Lounge 2, these signs would be unnecessary and were therefore removed.

However, in Lounge 1 and 3, blue signs are placed. A passenger (P6) indicated: *"I would expect that, so when I am searching, I would look for a blue sign. Yes."* However, this notion might lead to problems in the current situation, as in lounge 1 only one blue sign is placed. If the passenger would follow this sign and search for the next one, he would not find one.

### 2. Non-consistent

As recorded in the Mijksenaar design, commercial wayfinding information is communicated in the color blue. However, at some locations extra references to commercial facilities are used (image below). In this case, it was feared by the Commercial department that the functional wayfinding would be dominant and that the passengers would not be nudged to branch off from the main route, leading to their gate, so that they would miss out on the commercial functions. This might lead to confusing amongst passengers, which can be illustrated with the following quote (P6):

*"And for me it is important that they keep using the same color consistently. I have seen somewhere that the color of restaurants changed halfway through: Then I am looking for a blue sign, and then suddenly it has turned into a yellow sign. Yes: ARGH!"*

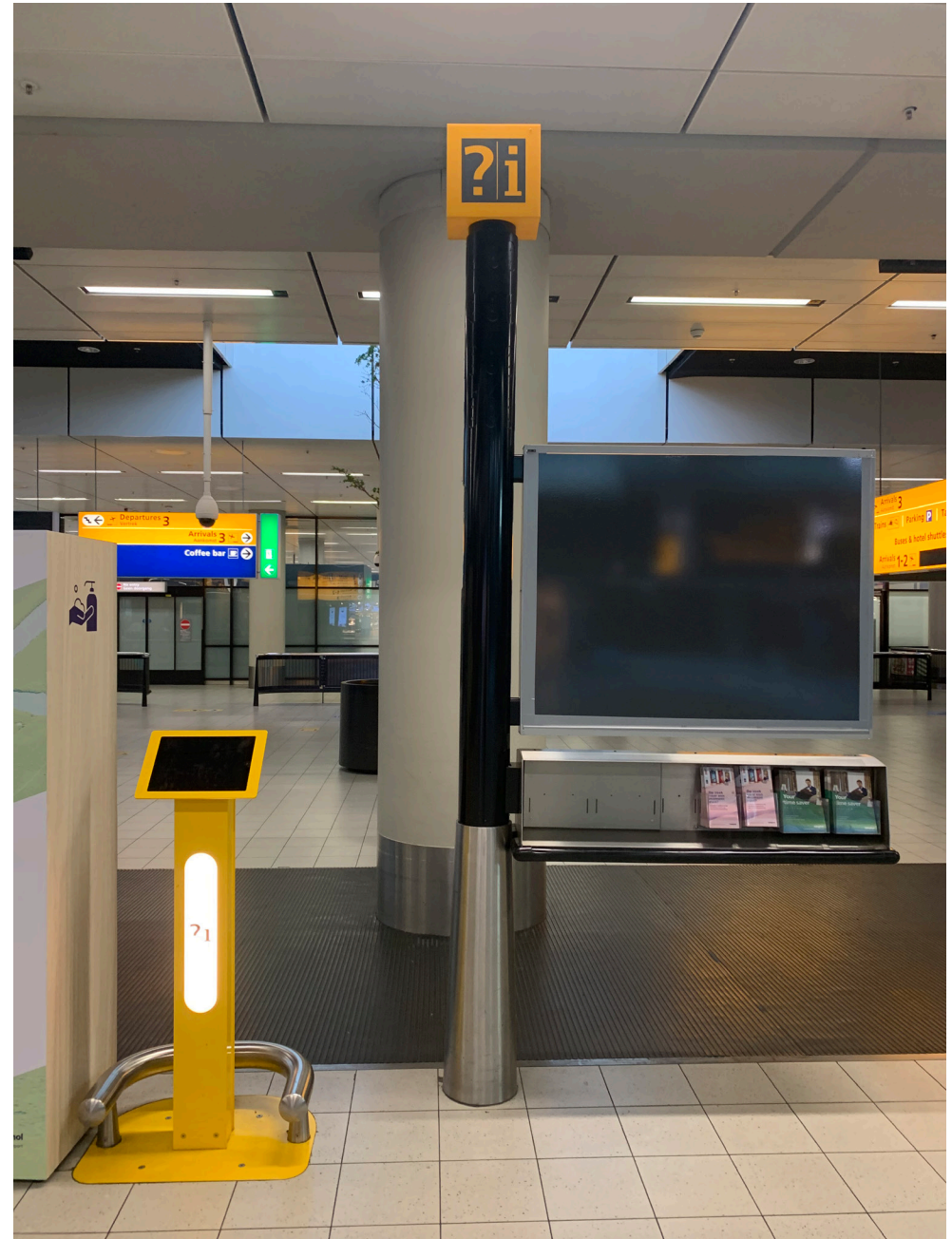


Another aspect of non-consistent application of the commercial wayfinding is shown in the image below. In this case, a grey board (secondary wayfinding) is used for a commercial function (tertiary wayfinding). Nevertheless, it is questionable if this is noticed by passengers and if it bothers their wayfinding ability.



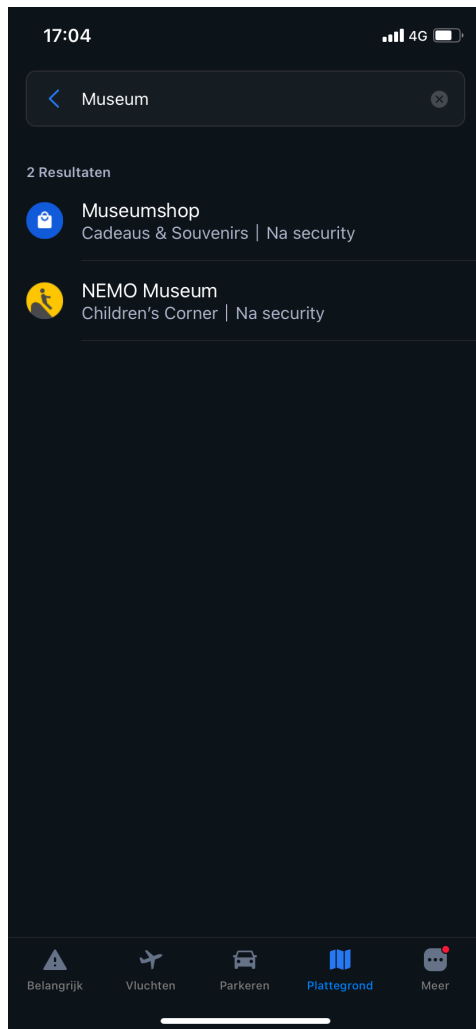
### 3. Outdated maps

Since the overview maps that are used are analog and therefore static, these maps quickly become outdated. As can be seen on the image below, certain (commercial) functions are taped to remove them from the map and keep the map up to date. At many locations, these maps have been covered and cannot be used by passengers anymore.



#### 4. Incomplete wayfinding information

In the case of the Rijksmuseum, it is not findable via every information source: The Rijksmuseum does not show in the search functionality on the SSU and the app (only Museum shop and NEMO).



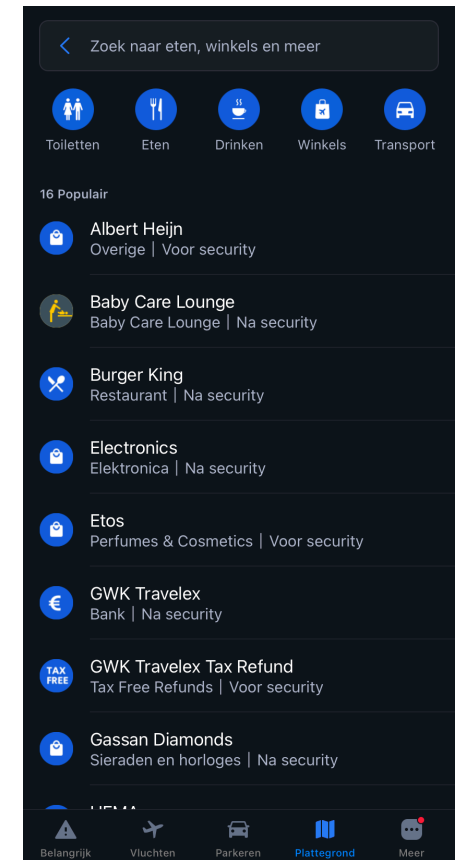
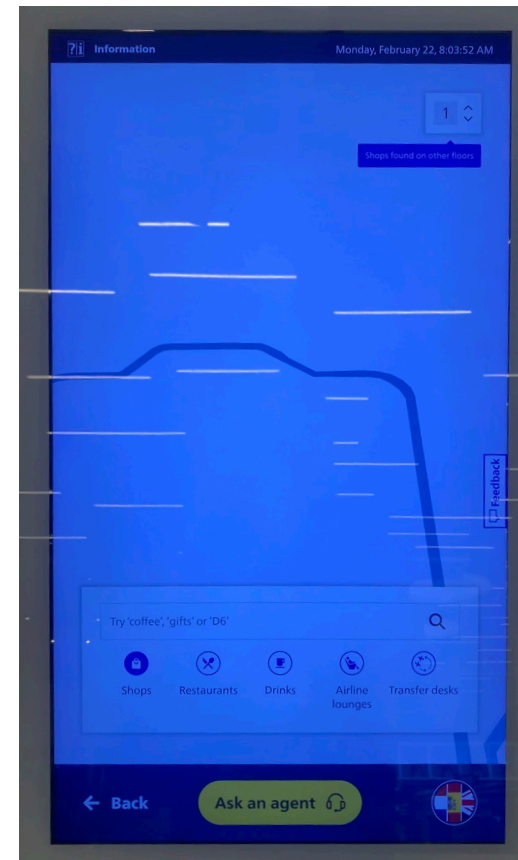
#### 5. Digital solutions are not user-friendly

The advantage of using digital wayfinding solutions is that the information can easily be adjusted.

Examples of digital wayfinding solutions are:

- Schiphol app and website
- Self Service Unit (SSU)

However, it was experienced that the digital solutions do not work properly, reducing the user-friendliness.



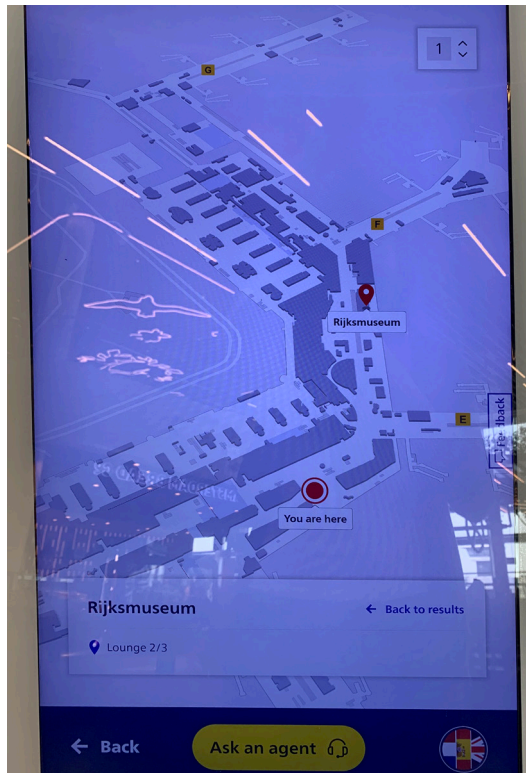
Especially the map, used in both the Schiphol app, website and SSU's, is not intuitive to use. For example it has difficulty applying the filtering options.

In a conversation with the product owner of the Schiphol app, the map was described as: "The most terrible map that I have ever seen". The department is working on improving the map and looking for different technologies to use.

Furthermore, it is interesting to see that the Schiphol app (in comparison with the Schiphol website) does not have the possibility to filter on the categories 'relax and discover' and 'services'.

The SSU's is an accessible source of information for many passengers, as it is programmed in 18 different languages. However, there are some points of improvement. When searching for a specific facility (see image below)

- there is no functionality for routeplanning.
- there is no indication which direction you are looking (like in Google Maps).
- there is no indication of opening times.
- no indication is given about the facility (what can be done/bought).
- there is no picture for a first impression.
- if multiple locations exist (Starbucks), no indication is given of which one is the closest.



## For people visiting the Rijksmuseum for the first time, it is in most of the cases impossible to find

- The Rijksmuseum and resting places are unfindable for some passengers (without asking), even for passengers that do know they exist.
- Google maps works good for searching and planning the way to the Rijksmuseum.
- The map in the app do not lead the passenger to the Rijksmuseum.
- Passengers did not remark the museum, even though they walked passed it before.
- While especially searching for the museum, some passengers still walk past the green facade of the museum. Some do recognize the text on the outside after some time.
- As the map (static and in app) refer to the Holland Boulevard, people search for this information in the environment. But no reference is made to the Holland Boulevard.
- The Rijksmuseum is not indicated on the map located at the Holland Boulevard (picture?)
- The static map (in lounge 2) gave the impression that the museum would be located at the end of a hall(way) (Holland Boulevard), however, this section directly leads to lounge 3, so passengers walk past it.





- A passenger thought that the grey shapes means that the facilities are on the second floor. Therefore, she searched for the Rijksmuseum on the second floor (image left).



### Landmarks are important for commercial wayfinding

- Passengers do use landmarks to orient themselves (pier entrances, bug plush toy, staircase)

### Information wishes:

- Passengers decide where get food/drinks to sit based on menu  
- Passengers would like to see complete overview, but filter on preferences  
- Most/all passengers mention 'email' as information channel, but come back to it quite quick, as they think they won't read it

### Limitations:

Due to Covid, all shops and many restaurants at Schiphol were closed, which may have caused the passengers to be even more non-active. Most of them expected nothing to be open, also not the museum. One person also mentioned not to get into smaller spaces, to avoid the risk of picking up Covid.



## Appendix 11: Sources synthesis

This appendix describes from what methods and researches the different insights that lead up to the conclusion of the synthesis come from. Each insight from the synthesis is stated, together with its source. Multiple insights lead to a conclusion.

The table is split into three topics: The problem description, the desired interaction and the form, content and location.

### Problem description

Insight	Source	Conclusion
Passengers seek pastime to fill their waiting time before their flight departs.	- Contextmapping: Ch. 2.5.2, insight 1 - Interviews: Ch. 2.5.2 (I&W needs)	
Passengers are looking for activities to do, but mostly visit the known and obvious locations such as shops and restaurants.	- Contextmapping: Ch. 2.5.2, insight 2 - Interviews: Ch. 2.5.2 (I&W needs)	
Many passengers just visit the shops to only have something to do and to counteract the boredom, without the intention to buy anything.	- Contextmapping: Ch. 2.5.2, insight 3	
		<b>Passengers should be supported to spend their waiting time more valuable.</b>

Insight	Source	Conclusion
<p>Schiphol has many other (free) services to offer, which most of the passengers are not aware of.</p>	<ul style="list-style-type: none"> <li>- Conversations Schiphol (Customer Insights): Ch. 2.4.3</li> <li>- Contextmapping: Ch. 2.5.2, insight 4</li> <li>- Interviews: Ch. 2.5.2 (I&amp;W needs)</li> </ul>	
<p>The existence of the commercial services (e.g. Rijksmuseum, library, Nemo, spa) surprises the passengers and they would like to be notified about their existence and location, so that they can visit them.</p>	<ul style="list-style-type: none"> <li>- Contextmapping: Ch. 2.5.2, insight 5</li> <li>- Interviews: Ch. 2.5.2 (I&amp;W needs)</li> </ul>	
<p>Currently, the commercial services are not intuitively found, as passengers do not know that they exist.</p>	<ul style="list-style-type: none"> <li>- Conversations Schiphol (Customer Insights): Ch. 2.4.3</li> <li>- Interviews: Ch. 2.5.2 (I&amp;W needs)</li> <li>- Observations: Ch. 2.5.2 (I&amp;W needs)</li> </ul>	
<p>But even when actually searching for the services, the current wayfinding does not suffice and does not easily guide the passenger to the services. The digital wayfinding solutions are user unfriendly, as not all facilities are included, routeplanning is not possible and filtering options are limited.</p>	<ul style="list-style-type: none"> <li>- Interviews: Ch. 2.5.2 (I&amp;W needs)</li> <li>- Observations: Ch. 2.5.2 (I&amp;W needs)</li> </ul>	
		<p><b>The awareness and the findability of the commercial services should be improved.</b></p>

## Desired interaction

Insight	Source	Conclusion
Passengers do not want to spend a lot of effort in finding specific facilities, passengers should rather be guided and find the facilities intuitively.	- Interviews: Ch. 2.5.2 (I&W needs)	
Passengers do like to explore the surroundings of the airport.	- Contextmapping: Ch. 2.5.2, insight 6 - Interviews: Ch. 2.5.2 (I&W needs)	
Passengers still want to stay connected to their flight and want to feel guided, so that they minimize the risk of getting lost.	- Contextmapping: Ch. 2.5.2, insight 6 - Interviews: Ch. 2.5.2 (I&W needs)	
		<b>The interaction with the intervention should have the characteristics: intuitive, guided and explorative.</b>

## Form, content and location

Insight	Source	Conclusion
Passengers find it hard to estimate how much time they have left for recreational activities.	- Contextmapping: Ch. 2.5.2, insight 7 - Interviews: Ch. 2.5.2 (I&W needs)	
Passengers prefer not to take risks so they arrive early at the gate.	- Contextmapping: Ch. 2.5.2, insight 7 - Interviews: Ch. 2.5.2 (I&W needs) - Data Customer Insights: Ch. 2.5.1	
		<b>To ensure passengers use their waiting time more valuable, the intervention should give insight in the process.</b>

Insight	Source	Conclusion
Departing passengers want to know: How much time does the passenger have for recreational activities? What is the walking time from the facility to the gate? What is the boarding time?	<ul style="list-style-type: none"> <li>- Contextmapping: Ch. 2.5.2, insight 7</li> <li>- Interviews: Ch. 2.5.2 (I&amp;W needs)</li> <li>- Literature (Glastra-van Loon): appendix 6</li> </ul>	<b>The information needs for all departing passengers are the same (TRF and O/D).</b>
Passengers do not want to walk too far for specific facilities, they would rather visit locations that are on the route to their gate, or are located close to the gate.	<ul style="list-style-type: none"> <li>- Contextmapping: Ch. 2.5.2, insight 9</li> <li>- Interviews: Ch. 2.5.2 (I&amp;W needs)</li> </ul>	<b>The offer of facilities should be based on the location of the passenger, in combination with the location of the gate.</b>
Most passengers do not plan their waiting time at the airport.	<ul style="list-style-type: none"> <li>- Contextmapping: Ch. 2.5.2, insight 8</li> <li>- Interviews: Ch. 2.5.2 (I&amp;W needs)</li> <li>- Data Customer Insights: appendix 4</li> </ul>	
Passengers find locations by wandering around (explore strategy).	<ul style="list-style-type: none"> <li>- Contextmapping: Ch. 2.5.2, insight 8</li> <li>- Interviews: Ch. 2.5.2 (I&amp;W needs)</li> </ul>	<b>The intervention that leads the passengers to the commercial services should happen in the context of the airport lounges.</b>

Insight	Source	Conclusion
Passengers prefer to have the personal and location-based information digitally (on a mobile phone), so that they can take the information with them.	<ul style="list-style-type: none"> <li>- Contextmapping: Ch. 2.5.2, insight 9</li> <li>- Interviews: Ch. 2.5.2 (I&amp;W needs)</li> </ul>	
Passengers won't download an app.	<ul style="list-style-type: none"> <li>- Contextmapping: Ch. 2.5.2, insight 10</li> <li>- Data Customer Insights: appendix 4</li> </ul>	
Commercial wayfinding should be intuitive.	- Conclusion 'desired interaction'	
		<p><b>The intervention should entail a (partly) digital solution, but should not be an app.</b></p>
The intervention that leads the passengers to the commercial services should happen in the context of the airport lounges.	- Conclusion 'form, content and location'	
The intervention should entail a (partly) digital solution, but should not be an app.	- Conclusion 'form, content and location'	
		<p><b>There should be a cue in the physical environment that leads to the digital intervention.</b></p>
		<p>(Currently, there is no such connection between the 'physical Schiphol' and the 'digital Schiphol' which might explain why the Schiphol app is used rarely. )</p>



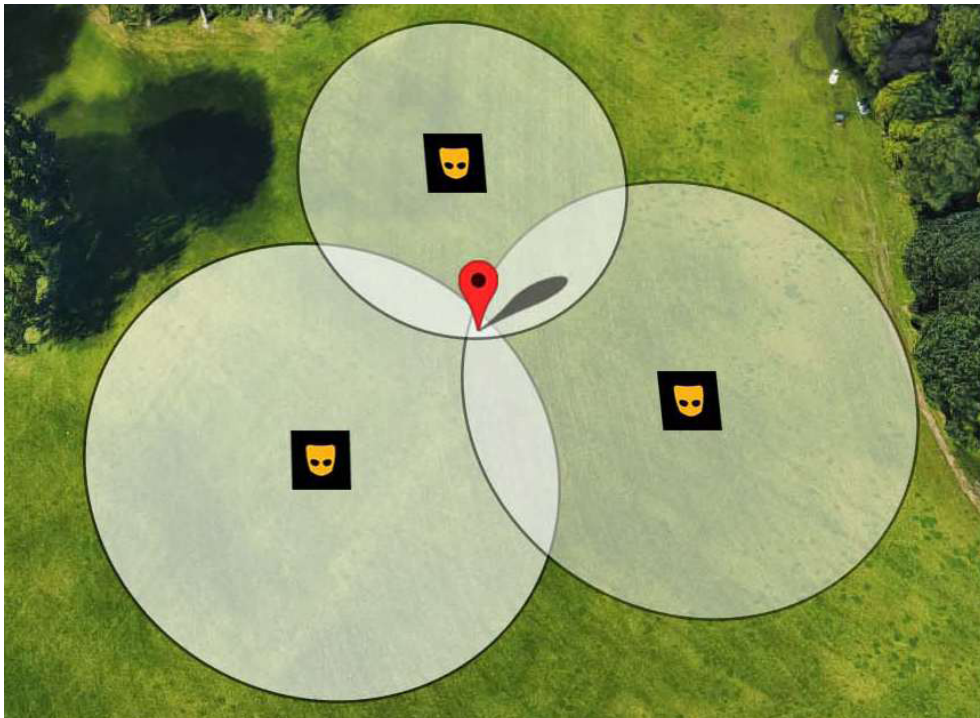


## Appendix 12: Technology analysis

In this appendix, interesting technologies that could offer personal and location based digital information to passengers are described. Routeplanning is also explored for the different technologies. The technologies could help improve the routing and navigation towards the commercial services, but could also increase the awareness amongst passengers about the existence of the commercial services.

For the outside environment, GPS is a useful way to plan one's route from a point of origin to a destination. However, in (multilevel) buildings GPS is useless as the signal often cannot reach through walls and it cannot indicate at which level of the building you are at.

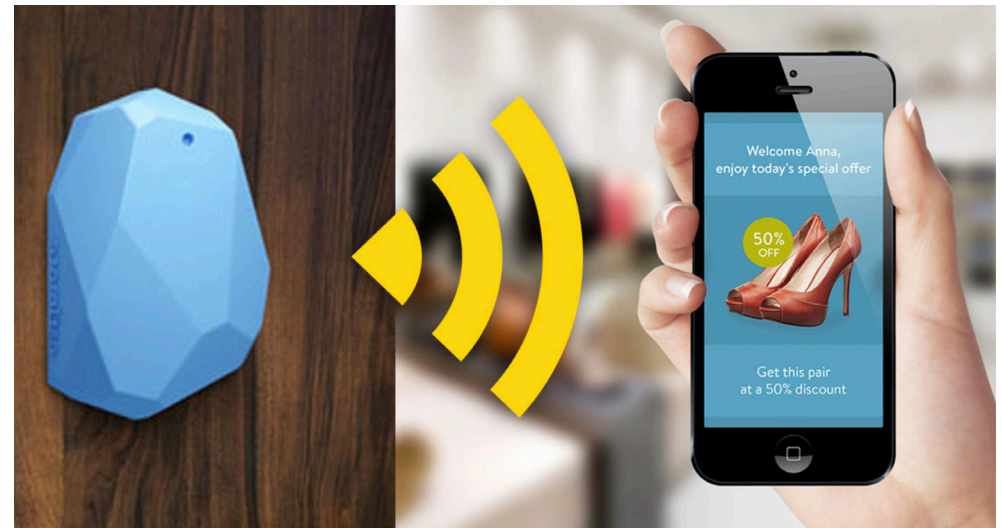
For determining one's location in a building, trilateration is often used, for which at least three fixed points are needed (image below)



### Beacons

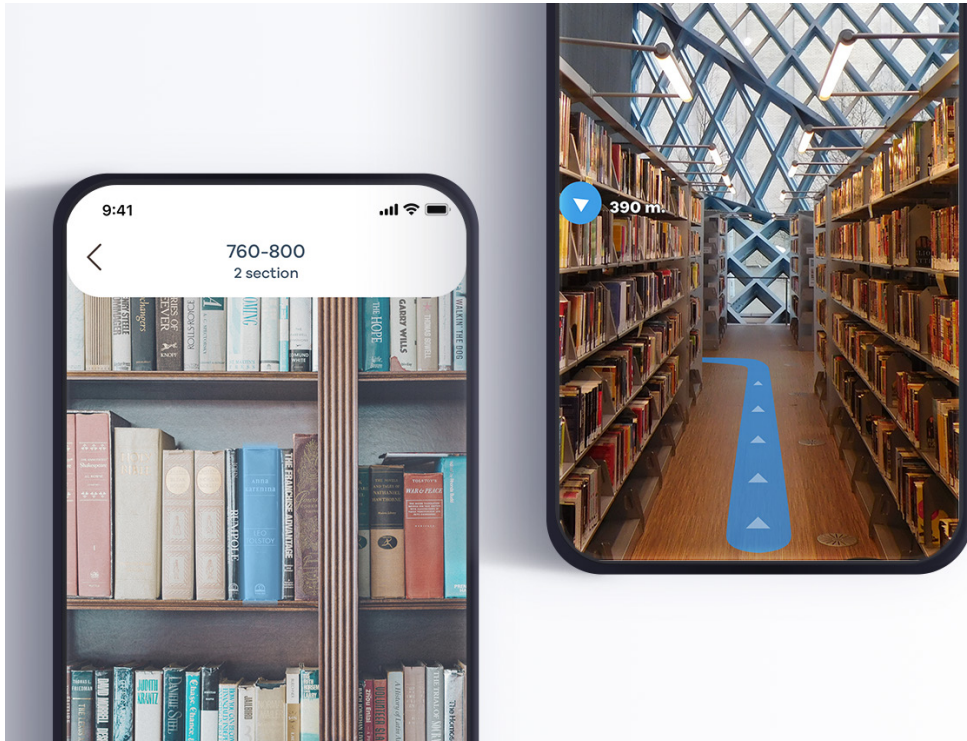
WiFi can be used as a an indoor location based technology. However, its accuracy, price and exclusion of iOS users make it less attractive for applications at Schiphol.

Bluetooth Low Energy (BLE) allows for the connection between beacons and devices. Beacons are small wireless transmitters that send out a BLE signal to devices nearby (image below). This technology allows for proximity marketing (if the passenger allows to receive the messages), but it can also contribute to the functional processes at an airport. For example, when approaching the security check, you can get a notification on your mobile phone to remind you to get your boarding pass ready. Knowing exactly what that person is near becomes very useful, in that it helps you capture their intent. Currently, Schiphol has a network of 250 iBeacons in place, with a range of 15-30 meter each.

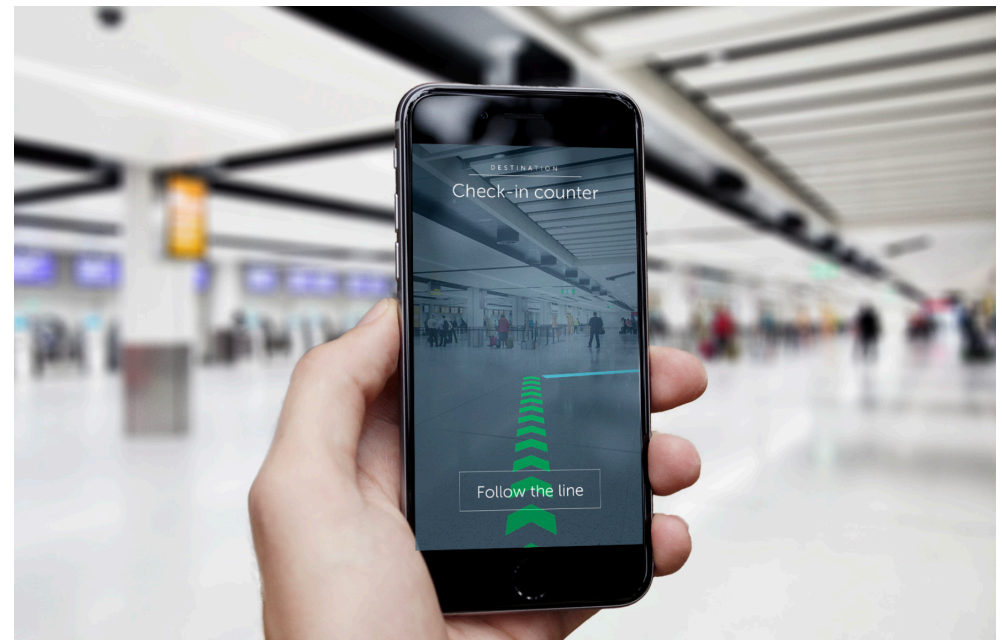


## Augmented reality (AR)

Augmented reality lays a digital layer over the real world, giving people a richer experience of their environment. In the last few years, it has had multiple successful applications with maybe the most famous example of Pokemon GO. Different trials with AR have been executed in the context of libraries and wayfinding (image below).



Augmented reality has recently got through to the aviation industry. In 2018, KLM ran a trial in their app to let passengers see (from home) whether their hand luggage had the right size (image on the right). Also, in 2017 Gatwick Airport launched a navigation system that enables AR wayfinding (image on the right). To do so, they installed 2.000 beacons determining each passengers location.



### Dynamic routing

Dynamic routing provides optimal route-planning, as it enables routers to select paths according to real-time logical network layout changes. For example, routes can be adjusted based on the measured crowdedness at certain locations.

### Facial recognition

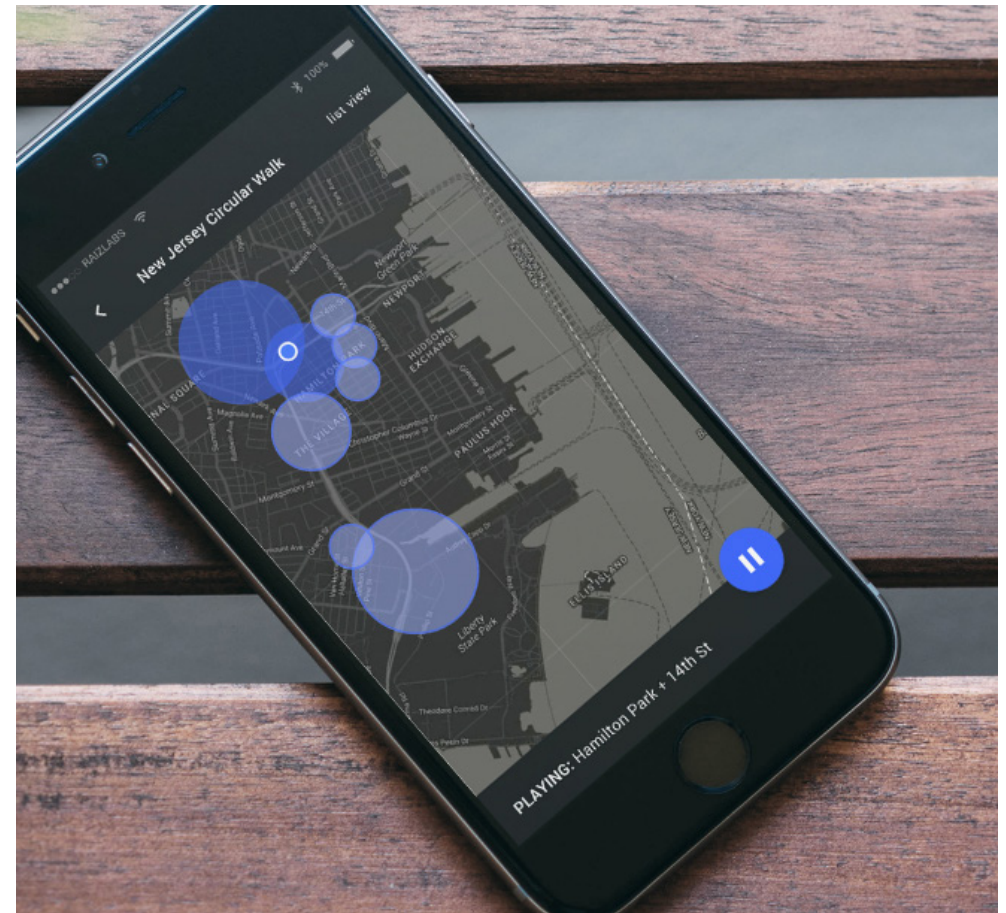
Lastly, facial recognition is an emerging technology. However, it can evoke references made to big brother, as there is worries about privacy issues. The airport of Changi, Singapore, has adopted the facial recognition technology, with the goal to in the end use one's face as their identification in stead of a passport. The image below shows a trial that took place in 2019 at Schiphol, to allow for boarding with facial recognition.



Facial recognition has the potential to fasten the functional processes at the airport. For commercial (wayfinding) applications, facial recognition could be used to send location-based messages to persons being recognized at specific places. However, it is questionable if this technology is will deliver more or better functionalities than a beacon system, which is likely to have less privacy issues.

### Locative audio

*Locative audio, audio augmented reality or geolocated sound* is a technology which allows to play audio, based on the location of an individual, via his or her personal device. Different zones for audio fragments can be set and once a person is in reach of this area, the audio will play automatically. This can be music but also a voiceover. The location of an individual is assessed by GPS or beacons. This technology is used for providing audio tours through cities.





## Appendix 13: set-up brainstorm session

This appendix describes the internal brainstorm session at Schiphol that was organized on the 7th of May.

### Goal

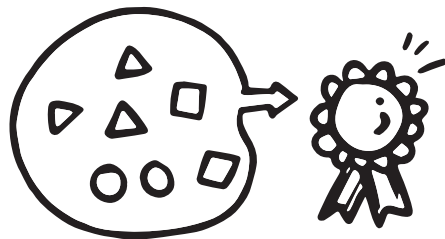
The goal of the brainstorm session was to get a head start with ideation and to gain experience with facilitating creative sessions. It was attempted to generate out of the box ideas for the design brief, and to let (internal) stakeholders think outside their fixed patterns.

Delft Design Guide, 2020

#### Method: brainstorming, brainwriting

Brainstorming and brainwriting build on the notion that good solutions can be found when they are generated at a high quantity and when people share their thoughts with each other. Brainstorming can especially be useful when initiating the generation of ideas after defining the design problem.

Limitations might be that extrovert people may dominate the setting and that complex problems need to be split up in sub-problems, without losing sight of the problem as a whole.



Quantity breeds quality

### Approach

Although the research was conducted during the COVID-pandemic, the session was held at Schiphol. Compared to an online brainstorm session, working face to face would improve the ability to brainstorm together and build upon each other's ideas.

Different methods were consulted in the book 'Creative Problem Solving Techniques'. The most applicable ones for the current design brief were chosen.

Before the internal brainstorm session took place, a trial session with two participants was conducted (female, 24 year old and male, 29 years old). This trial took around 60 minutes. The goal was to see whether the brainstorm session needed to be finetuned regarding content and planning. Only small adjustments were made in the set-up of the experiment (different duration for some activities) so the results of this trial brainstorm session can also be used.

### Participants

For the main session, it was attempted to create a diverse group of participants, with stakeholders from different departments at Schiphol (commercial and operations). An IDE student was involved to stimulate the flow of idea generation.

The participants for the main session were:

- Service Owner Passenger (Schiphol operations)
- Coordinator Implementatiemanager (Schiphol commercial)
- Implementation manager (Schiphol commercial)
- Modification manager (Schiphol commercial)
- Student Dfl (TU Delft)
- Professor IDE, chair for this project (TU Delft)

### Planning & materials

As most of the participants do not participate in brainstorm sessions frequently, first the 'rules' and mindset of brainstorming was explained (quantity breeds quality and postpone judgement). Then, a warming-up exercise took place in pairs. Schiphol employees were matched with non-Schiphol related individuals. To get the ideas flowing, as many words as possible were associated with the word 'pastime'. Brain writing was used for nine predetermined 'How to's'



Then, the design brief was introduced: "How to lead passengers during their waiting time from the lounges to the commercial services at the Holland Boulevard?"

First a brainstorm round with the complete group took place on the design brief. Then, there was looked for hidden presumptions, to enable the participants to think out of the box. In pairs the participants worked out two or three best ideas, which they presented to the group. Finally, the participants could vote on their two favorite ideas by pasting a sticker for the best 'out of the box' idea and for the best 'safe' idea (easy to implement).

The session took 1,5 hours. See the next pages for the specific planning and materials.

# Planning and materials brainstorm

## Brainstorm session Schiphol

## Brainstorm session Schiphol

6 participants

90 minutes

**Goal:**

- Generate out of the box ideas for the design brief
- Let stakeholders think outside their regular thinking patterns

## Planning

90 minutes

**Intro (10 min)**

1. Introductory round - 5 min
2. Explanation and rules - 5 min

**Warming up (10 min)**

3. Draw it! - 5 min
4. Word association - 5 min

**Diverge (45 min)**

5. How to's - 15 min
6. Introduction design brief + RQ - 5 min
6. Brainstorm RQ - 5 min
7. Hidden presumptions - 10 min
8. Brainstorm in pairs (20 ideeën) - 10 min

**Converge (15 minuten)**

9. 2/3 best ideas + on paper - 5 min
10. Present 2 or 3 best ideas - 5 min
11. Sticker voting best ideas - 5 min

## Introductory round

Short, because we need the time

+ What is your new corona hobby?

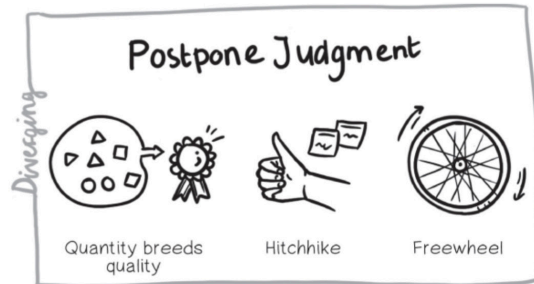


5 min  
10.00-10.05

## Explanation and rules



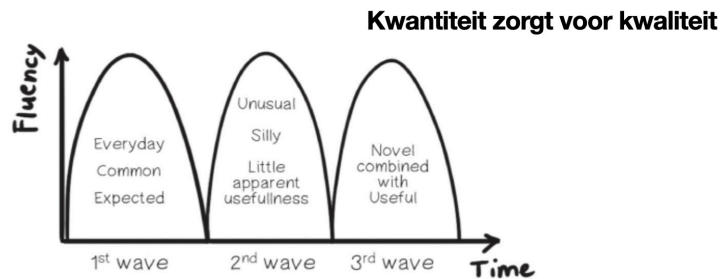
5 min  
10.05-10.10



## Explanation and rules



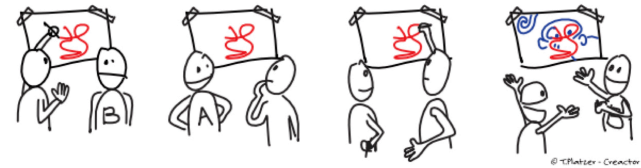
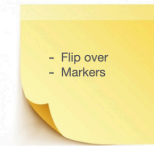
5 min  
10.05-10.10



## Draw it!



5 min  
10.10-10.15

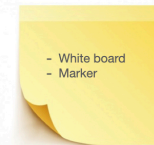


In pairs (Schiphol en 'other' mixed). One draws a scribble, the other tries to make something out of it. Alternate turns.

## Word association



5 min  
10.15-10.20



Word: "Pastime" (on Whiteboard)

Everyone can call out aloud, facilitator writes it down.

"I search 5 more words"



## How to's



15 min  
10.20-10.35

How to... (1,5 - 2 minutes per question, then turn around). Associate on what others wrote, nothing is too crazy. Make drawings.

**Tip: write down your own associations first, no problem if there are duplicates. Then look at what everyone else has written**

How to...

- Get something to draw attention?
- Inform people about an attraction?
- Lead people somewhere?
- Make something easier to find?
- Motivate people to do something? (activate)
- Let something physical lead to something digital?
- Give people insight into the travel process at Schiphol? (boarding time, gate, free time)
- Let people experience the Dutch culture?
- Lead people by means of stimulation of the senses?

-> Ask the person who has the sheet last to tell what is on it

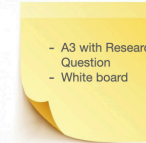
## Research question



5 min  
10.35-10.40

**"How to lead passengers during their waiting time from the lounges to the commercial services at the Holland Boulevard?"**  
-> Questions about this design brief?

**Brainstorm aloud - in the same mindset - no idea is strange enough.**  
**Facilitator writes ideas down, first 10 with red marker then black marker.**



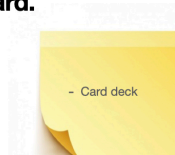
## Introduction design brief



5 min  
10.35-10.40

Schiphol has many great facilities, but it appears that many of these are not known to the passengers and passengers have trouble finding the locations; While the passengers are interested in these facilities and would like to spend their waiting time here. These include: Rijksmuseum, Airport Library, Nemo, babycare lounge.

The decision has been made to focus on Holland Boulevard, where many of these facilities are available. The cards show which facilities are at the Holland Boulevard.



## Hidden presumptions



10 min  
10.40-10.50

- "What recurring characteristics do we see in these first ideas?" (Ideas in red)
  - "What appears to be the same in these options?"
- > Write down minimal 3 presumptions





5 min  
10.50-10.55

## Brainstorm in pairs

- Generate ideas if we eliminate presumption 1
- Generate ideas if we eliminate presumption 2
- Ect

Minimal of 20 ideas per pair



5 min  
11.05-11.10

## Present best ideas in pairs



10 min  
10.55-11.05

## Per pair: Choose 2/3 best ideas

- Put something for each idea on an A3. Text / drawing / keywords.
- After this you will each present your best 2/3 ideas for the group



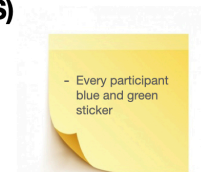
5 min  
11.10-11.15

## Sticker voting

Hang A3 posters on the wall

Everyone gets a green and blue sticker

- Best out of the box idea (O)
- Best 'safe'/obvious/easy attainable (S)





5 min  
11.15-11.20

## **Wrap up**

**How was this for the participants? Was this completely new, or recognizable things?**

## Results

In pairs, ideas were generated for the question "How to lead passengers during their waiting time from the lounges to the commercial services at the Holland Boulevard?". See the following pages for the complete overview of the results.

## Conclusions

This paragraph gives an overview of the main insights from the brainstorm sessions. See the next pages for the complete results of the sessions.

### Main topics

There were some recurring topics that were considered to be important for the design brief. Those are the following:



*Personalize:* Passengers should receive personal information about their flight and available time and should be able to indicate their personal preferences on how to spend this spare time.



*Reward/value for the passenger:* It should be clear what is in it for the passenger. They should be rewarded for visiting a place, being it with a discount, a sample or maybe the experience itself is the reward.



*Actively attract passengers:* Passengers should actively be informed about the available facilities in a way that activates them.



*Passengers should have spare time:* If passengers do not have spare time, they will not be interested in recreational activities that are not related to the travel process.

These topics will be taken into account for further ideation.

### Eye openers

Furthermore, there were some eye openers for me. The idea of reaching out to passengers once they connect to the WiFi was something I had not thought of before. I also did not think of the toilet as a place to reach people.

Lastly, the fact that humans are herd animals might be a powerful tool in this project. As already described in paragraph 2.2.4, person-place cues came also forth from these brainstorm sessions. Besides the actual behavior of people, recommendations from individuals are also impactful.

## Limitations

It should be considered that every brainstorm session and its outcomes will be different. Small differences in setting, participants and stimuli can influence the brainstorming process, which may result in participants coming up with different ideas.

In the case of this brainstorm session, the participants were (before the session) not involved in the design process and there was no time to give them a full update on all insights gathered until now. Therefore, it might be more difficult for the participants to oversee the complete problem and find a holistic solution. To minimize these effects, the design problem was divided into sub-problems. However, this might impact the outcomes of the brainstorm session and their applicability.

## Results brainstorm sessions

In this appendix, per activity of the brainstorm session the results are shown.  
Both the pilot as well as the main session are included.

### Word association 'pastime'

unze tijd  
snel voorbij  
klemmen  
niet nuttig  
buiten  
niet werken  
observeren  
beppen  
tv  
vakanties  
Spelletjes  
Social media  
internet  
puzzels  
hobby  
lezen  
planen  
scrollen  
leuk  
samen  
beuringsdag  
herhaling  
wachten  
met mensen  
drankjes  
hapjes  
eten  
(negatief?)

hartopen 1,5 meter niks en wandelen leren  
tax-free zwemmen vrienden familie hond bioscoop  
Winkelen  
nadenken eten  
Sporten bos vakantie drinken  
museum vliegen zeggen  
festival gezelligheid slapen  
vermaken popcorn huishouden muziek  
proben tekenen kinderen luisteren  
tuinieren koken ipad  
pretpark klussen netflix strand werken

## Tijduerdrijf

## How to's

The How to's are presented in a random order, as the participants also encountered them in a random order.



rust/stilte

Stemgebruik

Zang / muziek

verleiden

dans/geluid

Hoe kan je...  
inspelen op de menselijke  
zintuigen met het doel ze  
ergens naartoe te  
(ver)leiden?

Geur → eten  
↳ taart

spanning/ruisgevoel

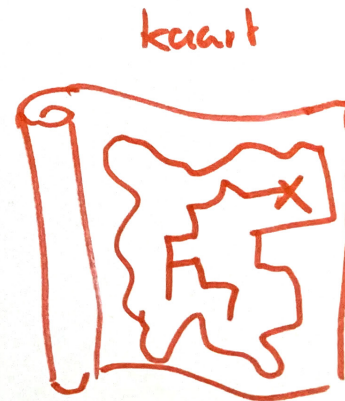
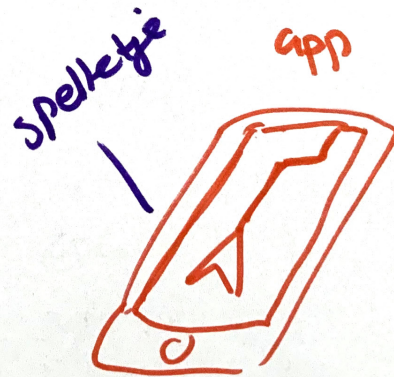
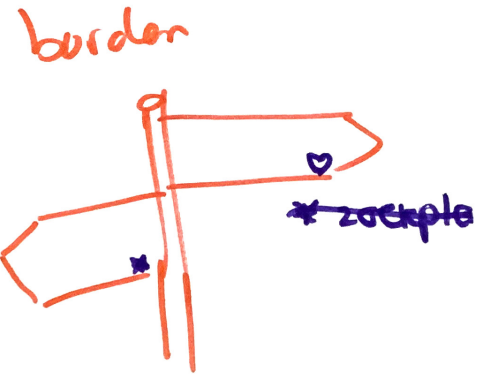
Zien → opvallende  
kleuren / tekst  
↳ LAMPJES (☆☆)

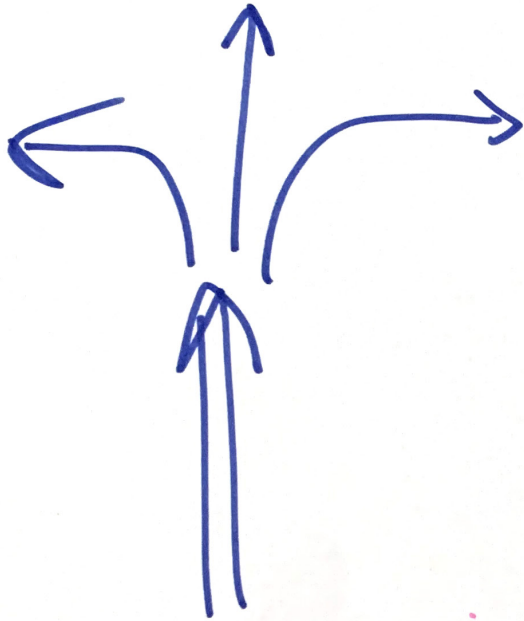
voelen → verschillende  
materialen  
↳ "volg het gras"

- interesse opwekken
- teasers maken, sociale



Hoe kun je...  
mensen ergens  
naar toe leiden?





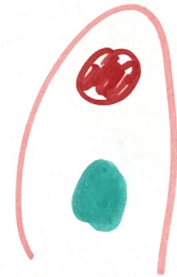
stickers  
plattegrond(en)  
beoording

Hoe kan je...  
mensen ergens  
naartoe leiden?

via andere  
(enthousiastmeren)

ken leiden  
ken lokken  
NUDGEN  
BEDRIËGEN  
MANIPULEREN

Folder- / Flyers



AANBOOD CREëren  
Lekkerrij

GRATIS GOODIES

natuurlijke  
way finding

DuWen

Jeptichten  
↳ route

oppakken

Belonen

loopende band  
"MIND YOUR STEP"

Schreeuwen  
Digitaal

muscotte

iets gek  
- reptiel aaien

geur

bedden kunst

verrassend

wc deur / spiegel /  
handen wassen

papegaai /  
vogelpark

Hoe kun je...  
iets de aandacht  
laten trekken?

groot

opvallend

licht  
borden

geluid

kleurrijk

tijdig informeren

niet omheen  
kunnen

in your face!

mensen  
(groep)

Statement  
maken

licht — knipperend, licht  
aan-uit-knipperen

Demonstratie

kleur

geur!

geluid  
— Alarm

- prominente locatie

Hoe kan je...  
iets de aandacht  
kijken trekken?

- voortstrevend design/outlook

Billboard

afwijkende uiting  
binnen de omgeving

elke waarden  
gebruiken  
communiceren

Reclame

bewegend beeld

lichtlijnen laten volgen

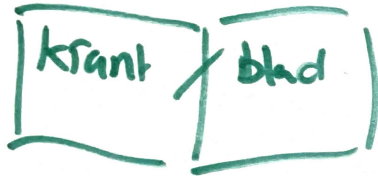
— Verlichting

kleur toepassen

herhalen

naar doelgroep  
formuleren

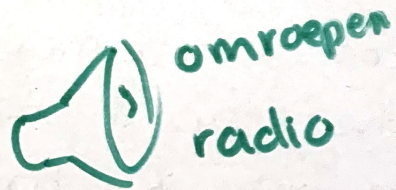
reclame



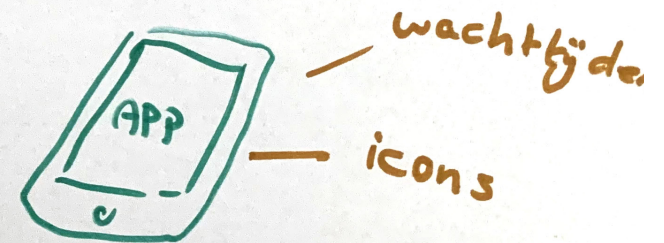
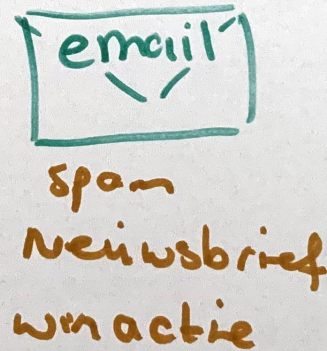
entertainers

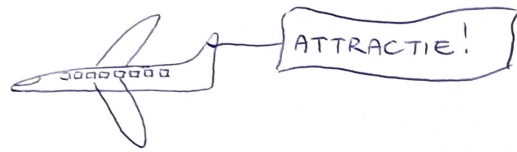


Hoe kun je...  
mensen informeren  
over een attractie?



'wie als eerste ...  
vindt - mag ...





~~thuis post~~

Flyer

- Gratis kaartje
- kop koffie als je binnenkomt

email

Reclame bij andere attractie maken

brief-post

tv-reclame

radio-reclame

via een app

bebording-/signing

via andere mensen

direct mail marketing  
marketing

IN DE LINDA

Hoe kan je... mensen informeren over een attractie?

- Gewoon vertellen
- P2P
- ERVAARINGEN VAN ANDEREN

snelweg reclame

via media persoonlijk adverteren

- SOCIAL MEDIA
- vloggers

Mond op mond reclame

promotie-team

Flyers op schalen

Instagram frame  
irl



— cool!

Hoe kan iets  
fysieks leiden naar  
iets digitaal?

geld inwisselen  
↳ ou chipkaart  
opladen

SCAN



QR code

NFC

Vraag → antwoord  
opzoeken → wiki

eten zien en ruiken  
→ thuisbezorgd app

url link

Pandemie  
starten  
Schichten  
making waves

vb: vergaderen  
in ZAAL  
↓  
teams - zoom

- social media
- posts
- digitaliseren
- inscannen
- fotograferen
- digitaal intekenen
- inhouden

Belonen /  
Pokémon  
Spel

How can something  
physical lead to  
something digital?

AR Zoom  
VR

Samen brengen met  
anderen

fotograferen

Hologram  
omgeving  
Reizen  
Random  
projecties

Reclame zwil  
↓  
bezoeken naar  
website

QR-code  
op plakker  
(vloer, wand, etc)

App iem  
fysiek object  
mond-op-mond  
(via anderen)



uitdagen

winnen

challenge

winnactie

gratis

sample

korting

prijs



belonen

punten  
likes

moet leuk zijn

persoonlijk

goede  
doelen

aanbeveling  
van vrienden

Hoe kun je...  
mensen motiveren  
iets te doen?

nuttig

meetbaar  
met andere  
deelnemers

resultaat hebben

verhaal  
vertellen

beroemde  
personen  
als voorbeeld

voorbeeldfuncties

moet herinnering geven

iets wat  
iedereen  
wil

Sancties?  
als je het  
niet doet

"wetten dat  
je het niet  
kan"

- extrinsieke voorwaarden
- winnen

## Belonen

- positief zijn
- teambuilding
- samenwerken
- gezelligheid
- tips/tops
- transparantie

Geen van gebakken cake

- goed verhaal vertellen

mond-op-mond  
↑

via andere  
enthousiastmeren.

↓  
groep eegens  
zien staan

Doe dit doe dat.

Hoe kan je...  
mensen motiveren  
iets te doen?  
(activeren)

↓  
LATEN zien  
hoe de DESTINATIE  
eruit ziet

CONSTANT DAT Beeld  
projecteren.

Vrienden het  
laten doen  
"als er 1 schaap  
over de dam is"

gimmick geven

Competitie

↳ wedstrijd winnen = prijs

Complimenten geven

Eten

Enthousiasme is aanstekelijk

Voorlezen om te laten volgen

muziek

borden

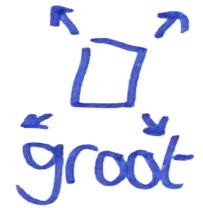


Pijlen



(onontkombaar)

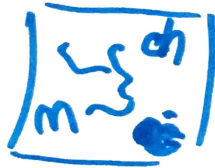
verplichte route



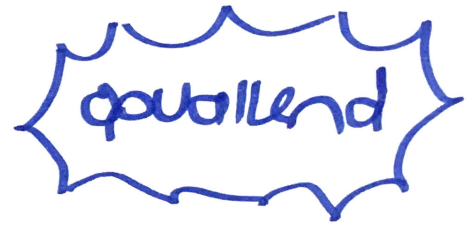
overzichtelijk

Hoe kun je...  
iets beter vindbaar  
maken?

kaart met  
icons



routebeschrijving



gids



personeel / vragen

duidelijk waar

Vooraf informeren

AR/UR TOUR

digitaal ondersteunen  
(app)

verplichte  
routing  
creëren

Hoofd- bij zaken  
scheiden

begeleiden  
(denk aan kleur  
lijnen op de vloer  
in ziekenhuizen)

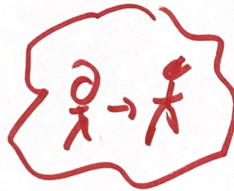
Op keuze momenten

Communicatie!

Mensen die weten  
waar het is laten  
coachen → PrP

Hoe kan je...  
iets beter vindbaar  
maken?

↓  
visualiseren



simpeler  
maken

less is more

- zichtbaarheid

gebruik van plaatjes  
naast tekst

- Audio

Niet te veel tekst

MAKEN WAT IEMAND WIL

kort en bondig

Speurtocht

in beeld  
brengen

laten opvallen

actief  
controleren

reizigers  
socializen

personeel

pijlen

entertainers



informatie  
binnenkant we-  
kerje

app

Hoe kun je...  
mensen inzicht geven  
in het reisproces?  
(boarding tijd, gate,  
uize tijd)

borden

Schiplol quiz

Spreekbeurt op scholen

Speurtocht  
voor kinderen

tv-programma  
↳ achter de schermen bij

ticket met info

open dagen

- wie
- wat
- waar

**Mijksenare**  
Samen met OPS 😊

~~hulp~~  
hulp via andere  
pax

Schiphol app



→ tijd tussen nu en  
boarden weergeven  
met toontjes  
Our spare time

in geval van transfer  
al aan boord.

Hoe kan je...  
mensen inzicht geven in  
het reisproces op Schiphol?  
(boarding tijd, gate,  
vrije tijd)

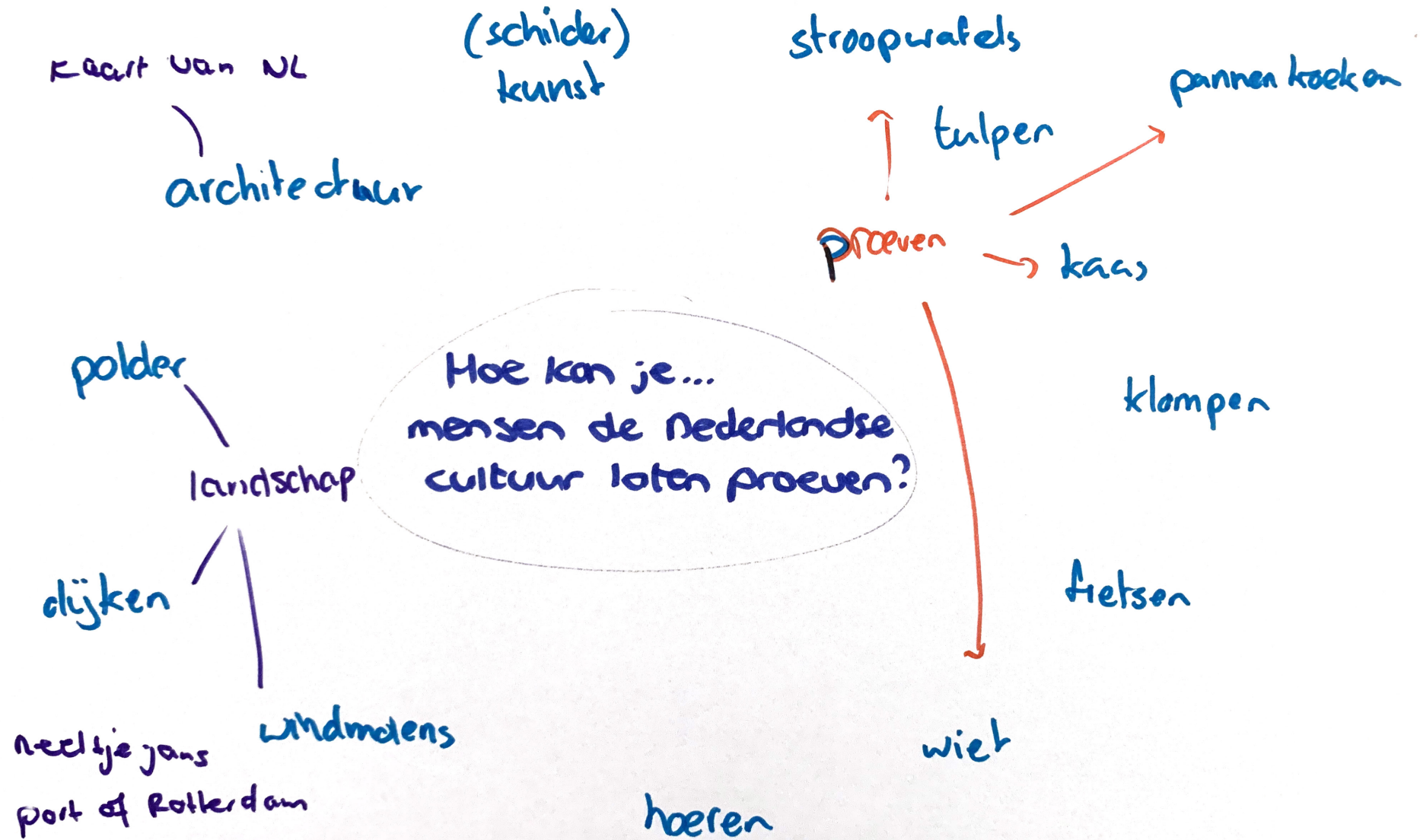
stapsgewijs verwijzen  
met alle info middelen  
vluchtinfo schermen  
wayfinding

FIDS - clusters  
(video schermen)

PA - personal assistent

website!

Persoonlijke aandacht  
en ondersteuning



TAXI CHAUFFEUR  
EEN VERHAAL  
VERTELLEN  
LATEN

- buurtwinkels, waarnings lever

- kamperen

monsters / samples / incentives

Koningsdag

INCLUSIE  
???

HOE NL IS  
IENEREN??

substituten  
geven

Testimonials

stampot

cadeau geven

ORANJE

Hoe kan je...  
mensen de Nederlandse  
cultuur laten proeven?

de Jordaan

TULPEN

Oud Hollandse spelen

Voetbal

hollands eten

stads wandelingen met  
historie vertelling

fietsen

schaatsen

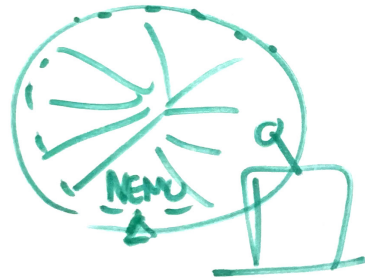
Klompenclaus

Giethoorn

Volendam



Fysiek  
vrolijk — ~~irritant~~  
teaser  
aanbieding



↳ inleveren  
bij  
revo  
↑ route op kaartje  
bon

Rail naar HB



rijdt door schiphol  
hop on/off



← mascotte

#### Pilot - presentation 1

Idea: Wheel of fortune  
“We think that there should be something in the lounges that attracts the attention of passengers. It should be happy, but not annoying. There should be something in it for the passenger: So it should have a teaser or a discount. That is why we thought of a wheel of fortune that every passenger can turn once. You can for example get a discount for shops or museums. The coupon is printed and the passenger can take it with them. It states where the coupon should be handed in and a route is indicated on the coupon to that destination.”

#### Pilot - presentation 2

“So we thought of a hop on hop off rail that bring passengers across the different attractions at Schiphol, especially the Holland Boulevard. Passengers can hop on and hop off where they want and information is given about the different locations. There is also a mascot that makes the rail recognizable and enjoyable.”

## Internal session - presentation 1

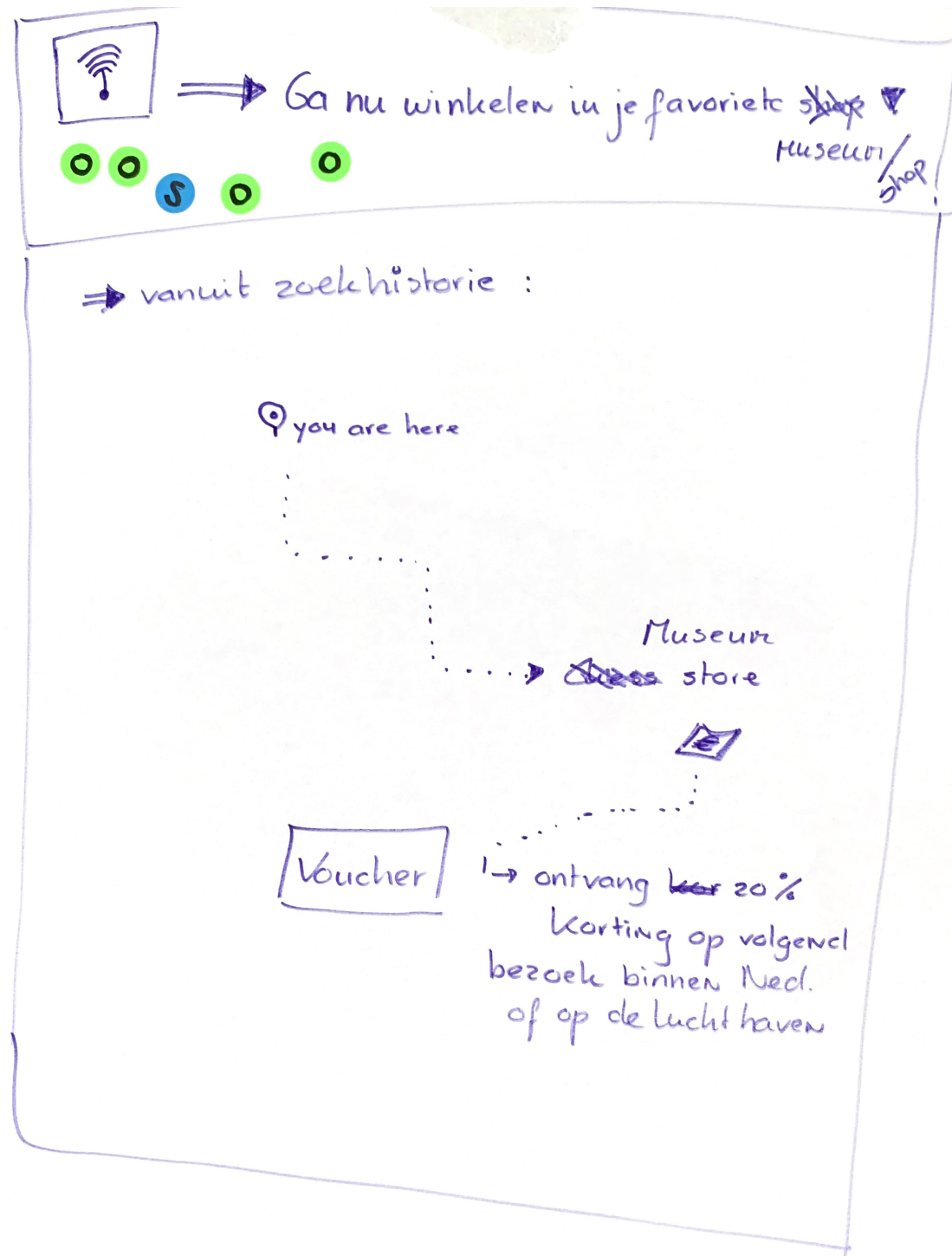
"For us it is really key, because the Holland Boulevard is of course used by a lot by transfer passengers who have a longer stay. And you know yourself: when you go abroad, you want to use WiFi. Otherwise you are left with your roaming: high data costs. So we have really put the Wifi central. So when logging into Schiphol's WiFi, you also have to accept that you will receive push messages. So with that we can really start tracing you. And we will also take a good look at your search behavior. What your interests are."

"Is that allowed?"

"Yes that is allowed, we have all checked that. You must tick it beforehand: accept cookies. So that's going well."

And from that search history you do indeed actively receive push messages. And then it also shows you exactly where you are. And also what there is to experience on the Holland Boulevard. For example the museums and museum shop. And the more you search, the more we appreciate it. And we will really reward you, which we think is very important.

That you are going to get a reward. And the reward is that you will actively receive a voucher from us with which you will receive a discount on visits to the museum, or a purchase in the museum. So that's how we thought of it."



Internal session - presentation 1  
(continued)

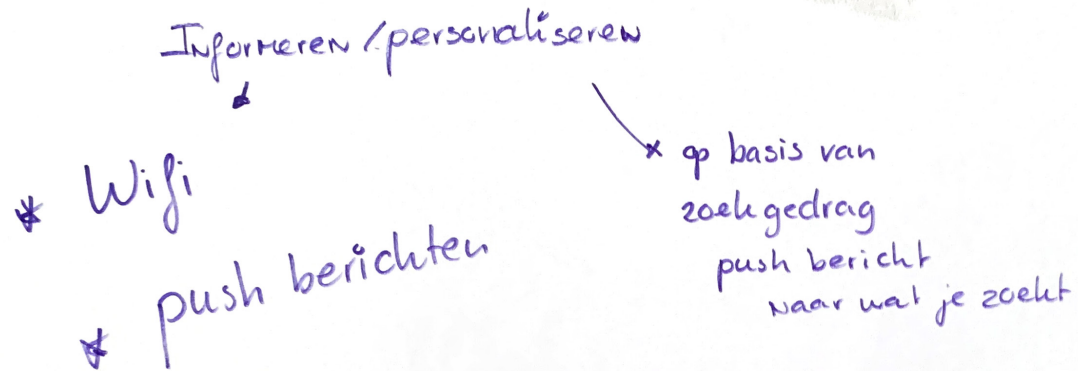
"Yes, we actually combined two ideas:  
The first observation was very clear:  
The WiFi story. That is the first step,  
that people start using their mobile  
systems when they are at an airport.  
That the WiFi signal has to be sufficient  
and strong enough. And in addition, the  
part of search behavior and rewarding  
it. So we actually put those two things  
together with that. Then we have to  
make sure that you have super WiFi on  
Holland Boulevard."

"Go to Holland Boulevard: you can  
download there."

"You can only download on the Holland  
Boulevard."

"It is an easy and we think economical  
way to indeed reach those transfer  
passengers who are staying there."

"And the use of QR codes is also  
possible."



Belonen : korting / voucher  
bij bezoek elders in Necl. (Rijksmus.)  
of op luchthaven

## Internal session - presentation 2

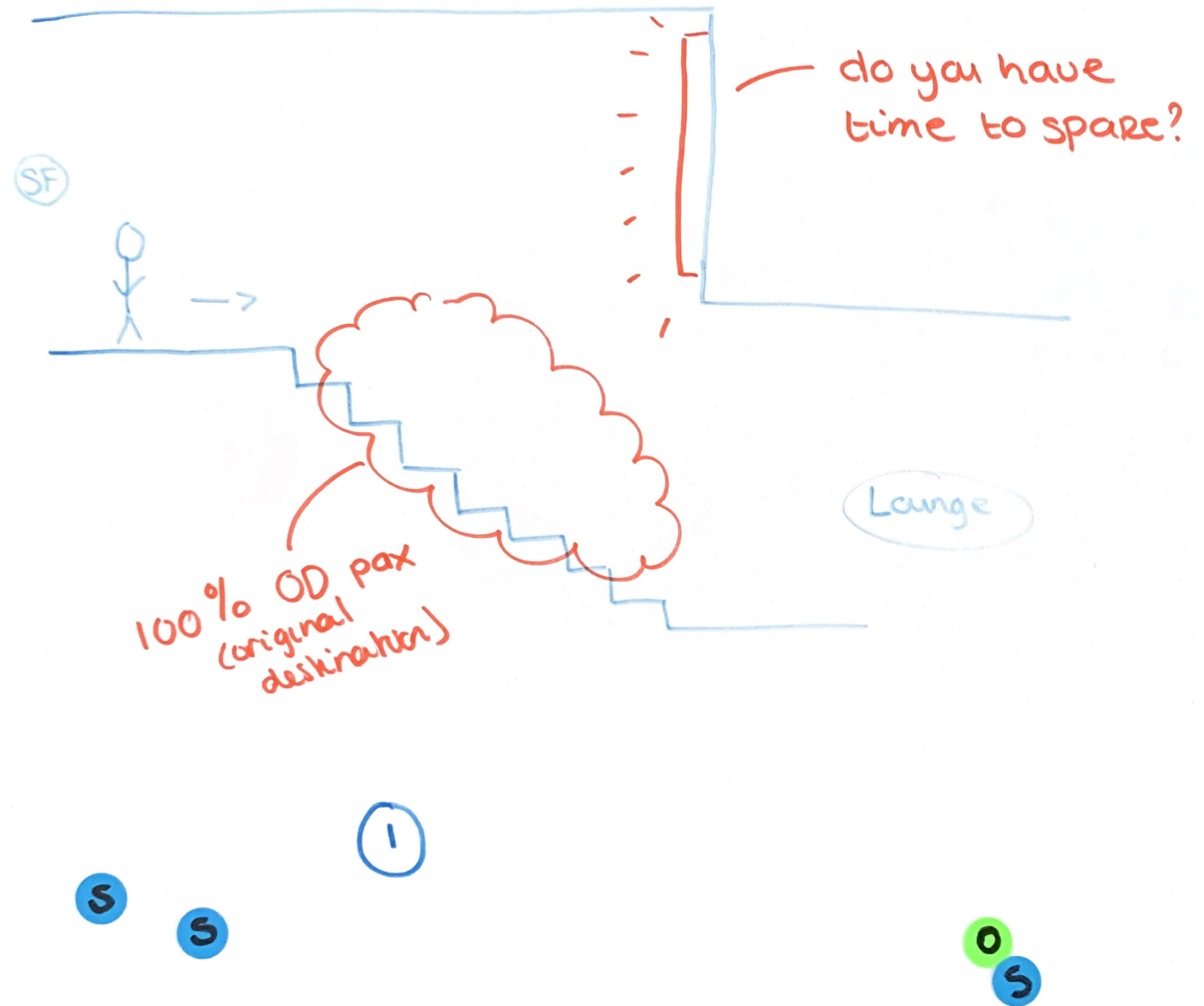
"Maybe a bit old-fashioned, but we figured... Not what you might think first: How do we reach the most passengers? Not during check-in, because everyone has to do that in the end. However, that check-in is with the airlines, it is not with Schiphol.

Because people check in online with the airline and do not necessarily have to check in here at Schiphol. So then we were thinking: Maybe via the app, but not everyone will have or download that app or be interested in downloading the app. So then we came up with: What is everyone doing?

What should everyone do? Well, that is going through security if you leave from the Netherlands.

So we went to see: Can we do something with that? Because in essence 100% of the passengers who depart from the Netherlands go through the security filter. So if you could do something with that, you will reach 100%. You are not allowed to do anything in a security environment. But possibly before, or after, you could do something.

So we thought: The moment you come out of a security filter... Currently the security filters are one level higher and you then go back into the lounge. So you always come across a rise-fall point, where people in many cases stand on the escalators and stand still for a moment: Just a moment of waiting and people look around. That you then place information on a blank wall opposite it. And it is good to start with the question if someone has time. So: "Do you have time to spare? Or: "Do you have time?" In the hope that that activates people and that you can show something varying there. Whether it is coffee, or the Holland Boulevard or whatever ... Then you largely reach the passengers who depart from the Netherlands."

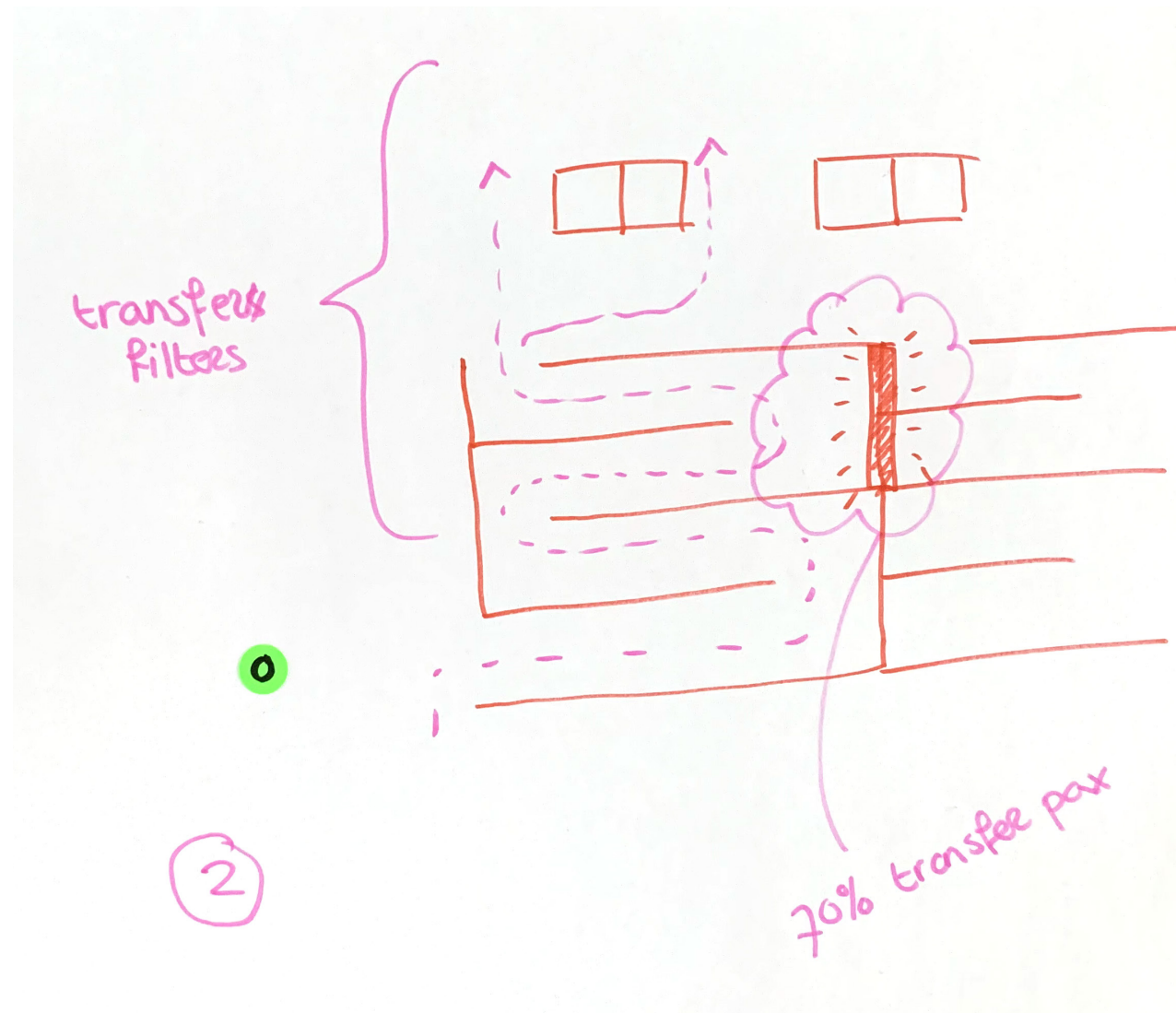


Internal session - presentation 2  
(continued)

"Well we all know Schiphol is also a hub where people can arrive and pass through. So we actually had a similar idea: To do that around the transfer filters. Especially when it is very busy there, long queues arise. We all know that. People have to wait a long time there too. When people wait, they start to look around. So the idea was to do something similar to those transfer filters, not that we reach 100% of the transfer passengers, because there are also people who fly from Brussels to Amsterdam and go on to Berlin, they don't go through a transfer filter. So you will miss it. But the majority of that, 70% you could still reach and the idea will be the same: That you have something interactive that activates people. They are waiting there anyway on their turn. And they read: If you have time, I can go to Holland Boulevard."

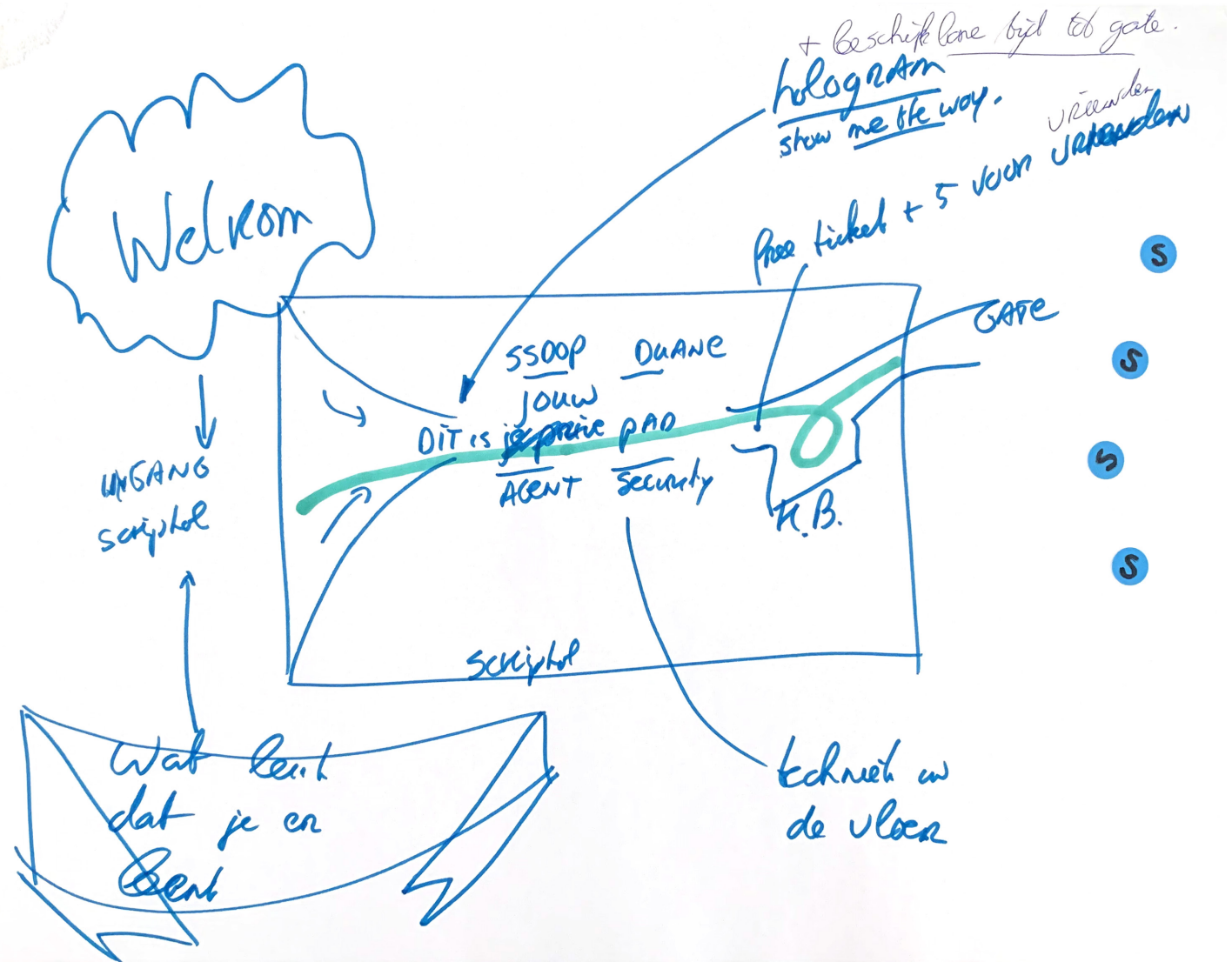
"Can they also pass faster if they go to Holland Boulevard?"

"An advantage? Well we could look at that! Holland Privium."

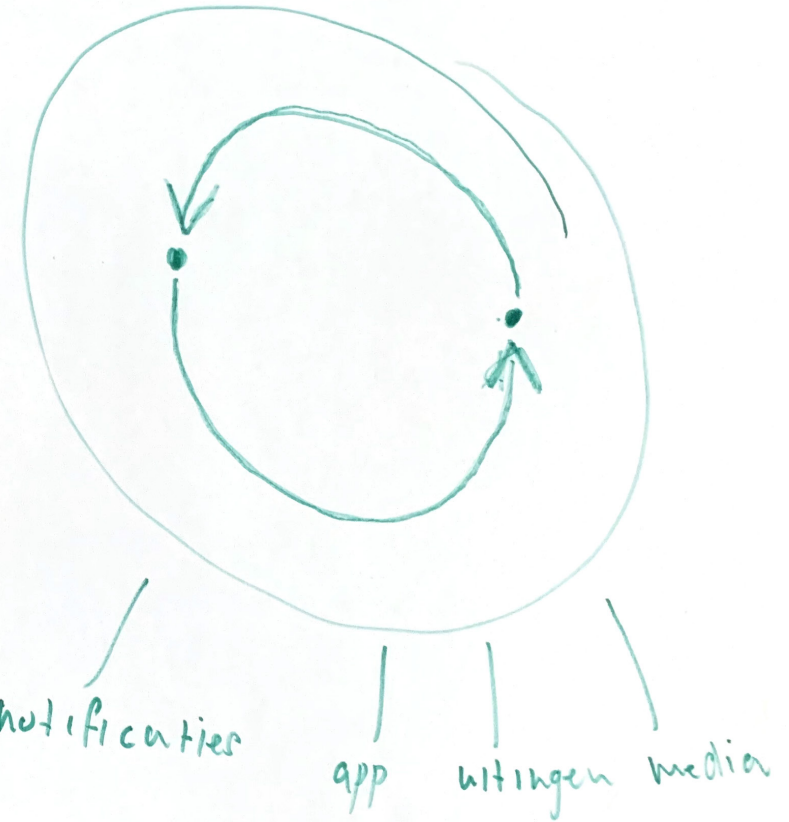


### Internal session - presentation 3

"Yes, we actually phased it: In three phases. Before, on arrival at Schiphol, at Schiphol and after Schiphol. In case you would come back again. We actually assumed that the moment you go to Schiphol, that that is the moment to plant the seed with the passenger. Partly because the level of stress of a passenger when they arrive at Schiphol is so high, to intervene is quite difficult. So we think it is already a step too late to inform people at Schiphol. So we think that we should actually provide information in advance about what to do on Holland Boulevard. This can be done by means of a combination that when the tickets are purchased, you will receive the information immediately. You could position it as some sort of amusement park, so that people know there is more to do than just sit and wait at the gate. That you can really do something. So that people might precede and really take the time to go earlier. So actually at this point people are already aware of what might be going on."



# Here healing

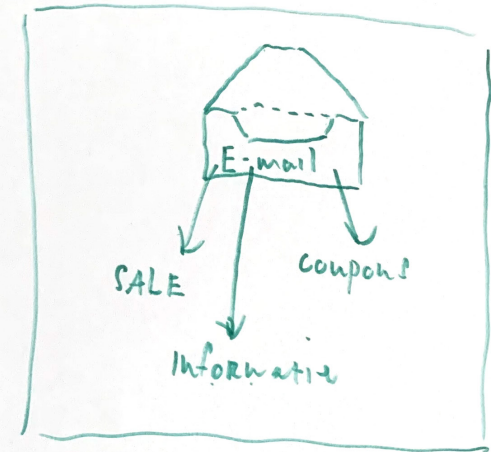


Internal session - presentation 3  
(continued)

"And here the point is that when people are at Schiphol, after security or perhaps even before, that a few things can already be informed. And then it is really about the art of repeating.

So in a manner of speaking: notifications, push messages, via the app, expressions, media that also gives a reminder. As long as it is repeated and people think: O yes! There are indeed activities to do, which I have seen before. And it is repeated so that people actually take action."

# Follow Ups



Internal session - presentation 3  
(continued)

"People catch their flight, leave and maybe get a follow-up afterwards with contact details or that they can indicate if they still want to have deals or something like that. Or often you also get from Google: What did you think of Schiphol? That you somehow still come into contact with the passengers or that they can write something about your place. So well, through coupons you can give information or a discount, or write a review. That in turn encourages other people to do something and to look."







## Appendix 14: Ideation

This appendix gives an overview of the ideation process during this process. The following pages show the brainstorm and sketches.



[ ] NFC QR  
scan object for more info



visually attractive

- also refer to small art installations
- Dutch Windows
  - Bikes
  - Baggage belt
  - Globe



'De stadswandeling'  
• streetart tour



other people spend here on average 30 min

☆☆☆☆  
CO-CREATION

improving the service

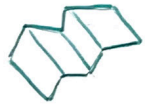
Schiphol receives feedback about facilities + findability (Wirk Snijders)



land mark based



smell



theme park map



sound

voice



Be guided (by)...



colors

visual



Different routes:

- discover
- active
- relax
- 'experience'

numbers  
1 2 3

alphabetical  
A B C

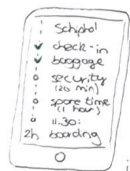
order



bite water pad

MEDONIC

- experiences:
- treasure hunt (adventure & discover)
  - in control



based on location (Lisa Thus)

insight in next step 1 → 2

+ available time

indoor navigation (Google maps?)



Augmented Reality

less information overload  
personal info



crowdedness



lead to calmer place

with coupons



Filter on Preference



1 search a place (to)...

- relax
- eat
- be active
- calm

Passenger Profile



Tinder for facilities

Swipe right →  
← swipe left

It's a match!

DIGITAL  
vs  
PHYSICAL

remove blue signs (?)



(visual) information overload



**Hoe kan je passagiers tijdens hun wachttijd van de lounges naar de Malland Boulevard leiden? commerciële services op de**

omzetten naar typisch NL?  
 gevangen Toad (monia):  
 beuinden op een locatie en daarna je buddy die mee-goot?  
 Aandacht trekken: trillen als er mensen voorbij komen  
 interactief

door op verschillende locaties object te scannen  
 spraakbeleving op elke plek iets typisch Nederlands proberen  
 gamification  
 uniaact locations  
 korting als doel gehaald?  
 korting op appelbort / stroopwafels  
 Nederlandse ervaring creëren

ingrediënten verzamelen  
 pensel van Vermeer  
 oor van Vincent v. Gogh  
 boekentist Hugo de Groot  
 ijskool  
 dijen - begin het water snijden

storytelling  
 "Experience The Netherlands during your waiting time"  
 "create your own Dutch experience"  
 eigen doel kiezen  
 kiezen om kaas te maken, tulpen te plukken, koeien te melken  
 kiezen voor ze heen willen? of verrassing?  
 oorde water licht zandjes  
 Tulp groeien: verschillende plekken bezoeken 'ingrediënten' ophalen  
 gehaald: beloning: zandjes cadeau

multi-sensory experience  
 haptic: trillen  
 audio: music/voice  
 visual: card / images / wayfinding  
 AR

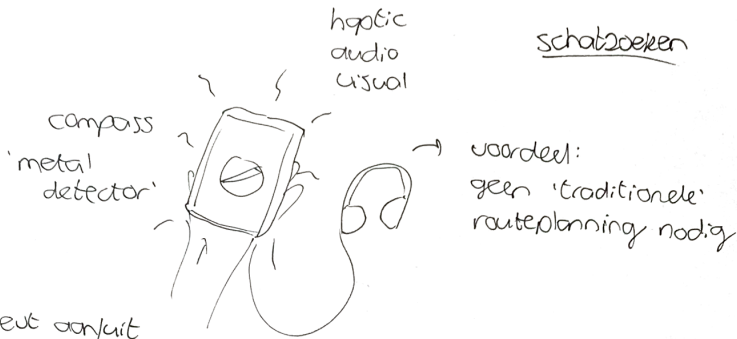
van lange 2&3 naar HB overleiden  
 iets op der romen  
 door kijken passagiers naar als ze zich vervelen  
 wandelwath  
 audiocast witleg als ze op locatie komen  
 metaaldetector  
 trillen als in de buurt (haptisch)  
 + kompas voor visueel (richting)  
 (warmer kouder) verstopperkje  
 als schatzoeken  
 explore  
 als een interactieve museum experience leuk & leerzaam  
 audiocast gebaseerd op beschikbare tijd  
 en hierin inzicht geven  
 escape room idee  
 stressvol

of their preference  
 per individu?  
 of is Rijs preferred?  
 is belangrijkste  
 Rijs  
 13<sup>e</sup> eeuw Hollandse meesters  
 Ender swipe

sticker  
 koekoeksklok: trekt aandacht  
 Hee jij door heb je je matje bij je?  
 post...  
 crazy 88: opdrachten onderweg  
 ↳ langz. doorkijkbaggage band

geocache  
 iemand die ze een geheime opdracht geeft  
 (om iets in de geschiedenis recht te zetten)

# Schatzoeken



Kompas eut vanuit of veruorogen met foto's van route  
 ↓  
 probleem mogelijk drukt (niet herkenbaar)

Kompas groen als je goede kant op loopt → Hoe met meerdere verdiepingen?

default explorative route  
 maar gabe om te switchen naar gewone routeplanning

Gebaseerd op zelfde principe (routing)

## Verschillende Tours:

- Nederlandse tour  
 (Rijks, klok, house of tulips, nemo, library, Dutch windows, Fietzen Food court)
- Schiphol tour (uitleg bij ramen, bagageband, uitleg bij pieren...)
- muziek tour (wereldmuziek wereldbol, Nederlandse muziek Dutch windows, 'ouderwetse' muziek Rijks, rustige muziek library)
- Relax tour (langs rustige plekje) (spa, massage, library, resting place, route gebaseerd op drukte)
- Route voor kinderen (nemo, Rijks, Bobby care, speeltuin, ramen)

→ mogelijkheid om de locaties vooraf te zien (foto)? (tinder) of verrassing?

↳ of uberhaupt de gabe om muziek per locatie of te spelen (playlist)

# VISION

NOT traditional wayfinding (gps)

but a multi-sensory experience

to support the explorative & recreational nature

Smaakbeleving tour

proeven  
smaak

geurtest



ruiken  
geur



escape room

multi-sensory



grabbeltouwen



warm/  
koud

voelen

warm

hologram

VR

AR

braille

blote voetenpad



horen



muziek

audiotour

omni-versum

zien

4D bioscoop

magnetische kracht



wordt sterker als je in de buurt komt

kompass



Muzieum

(zonder zicht, vooral gevoel & gehoor)

anticipation

elk object maakt een eigen geluid

blindbeker



infinity room

blindegeleiden hand, stok

herkenningspunten

Schatzoeken

waarof kiezen  
wat doel is:  
geluid herkennen

een 2-intuig weghemen om de rest te stimuleren

net als verschillende  
podia bij festival

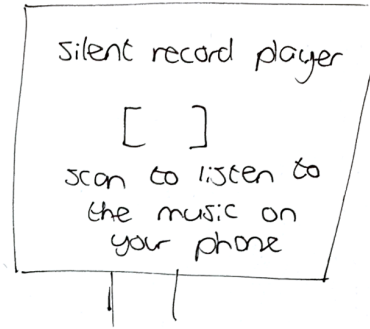
audiator kan  
op elke plek  
gestart worden

📍 Elke bezienswaardigheid  
heeft zijn eigen  
geluid / muziek

📈 luidr als je meer  
in de buurt komt



locative audio



listen with  
others

listen to  
what others  
listen to

object als start  
van audiotor

↳ scannen voor  
uitleg / audio / route

bezienswaardigheid

objecten = eyecatcher = landmark  
= awareness  
= startpunt audiotor



jukebox

scan to listen  
(on personal device)

silent  
discs

silent airport

silent  
jukebox



draaiorgel



piano  
@ HB

silent  
record  
player

silent  
draaiorgel



muziek  
fiets



muziek  
doosje



platen speler

levensgrote  
platen speler, oordjven  
door erop te  
lopen





## Appendix 15: Awareness tests

This appendix describes the three consecutive awareness and activation tests that have been executed.

### Awareness & activation test #1 - 11th of May

#### Goal

The goal of this test was twofold: To see whether a QR code on a poster would activate departing passengers to scan it and to see at which location passengers are open to receive information about recreational activities.

#### Hypothesis

#1: Passengers that have spare time will scan the QR code, as they are looking for an activity to pass the time.

#2: Passengers are most open to receive information about recreational activities when they are waiting (sitting) in the lounge.

#### Approach

A (poster with) QR code was placed at different locations in lounge 2. Passengers were observed from a distance to see if they would interact with them and if applicable were asked whether they had seen or scanned the QR code.

#### Locations:

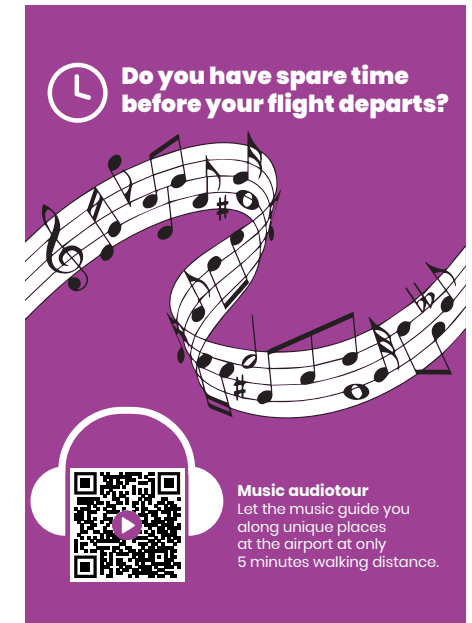
- On the windows at lounge 2: because this is a place where people spend their waiting time. As pastime, passengers look at the airplanes outside.
- On the inside of the toilets doors at lounge 2: because this is directly what passengers look at while going to the toilet. There are no other visual stimuli.
- On the seating in lounge 2: because this is very close to the passenger and in their direct field of vision.

#### Participants

Participants were not selected. It was pure coincidence which passengers passed by the locations of the posters.

#### Materials

A2 posters (image below) with QR code were placed at the windows and toilets of lounge 2. Solely QR codes (with a headphone) were used on the furniture of lounge 2.



## Results

It was observed that:

- Once passengers sit down, they are often turned into their own world, and their phone.
- People who are walking are more focussed on their surroundings and look for cues in the environment that give them the information they need. Passengers are mainly focussed on the functional process.

The posters in the toilet had the highest level of awareness: From the 12 people in the toilet, 7 of them had seen the poster. The other 5 did not notice it. However, none of them scanned the poster. The passengers indicated they were not seduced to scan the code or that had other things on their mind.

The locations at the windows and furniture were less successful. Almost none of the passengers noticed the posters or interacted with them.

## Conclusions

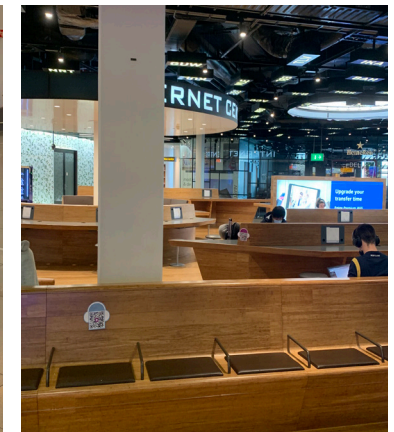
When returning to the hypotheses, it can be concluded that they can not be accepted: None of the passengers scanned the QR code. The posters in the toilets were noticed by passengers, but they were not tempted to scan them.

It can be concluded that:

- It is important but challenging to motivate passengers to make the steps from attention to action.
- There is much visual competition in the lounges.
- The toilets are a good place to reach the passengers.
- A more dynamic and physical intervention should take place to activate the passengers to interact with the design.
- A poster or QR code only is not inviting enough to activate passengers: They should immediately get a taste of the experience, to convince them to interact with it.



When applying the AIDA model to these results, it can be concluded that the posters in the toilet raised some attention, but there was no strong interest achieved among passengers.



## Limitations

This research was conducted on a small scale (four posters) and for a limited time. However, the results are considered unambiguous.

It should also be taken into account that some passengers who might have noticed the poster were not included in the research, as it is hard to estimate as an observer whether people notice a poster or not. Also, people can unconsciously see things (in this case the poster) without consciously noticing it.

Lastly, passengers might answer the question whether they noticed the poster with the desired answer ('yes').

## Awareness & activation test #2 - 18th of May

### Goal

The goal of this test is to see whether passengers are more interested in posters showing the specific commercial services, in comparison with posters depicting the commercial services as 'hidden gems', making it a surprise what the actual locations will be. In the first situation, the wayfinding task will be a quest, whereas in the second situation, the wayfinding task be to explore (see chapter 2.2.1: wayfinding processes).

Prior research in this project (Chapter 5.3 recreational needs) showed that passengers are interested in the commercial services that Schiphol offers. In the previous test, the commercial services were not explicitly mentioned.

### Hypothesis

Passengers are more interested in the posters showing the specific commercial services, compared to the poster showing the locations as 'hidden gems.'

### Approach

An A/B-test was executed with two different posters, placed on the inside of the toilet doors of lounge 2.



The posters were placed for 2 hours on the location and passengers were asked (1) if they noticed the poster, (2) what their thoughts were (3) whether they scanned the poster, (4) if they would be interested in visiting a location and (5) which design most interests them.

## Participants

Participants were not selected. It was pure coincidence which passengers visited the toilets and which door they chose determined which poster they would see.

## Materials

On the seven toilet doors, four hidden gems posters were placed at the outer two doors (as the outer doors are less used than the middle ones), and three location specific posters were placed on the middle three doors (images below).

The Schiphol brand style was used to design the posters. NFC chips were integrated in the posters, which if scanned show the location of the facility on Google maps, so that a route can be planned.



## Results

(1) All passengers (18/18) in the test noticed the posters. (higher than the previous test).

(2) Passengers expressed their interest in the different facilities. Interest was the greatest for the Rijksmuseum, followed by the Library. The babycare lounge is (obviously) a location only visited with babies. A vlogger visiting the toilets was very enthusiastic about the concept and made a video of the interaction with the poster for on her Youtube channel.

(3) None of the passengers scanned the posters by themselves. Most of them were not aware that they could scan it, as most of them are not familiar with the principle of NFC. One of them mentioned: "I did not see where to scan it." Some people were looking for a QR code to scan. Some passengers had difficulty with placing their phone on the correct place. Some passengers did not have their phone with them to the toilet. Another disadvantage of NFC that I learned is that a WiFi connection is needed for NFC to work.

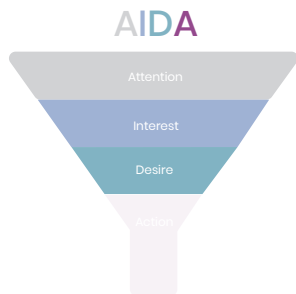
(4) Many passengers were interested to visit the museum and library. They were happy and thankful for the information about these locations. The sole condition for passengers is that they (perceive to) have time to visit the locations. One passenger mentioned: "I wish I had time to visit the museum, but have to catch my flight." Another passenger mentioned to be picked up for her flight in one hour, so she did not want to get lost and be unable to find the pick-up location back. A third passenger mentioned: "I have four hours waiting time so it would be nice to visit a the museum!" After explaining passengers that were able to scan the NFC how to find the museum, they indicated that they would visit the museum. It was not checked whether the passengers did visit the museum.

(5) If the previous questions had been covered and a passenger still had time for an extra question, both posters were presented. In the case a passenger had chosen a toilet with the 'hidden gem' poster, the other poster was presented earlier to compare the posters and show the specific facilities. The passengers voted unanimously for the poster with the specific locations as the one that most interested them. They indicated that the pictures made the poster more visually appealing and gave a direct insight in what the passengers could expect. The hidden gems poster was regarded as 'too plain'

As an additional result: one of the cleaning ladies of the toilet was unaware of the existence of the museum and asked me whether she as personnel was allowed to visit it. This again exemplifies the prominence of the Rijksmuseum at Schiphol.

### Conclusions

- Showing the specific commercial services (with pictures) leads to a greater interest and desire among passengers than communicating the locations as hidden gems (hypothesis accepted). For the wayfinding concept, this will result in the wayfinding strategy to become a quest. This insight can also explain the low interest in the first test.
- Activation was not directly reached, which might be caused by the unfamiliarity with NFC. After the passengers received more explanation, a few of them indicated that they would visit the museum.
- QR codes communicate the affordance of scanning more clearly than NFC allows for: NFC is less intuitive and accessible to use. To make the design as accessible as possible, QR code is preferred over NFC. However, if NFC is to be used, the option for QR should also be offered. When offering both options, it is important to look at a way to clearly communicate this, without making it too complicated.
- Insight in available time, walking time, time needed for the activity and routing & guidance are important aspects to make the passengers feel comfortable enough to visit a place that is out of the current 'wayfinding comfort zone.'



When applying the AIDA model, it can be concluded that activation stays a challenge. Another poster test could be executed to see whether QR codes combined with showing the specific locations do activate the passengers.

### Limitations

This research was conducted with a limited amount of passengers and for a limited time. Lastly, passengers might answer the question whether they noticed the poster with the desired answer ('yes').

### Awareness & activation test #3 - 2nd of June

It was pure coincidence that for the occasion of the Delft Fringe Festival (27th of May - 6th of June) a 7 meter high statue of a pink rabbit was placed on the market of Delft (image below). The statue has a QR code that directs the visitors to a website with more information. As this intervention is very similar to the idea that I have for awareness creation, it is useful to observe its effectiveness and how visitors interact with it.



### Hypothesis

Visitors of the market are interested by the rabbit, however the number of people scanning the QR code is limited (<5%).

## Approach and materials

For two hours, the people on the market of Delft were observed to see how they interact with the statue. It was noted whether people showed interest in the statue, by measuring whether they interacted with it. Interaction with the statue includes the following:

- approaching it;
- stopping to watch;
- making a picture;
- pointing to it;
- touching it;
- scanning the QR code;
- (ask for information: only second hour).

Coincidentally, the second hour the rabbit was 'opened' and there were people of the Delft Fringe Festival available to give information. This was a nice opportunity to see the difference between the two situations (manned and unmanned).

## Participants

Participants were not selected. It was pure coincidence which visitors passed by the market during the observations.

## Results

During the two hours of observation, (approximately) the same number of people passed by the rabbit. The table on the right page shows the number of individuals that interacted with the statue. It was not possible to count the total number of visitors on the market. However, it is estimated that 10% of the visitors of the market in the first hour interacted with the statue, making the total amount of visitors 560.

It was observed that:

- Awareness: Awareness was two times higher in the second hour (manned: 19%) than in the first hour (unmanned: 10%).
- Action: The QR code was scanned 9 times during the first hour (unmanned: 2%). Information was asked 31 times during the second hour (manned: 6%).
- People were aware of the QR code. One of the individuals said: "Look! You need to scan this!" However, the step of scanning was not made.

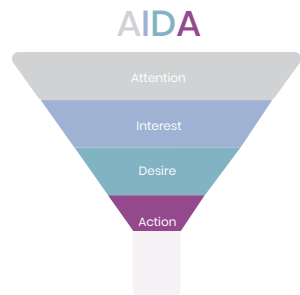
	<b>Hour 1 (unmanned)</b> 13.00-14.00 2nd of June	<b>Hour 2 (manned)</b> 14.00-15.00 2nd of June
Visitors total (estimation)	560 (100%)	560 (100%)
<b>Awareness</b> (stopping to watch, pointing, touching, approaching)	56 (10%)	105 (19%)
<b>Interest</b> (taking a picture)	22 (4%)	23 (4%)
<b>Action</b> Scan QR code (manned) / ask for information (unmanned)	9 (2%) -	0 (0%) 31 (6%)

It can be seen that the awareness was almost double in the hour that the statue was manned compared with the unmanned hour (10% vs 19%). The number of people taking a picture was almost the same (4% for both hours). In the unmanned hour, the QR code was scanned by 9 individuals (2%). However, when there were people providing information (manned), no one scanned the QR code, but the number of people asking for information was three times as high (6%). This gives the impression that people are more interested and tend to undertake more action if this can be done via personal contact.

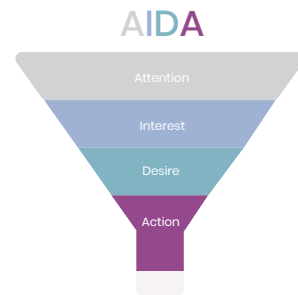
## Conclusions

The number of individuals scanning the QR code was higher than anticipated and stated in the hypothesis.

However, it can be concluded that both the awareness and conversion to action were higher in the hour that the statue of the rabbit was manned. This is in line with the person place cues described in paragraph 2.2.3. So it can be concluded that people attract more other people than a QR code does. Also, people do not scan a QR code if they are also able to get information via a person.



AIDA: Hour 1, unmanned



AIDA: Hour 2, unmanned

## Limitations

First of all, it should be noted that the statue does not indicate a clear call to action: It is not clear for what reason you should scan the QR code and what kind of information you will get. It is difficult to establish what the effect of having no clear call to action is. On the one side, it could make people more curious, making it a surprise what will happen. On the other side, no clear call to action may lead to people not being sure what action they should take. In line with the conclusions of awareness test #2, it is assumed that having no clear call to action leads to less activation. The statue that will be placed at Schiphol should therefore have a clear call to action.

Also, this test which was conducted at the market of Delft, is used as a reference for the situation of Schiphol. Similarities can be found between the two locations (same visitors have much spare time and look for nice activities to do, while others are in a hurry to get to another place). However, there are also many differences. For example visitors of the market might visit the market daily, compared to passengers who visit an airport once a year. This might influence the behaviour of the individuals in the research. Also, at an airport, passengers have to spend a determined amount of hours and passengers might experience stress related to the airport process. Therefore, it should be taken into account that these situations can not be compared one-on-one.

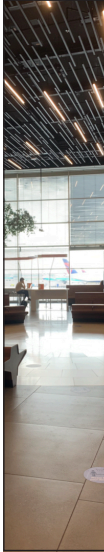




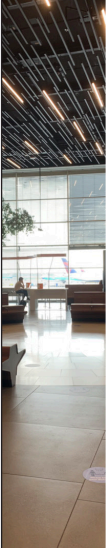
## Appendix 16: Text for audio tour

This appendix contains the text of the audio tour. The text was recorded and combined with piano music. The black images indicate new audio zones.


1. Start



This audio tour will take around 30 minutes. During this tour, you can relax and enjoy the surroundings that you will walk past. You only need to follow my voice and I will make sure you'll get back to this place where we started the audio tour.



Welcome to this audiotour. How nice that you have found me. I will show you around some nice and hidden places at this airport.



Let's start by looking at the location where we are. What do we see? When you look up, you see the Maarten Baas clock. A big eye catcher in this space. This work creates the illusion of a man inside the clock who continuously paints the dials with a paint roller. Maarten Baas was inspired by the often anonymous people who populate any airport. A similar work by Maarten Baas can be found at the Rijksmuseum Amsterdam.



Let's walk towards the windows. What do you see? ... Can you spot the airplane that is waiting for you?



Turn to the right in the direction of the Amsterdam Bread Company. Did you already notice the trees here? Walk in the direction of the trees, over the wooden floor of the Bread Company.  
When we walk along the windows and under the trees, we will arrive at a more narrow passage: We have arrived at the Modern Dutch world.



## 2. Modern Dutch World



Welcome at the Modern Dutch World. Here, we can explore different elements from the Dutch culture. Look at the different seating made from white stone, they are all designed with the principle of Dutch Design: which is characterized by minimalism. When turning your back to the windows, you will find different screens in the wall, try to knock on them and see what happens...!



... How was this? Did you learn something new about the Netherlands?

... When you look closely, above the screens you can see some letters written. Can you decipher what is written?

... Yeah, so this is holland! And, did you also notice the cows up on the wall? Yes?

... Let's continue walking in the same direction, away from the Maarten Baas clock.



... Follow the cows on the wall and walk past the massage chairs.

On the right you see the Heineken Cafe. Heineken is a typical Dutch beer brand. Make sure to make your Dutch experience complete by getting a Heineken Beer.

Turn again to the right, so that you walk back in the direction of the main hall.

Just follow the cows up on the wall on the right of you!

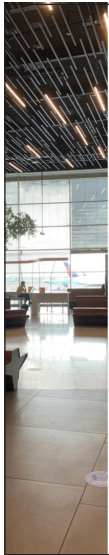


... When you look up, you can spot the Haha Hihi artwork. Do you see it? Behind the staircase? It is a chandelier made of tubes with neon elements. Körmeling's ideas tend to be simple, clear and accessible. While the intention behind his works is serious, they never fail to include a generous touch of humour. Haha Hihi is a work of art that raises a smile.



Have you already looked up to the ceiling? It is especially designed for Schiphol, and the lighting is extra sustainable. It is designed so that all light lines direct to the airplanes, where you as a passenger are heading to!

Walk in the direction of the tree on the left in the main hall.



On the right we see again the Maarten Baas clock from a distance. Keep walking along the different shops, in a straight line from where we came from. You walk past the sanitizing services.



... Hey! What is this? If you look down, you can see right through the floor. What you are looking at is a baggage belt: Maybe you can spot your luggage on the belt, on its way to your airplane!



### 3. Bagageband + luxury world



When we continue walking, we arrive in the Luxury world. Here, you can shop for fancy items. Did you also notice this ceiling? What an amazing design!

Let's continue walking straight on. Do not take the corridor that leads to the right, but continue walking straight ahead.

#### 4. Holland Boulevard

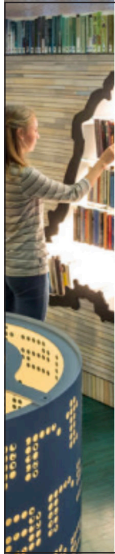


A little further is a stall where the typical flower of the Netherlands is sold: the tulip. Did you know that the tulip actually does not originate from the Netherlands? Stay on the left side of this corridor, close to the seating area. Do not take the moving walkway.



We have arrived at the Holland Boulevard. This is an area with typical Dutch items. On the left you see seatings in the shape of cups, made of the typical Delfts Blue: a specific type of pottery with blue decoration.

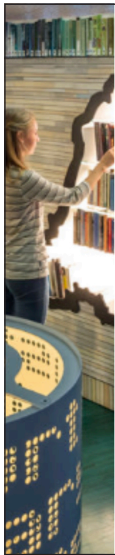
#### 5. Library + piano



Turn left and walk across the wooden area of this seating area.  
Take a seat in the sitting area.  
If you look around: what do you see?  
Do you see the piano? Do you dare to play some music?



We have almost come to my favorite location: The museum! Walk in the direction of the Exquisite shop, down the descending path. The entrance of the museum shop is opposite the Exquisite shop. Do you see the green walls of the museum and the glass wall of the museum shop? You can enter the museum through the museum shop. If you want, have a look at the different items in the shop. And if you are ready to enter the museum, feel free to do so. You do not have to pay to enter the museum: it is free!



If you look around, you can also find the airport library in this seating area.  
Here you can choose from different books to read. Do you like to read?  
Leave the seating area on the side of the toilets and turn right again, walking along the area. On the wall on your left, you can again see Delfts Blue art.  
A bit further on, on the wall on the left side you see a green artwork, it is completely made from textile!

## 6. Rijksmuseum



**Here we are. In the calmness of the museum.  
Take a look at the different paintings, at your  
own pace, take as much time as you want.  
If you are ready, leave the museum through  
the other exit than you entered**



How was your experience in the museum? I hope you enjoyed it.

This is the end of this audio tour. To walk back to where we started the audio tour, keep walking along the windows, with the windows on your left side. You walk past different green and blue seating. Can you recall the different hidden gems we past? Try to recall them and try to see if you can find your way back along the hidden gems.

You can also follow the signs for Gate BCDE To return to the start point of this audio tour.

Thanks for listening, I hope you enjoyed it and I hope to see you back soon. Bye!

7. End





# Appendix 17A: Interview questions wayfinding validation

This appendix includes the questionnaire for the wayfinding test conducted among passengers at Schiphol.

## Introduction

Hi, may I ask you something?

Do you have some time? I am doing a project for my studies.

Great!

When is your flight departing?

Would you like to do the audiotour? It takes around 20 minutes. You can listen to it on your own device.

You can listen to the audio tour, I will follow you on a distance if there is something unclear. You can put your phone away: all you have to do is listen. If needed, you can pause it.

## Observations

### Evaluation

- Record sound!

How was this for you?

How did you feel during the tour?

Were there moments during the tour that you felt uncomfortable?

Were there moments during the tour that you were unsure where to go to?

Were there things that surprised you?

What were your favorite locations?

Did you have the feeling that the audio was based on your current location?

## Interaction

Explorative: *Discovering new places*

Did you feel like you were discovering new places during the audio tour?

- Not at all (1/5)
- No (2/5)
- Neutral (3/5)
- Yes (4/5)
- Very much (5/5)

Why?

Intuitive: *Effortlessly finding your way*

How (easy) was it for you to find your way during the audio tour?

- Very difficult (1/5)
- Difficult (2/5)
- Ok (3/5)
- Easy (4/5)
- Very easy (5/5)

Why?

Guided: *Trusting that you would not get lost*

Did you trust the audio tour that you would not get lost?

- Not at all (1/5)
- No (2/5)
- Neutral (3/5)
- Yes (4/5)
- Very much (5/5)

Why?

## Appendix 17B: Results wayfinding validation

This appendix gives an overview of the first wayfinding test with the audio tour. Ten passengers were asked to do the audio tour, of which five accepted to do it. The passengers that were not in the mood of doing an audio tour were too tired of the travel.

### Iteration 1

#### Scores interaction vision

Intuitive: Easy to find your way

3/5

4/5

4/5

4/5

4/5

Mean: 3,8/5

Guided: Not feeling lost

4/5

4/5

4/5

4/5

5/5

Mean: 4,2/5

Explorative: Discovering new places

5/5

5/5

5/5

5/5

5/5

Mean: 5/5

### Iteration 2

#### Scores interaction vision

Intuitive: Easy to find your way

3/5

4/5

5/5

5/5

4/5

Mean: 4,2/5

Guided: Not feeling lost

4/5

5/5

5/5

5/5

5/5

Mean: 4,8/5

Explorative: Discovering new places

5/5

5/5

5/5

5/5 (or more)

5/5

Mean: 5/5

### Quotes from evaluation after the audiotour (iteration 1)

#### Passenger #1: female, 25 years old, Germany

*"At some points it went a little faster than I was walking. Then I was trying to hurry to get there."*

*"Apart from that, everything worked perfectly."*

*"And at the museum, it stopped for a while so I did not know if I was supposed to walk around or if I could already enter the museum."*

*"It is nice to walk with the music."*

*"I felt really good. It is like entering a different world. Like all of a sudden it is so... You just focus on your surroundings and it is so nice... Because all of those details I would not have noticed to be honest."*

*"Yeah when I was at the library and I was supposed to go over to the museum. That was the one thing that I was unsure whether I was going the right direction. And I did not see the museum at first. Then I had to look out for the museum to get there."*

*"I was trying to look out for the museum and that was when it already told me: Take a look at everything in the museum and I was like: 'where is the museum'? So that was a little fast and I did not see where the museum was at first."*

*"At first I was kind of nervous if I could enter without paying something or so. So I was a bit nervous to enter the museum. I feel like that is why you are still hesitant because you do not know if you have to pay, because there is no information. Maybe if you say: You can just enter, just walk into the museum: it is free."*

*"A lot of things surprised me: The cows! I would have never noticed the cows on the... up there. So random! And that the lights are all heading to the airplanes. And even that thing with the bags... I would have never seen that, ever. I probably would have never seen the library. And that you have the piano there and you can just play it. Can you just go ahead and play it? It is amazing. They put so much effort in it, but you do not know about it... And the HahaHihi I would probably also not have noticed it."*

*"And I probably would have never entered that part (Modern Dutch world) to be honest. I just thought: ah it is part of the restaurant."*

*"My favorite locations... I did really like the library and the museum. But I liked it everywhere!"*

*"Now I feel like I know what cool locations there are, that I could go to now. I think if I were to hang out, I would go there (Modern Dutch World) or back to the library. I really liked the library!"*

*"Maybe I will just grab something to eat and I can go back over there (library) because it is so nice there."*

*"And even to the museum, I would probably go back because it is so nice."  
"I think it is good to do the tour complete, and then in the end you know what spots there are."*

*"Because I feel, if you are in a hurry but also looking for a cool place, but you also want to get to know the airport, then it is nice if you can take the tour and then afterwards you have all those cool spots that I know."*

*"At first I thought it was kind of like a podcast... that would just go. Because when I was here it went so fast and I was like: Oh I just have to keep up with the speed, like a podcast. So I did not know that it was based on location."*

*"Also, at the Modern Dutch world, at first I was looking, because there is nothing that says: Modern Dutch world. So I was trying to look out if I am on the right spot. But then once it said about the seating area, that made me realize I was definitely at the right spot!"*

*"The hidden spots were pointed out to me. When you are looking for your gate you are not going to take the time to look at everything so closely."*

*"I felt like I was in a safe space, because I was just in my bubble and doing my thing. Just following the voice. It was like I was in the headspace to find new places. And to explore."*

*"I feel more relaxed now! I feel more calm even. Because I think I now know my surroundings better. Because just before that, I was a little overwhelmed because there is so much... And I just did not know where to go or what is the main area... And when it said like: That is the main hall... I was like: Ah yeah, that is the main hall, now I am sure. Because I was always wondering, maybe there is more over there... Or if it is just the gates, or if there is something to see. But now I feel like I can work myself around here."*

*"Sometimes I struggled a bit to know where to go, because it was a little fast. I was not sure if I was going to make it on time."*

*"But I liked that every indication... When it says like 'moving walkway' it is possible to recognize those places. Or like Heineken, then I could just look after those places. And then see: Ah yeah! It is there. That really helped locating..."*

*"It took me a while to spot and see the letters written on the Rijksmuseum. To locate it."*

*"Sometimes when it was faster, I thought maybe I would get lost. But then every time, ah okay: Heineken, I am there. Every time there were indications like, now you can see this. Or look out for the piano and it made me feel safe. It feels like a check point."*

*"When walking back, I recalled and found the spots: Ah yeah, there is the ...! And the ...! All the other spots were super easy. It was like: Ah the tulips are back again. On the way back it is just based on your memory and what things stood out to you. It was quite easy, it was like: Ah I am back there."*

*"Nice that is amazing! It is such a cool thing."*

*"That made my day!"*

**Passenger #2: female, 65 years old, Netherlands**

[this text has been translated from Dutch to English]

*"I found it very interesting! I didn't know it was so beautiful and modern at Schiphol."*

*"I never noticed it, but I think it's beautiful!"*

*"And if you have to wait, well then it is great that you can go and have a look."*

*"I don't know if we were walking too fast or too slow. Then I first had to look: What am I seeing. And then I recognized something that was mentioned again."*

*"The majority of it surprised me, I am still surprised!"*

*"I absolutely love this modern furniture (on Holland Boulevard) and I also thought the Rijksmuseum was special."*

*"I also liked to see that Delft Blue adapts to the times, I had never noticed! (Miffy on plate)."*

*"Yes, I've discovered a lot of new places, like this (NEMO) for kids. It's closed now, but I really like it! I think kids find it interesting too, in a different way."*

*"It was easy to find the way. But sometimes we walked just too fast or too slow."*

*"I didn't feel like I could get lost, they just said: Left, right. And then I saw Delft blue again, or that wall, or the cows. Those are just good leads."*

*"But I never noticed! Neither those cows, nice! And those ceilings too!"*

*"It is an extra nice idea that you were still around."*

*"Schiphol does not realize that these places are not found by the passengers. You will of course receive a lot of information in advance, and especially now (with corona). Then I think yes: to relax, you can now do all kinds of things at Schiphol. When you arrive at Schiphol you can... for the during the waiting time. You can do that via the phone."*

*"Yes, time flies by. What time is it now? A quarter to two, at three o'clock I have to be at the gate, so I'm going to look around here. I'll go to the museum, yes, and to the library. I'm going to rummage around again!"*

**Passenger #3: male, 21 years old, Netherlands**

This participant was due to time limits able to do only half of the tour and did not reach the end location of the Rijksmuseum.

[this text has been translated from Dutch to English]

*"Ah, is there really a museum there? That would have seemed nice."*

*"There is a lot about the Netherlands itself. I think it is mainly intended for tourists who come here."*

*"Yes, I really liked it. I had also seen the baggage claim, but that wasn't really art, was it?"*

*"I think I would have liked even more to see a part of the Rijksmuseum."*

*"It all came across as big, with the music at the beginning. I thought it was really funny that it was really in the middle of Schiphol."*

*"I think it would be nice for the Dutch themselves if they could choose to go to the museum first. Because I think that is a bit more fun for the Dutch, because tourists like the cows and such very much of course."*

*"At the middle part, you have to keep listening. But if you do the tour with others, it may also be nice if you are able to talk a bit in between."*

*"When I got to the hand luggage I was still a bit behind, so it was sometimes a bit fast. I didn't realize that I had to walk a bit faster there. From Heineken I had to walk a little quicker and that luggage thing, I didn't see that luggage thing yet. I knew which way to walk so I knew roughly where he was going to be."*

*"I had the feeling that the audio was based on my location, except for the carry-on when it wasn't. The start went really well in terms of pace."*

*"The museum would really be a new place for me to visit."*

*"I also thought it was very funny: here you can get a Heineken drink."*

*"It was easy to find my way. There were good instructions. If you are actively involved in it, it is easy to find. But I can imagine that if you are with a group of 10, you are less active with it. And then you might think: Where am I going now?"*

*"I personally would like to know where we are going, what the end goal will be. Like: We're heading this way and we're going to do it this way, I might have liked it. Like: We are now going to gate blabla and we will continue... the instructions are indeed nice to hear, but that you can also see on the signs that you know: oh yes, I'm going in the right direction. It is nice for the audio tour if you hear nice things, like: here you can see luggage things. But I mainly mean as a check of: That you are going in the right direction. Or you can literally say: We're going to the museum now, because I didn't know if there was going to be a work of art while I was walking there. Since the beginning was completely full of works of art. But this could also be due to my character, because I'm quite a beta."*

#### **Passenger #4: female, 30 years old, Germany**

*"Yeah it was interesting, also kind of eye opening because you realize like how much thoughts are behind things you may just casually walk by, or that you don't see because you are in a rush. Or you want to go from A to B. So I think it is really nice to have a distraction that is not only about being on your phone, but like seeing other things."*

*"The music slowed me down. I think it works good to have music to walk slowly and make you appreciate the things around you."*

*"It would be nice to have more popular music when walking along Heineken. Also when we were walking through the trees, I thought: Oh now it would be funny if you have bird chirping or something."*

*"I was happy and interested. I would like to spend more time at the museum. It was like sightseeing."*

*"At the library I was unsure where to go. When you said: In the direction of the toilets, which I knew then. The green textile was mentioned but I could not see it yet. That was a little bit too fast. And with the cows, I also could not yet see them. Maybe say: look up."*

*"The cows surprised me. The museum, I did not go to this area before. But it is cool that there is a museum inside an airport. Also with the knocking part, that something happened. That were my favorite locations."*

*"I did not feel like the music was based on the location, but the text yes."*

*"Normally you just go from gate to a place to sit. To a place to eat and then back to the gate. Or maybe you go into a shop, but you don't walk around."*

*"Especially also when we walked past the tiles you could knock on, like those small areas you would normally not go into."*

*"With the time-frame it sometimes did not fit."*

*"At the first moment you are thinking: How does the audio know where I am right now? So maybe if it says: You are standing now... if you look forward you see that and that. At the end of this tour you will be back at this exact point. And I think you really have to guide them back all the way. You can't let me off here if you said you let me off here. Or at least say: Look all the way straight: Do you see the clock again? That is where we started."*

*"I really have a bad orientation so I would be like: Ah where do I have to go next? Otherwise, it is also the question, should they really come back to the place where they started? Because otherwise they could just be chilling and get back to the gate afterwards."*

*"You could also stop in front of a sign and it says: This is where you need to go, for which gate."*

*"I thought it was really nice. I liked it!"*

**Passenger #5: male, 37 years old, Australia**

[Audio not completely recorded unfortunately.]

*"It was really nice."*

*"Normally you only go from A to B. But now you see all new things that are hidden, like the museum and the baggage belt. I did not expect to see them at the airport."*

*"The audio tour is good to make passengers aware of what there is. And if they are interested they can now easily go back to the place that they liked. They now know how to find their way."*

*"Some parts were a little quick."*

*"Someone was playing the piano so I wanted to listen. But then I was distracted from the audio tour and missed where I needed to go. A playback function would be nice. That you can repeat the instructions if you have missed it."*

*"At the museum I did not exactly know where to go. As the location of the museum was not specifically mentioned and it was still hidden."*

*"It would also be nice if you could get more information about the things that you look at. Or that there are two versions: A shorter and longer one."*

*"I think I want to go back to the museum, because now I did not read all the texts. And I want to go back to the lounge with the piano, to do some chilling there."*

*"I had the feeling that it was one tape and you needed to keep up. I was always a little ahead. It is good to know that you can do it at your own pace. Because now I was sometimes afraid I would not make it in time to the next point."*

*"Normally in an airport, I tend to walk on autopilot. I am busy, for example on my phone and I am not open to the environment, I do not really look or see things. Now it really opened my eyes."*

*"I did not feel like I could get lost, but that was maybe also because if I was not sure I could ask you to double check."*

## Quotes from evaluation after the audiotour (iteration 2)

### Passenger #6: male, 20 years old, England

*"It was good. It was enjoyable."*

*"It is a much more interesting airport than most airports I think. New Castle airport for example, that is terrible. There is no heart or anything. It is nothing like an airport worth coming for. A lot of airports are not really worth it."*

*"I felt relaxed, a gentle taste I think."*

*"When we were passing by the clock the second time, I was not completely sure where to go. And you pointed me towards the tree. But did you say... you can see the clock in the distance? Because when you said that I was directly under the clock."*

*"And I missed the museum, but I think that is the museum's fault, because it is quite hidden. If you walk from there, you do not really see it."*

*"And I walked the wrong way out from the museum. That was only because the audio had stopped, and then I looked around the museum a bit and I had forgotten what the audio had said, about the time I left."*

*"Surprised me? I think the airport in general. It is surprising, because I do not expect airports to have anything worth seeing in them. I liked the touching screens. I am quite easily amused. I would have liked to have more time at the touching screens. I did not have time to see it all."*

*"The clock sounded interesting. It is a shame it isn't working."*

*"The audio usually fit pretty well while walking. In some places it started a bit early, like when I was walking over the glass. But that was not really a problem because I knew it a couple of seconds later. It is not an issue."*

*"I did not notice this entire side of the airport existed. Because I just came in and saw the nearest seat and sat down. I think that is the less colorful side of the airport. So I did not realize there is all this."*

*"I was kind of expecting to get lost at a moment, I did. I don't know, I tend to get*

*lost anyway. I mean, I have done audio tours before, you always end up... I did tours at archeological sites and you always end up lost. It is kind of inevitable."*

*"I would have probably done the same pace if I was alone. I might have read all the signs at the museum. Or stopped for knocking more screens. Apart from that it was pretty much the same pace."*

*"I know where everything is now. Because I walked down the whole airport, I feel more kind of orientated."*

*"Yeah I might tap some more screens, as I will only board in a few hours."*

*"It depends on the airport if I want to do this at other locations. As I said, my home airport in New Castle, is just really a kind of Spartan airport, which I do not think has any airports or something. Assuming an airport is worth looking at, and I have like 5 hours, it is definitely worthwhile."*

### Passenger #7: male, 35 years old, Netherlands

*"Het was leuk. Veel van de dingen kende ik eigenlijk al. Maar zoals die verborgen koeien daar en wat nog meer... Het museum. Ik wist niet dat daar een museum zat. Ik had geen idee, ik had het nog nooit gezien. Ik wist wel dat die winkel daar zat."*

*"Ik voelde me relaxed."*

*"Ja soms was het te snel of te langzaam. Het is wel lastig, want soms sta je stil om te kijken. En dan gaat het bandje weer verder. Maar dat valt wel weer in te halen. Maar het is denk sowieso lastig om dat perfect te krijgen."*

*"Bij die Delfts Blauwe wand, en dat groene was pas een heel stuk verderop."*

*"Het was over het algemeen duidelijk verwoord allemaal. Dus: 'kijk om je heen, je ziet dit, je ziet dat. Met herkenningspunten."*

*"Vaak heb je maar een uurtje of 2 uur overstap, dan is er geen tijd. Anders is het leuk om zulke dingen te doen. Ik denk dat je dan minder geneigd bent om dit te gaan doen."*

**Passenger #8: female, 25 years old, South Africa**

*"It was something different and I must say it is the first time I experience something like this."*

*"And it is really nice because it gives you... It broadens your mind because of the little cows and all the different things. That you actually walk by, that you did not notice. So it was really interesting. All the factors and elements to the airport. Going back to the Netherlands: It has a lot of things of its own. That is really nice."*

*"I felt very relaxed. That is special while being at an airport. It is really nice because of the music and, is it you that is speaking? It is so nice! A very calming voice. You don't even feel that you are in a busy airport, while listening to it."*

*"I did not feel uncomfortable at all."*

*"The screens on the wall and also I did not know there was a museum at the airport."*

*"The museum was my favorite location, definitely. And also the area that we walked past with all the Dutch parts. You can literally go to that part and experience The Netherlands, basically. Like, what you guys are used to, what you guys eat, drink."*

*"Because, when you go to an airport you just basically look for the gates, boarding, where you need to go. But you do not look at everything else there. That is actually special and that is offered for us. Especially that is not from here."*

*"It states clearly where you need to go. You can just follow the directions. It is not just saying: turn left, turn right. But you gave clear instructions like: turn left, you will see windows on your left. So it is not like you are going to get lost. But it gives you a clear indication of what is expected. To verify."*

*"I would probably also make it on my own."*

*"I know the airport better now."*

*"I would definitely do this at another location or airport. Maybe like small towns."*

*"The best poster would be: 'Discover places in your waiting time.' Because everyone is basically sitting on their phones and this is something for them to push time, but also to learn something new. And it is also in a relaxed way, so way not?"*

*"Thank you very much. It was nice. It was a nice different and new experience."*

*"What is your name?"*

**Passenger #9: female, 37 years old, Brazil**

*"Oh my god!! I don't know this airport. Oh trees!! I was in shock. Wow I did not see the trees, while I was there before. You do not expect it."*

*"Never seen those cows!"*

*"I really like these type of experiences."*

*"What an experience! Thank you so much. What a pity that there are so many things that we do not notice."*

*"Wow a piano! And library! It's so impressive."*

*"I will call my husband to tell him what happened. I want to show him. I showed him the ceiling, but now I need to show a completely different airport. I want to get back with him to this airport."*

*"So amazing! It opened the doors of perception. Which were closed for some reason. I'm not blind but I did not see all those things like omg!"*

*"I was very pleased and thankful. It really changed my day. It was 1000% times better than I could expect."*

*"The tour was at a moment a bit ahead, which I noticed afterwards."*



*"Everything surprised me! Where to begin. The cows, trees, I was in shock! The glass screens, piano, library. Of course the ceiling."*

*"My favorite place... where to begin: the library and the piano. It is very peaceful there, with the wood."*

*"It was very pleasing. With the soft voice. It was very peaceful."*

*"Explorative: yeah! That is the whole abstract of this. I explored more more than very much. Very much +!"*

*"Very easy it was very intuitive to find my way. It was clearly stating where to go, very intuitive."*

*"I did not think about getting lost. I was completely in the moment so did not think about it at all."*

*"A museum? I'm already in it! This complete airport is a museum!"*

*"The museum was very nice. My grandma was a painter in the same style. So that brought back good memories."*

*"It created a better sense of place: no doubt! 1000% better."*

*"No no I don't want any chocolate. You already gave me 10000 chocolates of thank you. Thank you so much that I could have this opportunity!"*

*"I don't know if I want to do it at other airport. I was at Frankfurt, nothing wrong with that airport but it was so cold and grey. There was probably nothing to see there."*

*"I only noticed the ceiling!!! And told my husband about that."*

*"You really made my day."*

*"What are your contact details? To keep in contact about your project. I really want to follow it."*

*"Do you have other students doing the same assignment? No? Omg! You should go and do your thing! Really, and do not doubt! You have supervisors that support you? It is really cool. How old are you? Only 24!"*

*"This should be something the airport provides. And maybe ask money then because of capitalism."*

*"Heineken is a very known brand but I never knew that it is Dutch!! Very good to know, so interesting."*

**Passenger #10: male, 23 years old, Ukraine**

*"It was nice. It was very interesting to see and learn new things."*

*"When you go to school, you have different lessons: languages, math, biology. You can't like all of them; you only prefer one. This is the way it is here. New information, but just enough."*

*"I think the seating area should more clearly be indicated. That you should go up the stairs."*

*"The luggage belt really surprised me. The screens where you should knock is really wonderful. The hahahihi was nice, but did not really shock me. The green wall that is made from one material: also very nice. The screens and luggage was my favorite location."*

*"For the museum, I did not read everything. You really need to take the time to read everything."*

*"The timing of everything is very good. Except for the area with Delfts blue and the green wall. The last part is much faster than the first part. Because people who come here, will come here for the first time. They will have to look and do not know what is here. They need to look at everything and that needs time. And if it is too fast they will not go in time with the voice. So it must be a little bit slower at this part. But especially with the blue and green wall, maybe two times as slow."*

*"I of course felt like I was discovering new places: very much. You know, all of the things that we saw today is big work of people. People create it, they spend their time and own soul on it. When you just go to your next flight, you just did not pay attention to it. And when you have free time and would have noticed this QR code, to scan it to hear this tour, it will be very good. It will be interesting. You just came to an airport and come here to duty free, and you are looking for beer, whiskey, coca cola and you did not see this floor with luggage, you did not see those screens. You only see the gates and the restaurants. It will be like a little, funny shock. It will be very nice."*

*"The voice is very calm and pronunciations are clear and the record is clear. It is good quality. The timing could be improved in this part."*

*"Of course I was not afraid to get lost. For me, we are in civilization now, so I am not afraid of anything at all. I could be afraid if I would do a tour in Ukraine or Russia for example. But in these places, I do not think I would get lost. Even if I lost, I will ask someone of the personnel from the airport and find my way."*

*"If I was walking this tour alone, it would not be the same thing. Because if I was alone it would be like: okay, funny, amazing. But the main answers will be okay. But when I will come with you, or with a friend or someone else, I will feel like I am sharing my emotions. So this is the main difference. For me it was much better to go with you, just to be able to share."*

*"I know this part of the airport now better. But I think the airport is much bigger than just this part where we walked. But thanks for that, because I was not aware of this part at all and I don't know about this seating area."*

*"I would probably go back to the seating area and the library."*

*"When I was a small kid, I played the piano. But I left playing piano after 2 years so I cannot play anymore."*

*"It will be nice to do this in other airports."*

*"It would be good if you add some information about the lost and found area, the first aid services. I think that is important to know about it in case you need it. Maybe some more services like that."*

*"For me, the library is very important, is very good. But the picture looks like a store. Until you read the description. Much people like to discover in stores what the store is selling. So they will still come to it."*

*"Which chocolate do you like? I like to share."*



## Appendix 18A: Results awareness test

This appendix describes the results of the awareness test with the Rembrandt statue that took place from the 23rd until the 25th of June.

The table on the right shows the passengers that were interviewed since they showed no interaction with the statue for more than 30 minutes. The table describes whether the passenger did undertake action after the interview, which was the case in 50% of the cases. The last column describes why no action was undertaken.

The right page shows the numbers of observed passengers.

Inactive passenger	Activation after interview?	Reason no activation (after interview)
1	✓	
2	✗	Language barrier
5	✗	Too tired
6	✗	Busy with other things (e.g. work)
8	✓	Language barrier
9	✓	
10	✓	
11	✗	Too tired
12	✓	
13	✓	
14	✗	Flight departing soon: no time
15	✓	

Unmanned				Awareness		Interest	
Doel (rabbit)				10%		6%	
	Aantal passagiers al in lounge	Nieuwe passagiers	Totaal passagiers zitgedeelte				
<b>Woe 12.30-16.30</b>							
<b>12.30-13.30</b>	30	75	105	20	19%	10	10%
<b>13.30-14.30</b>	30	70	70	13	19%	7	10%
<b>14.30-15.30</b>	20	35	35	15	43%	10	29%
<b>15.30-16.30</b>	15	30	30	15	50%	11	37%
			<b>240</b>	<b>63</b>	<b>26%</b>	<b>38</b>	<b>16%</b>
<b>8.30-9.30</b>	50	130	180	25	14%	9	5%
<b>9.30-10.30</b>	65	105	105	28	27%	11	10%
<b>10.30-11.30</b>	45	65	65	19	29%	7	11%
<b>11.30-12.30</b>	30	65	65	25	38%	9	14%
			<b>415</b>	<b>97</b>	<b>23%</b>	<b>36</b>	<b>9%</b>
<b>Do middag</b>	30	210	210	63	30%	11	5%
<b>Vrij ochtend</b>							
<b>8.30-9.30</b>			180	25	14%	11	6%
<b>9.30-10.30</b>			170	28	16%	7	4%
<b>10.30-11.30</b>			110	19	17%	13	12%
<b>11.30-12.30</b>			<b>95</b>	<b>25</b>	<b>26%</b>	<b>9</b>	<b>9%</b>
<b>Totaal passagiers</b>	1420		<b>Totaal awareness</b>	23%		(Awareness beeld, niet bord)	
			<b>Totaal interest</b>	9%			
			<b>Totaal desire</b>	2%			
			<b>Totaal action</b>	1%			

## Appendix 18B: Interviews after audio tour

This appendix includes the interviews with the passengers that were executed after they walked the audio tour. Once the passengers scanned the QR code on the sign, I asked them if they would be willing to share their experiences afterwards with me.

### Passenger #1: male (video)

*"Yeah I scanned it. Are you the author? It is really cool!"*

*"I really enjoyed it. It was really nice to notice all those hidden gems which I would not see otherwise."*

*"I really enjoyed the sound of the music and your voice was also very good. I felt like I was in an airport that was transformed into a museum. Instead of seeing all commercial stores and flashy lights I noticed all these little things."*

*"It was a very peaceful experience also. I think that is quite special at an airport. I tried to look for the most peaceful places, but it is not so easy to find. And now it was like the peace was here, everywhere. So it was kind of cool."*

*"And also the museum was very special. I hadn't noticed that. Coming inside that glass building. It was like shutting out all the noise."*

*"My favorite location... has to be the museum. I also really liked the start there. Maybe it was also because it was the beginning of the audio tour and it was a bit exciting. I did not notice the cows before! The cows and the museum."*

*"No it was not uncomfortable. I really liked it."*

*"I actually had been walking that way before, past the museum but I hadn't noticed it. And the library also. So definitely exploring new things within the place that I had already been."*

*"I did not know if the app knew where I was. After a while I noticed it and I could just put my phone away. I realized quite soon that I could just follow your voice. It is more peacefully if you can put your phone away."*

*"I am staying here many hours so I think I will go to the library and the museum again."*

### Passenger #2: female (video)

*"It was amazing! I enjoyed it. When I was walking the first time, I did not even take notice of any of the furniture or architecture. And then this tour really allowed me to see the beauty of the Netherlands."*

*"I was at peace. It was a very peaceful tour. I love the background music. It was very easy to go along with."*

*"I did feel like I was exploring new places. I enjoyed the little library and then just seeing how people were on their own. I was really enjoying the airport."*

*"Yes, in the beginning it was kind of confusing. But once I caught on to the different things you were talking about, it was pretty easy."*

*"At the beginning I was looking on my phone, but when I realized it was not really showing me where to go. So then I just enjoyed the view and it was much easier."*

*"I most definitely know the airport better now. I realize how beautiful the airport really is. I enjoyed the museum the most."*

*"I spend some good time in the museum. I paused the tour and spend some time looking at each of the paintings."*

### Passenger #3: male

*"It was a relaxing voice. Is it your voice?"*

*"I liked the audio tour a lot. Now I know all details of the airport. Normally you just walk to the gate and you do not notice all those details."*

*"I really liked the lights in the ceiling, and the library as a place to chill. I wish I could play the piano because then I would have definitely done that. And the museum was also very cool. I read some of the information at the paintings."*

*"It was very relaxed for me. The music calmed me down."*

*"I felt like I was again a small child exploring the airport, like a treasure hunt."*

*"That you explained me about the audiotour convinced me to do it. It is nice to get personal recommendations."*

**Passenger #4: male (video)**

*"The experience was very nice. I have quite a few hours to wait here and it was unexpected and it was a very very nice feeling."*

*"The audiotour calmed me down actually. It reduced my anxiety because I woke up very early and I almost missed my first flight. It really helped me to be in the moment and enjoy the ride."*

*"It helped me to discover things that were already around me that I haven't seen."*

*"I really liked this hall and the alley with the trees and the places where you could knock. And watch a part of the history. And of course the museum."*

*"I spend 10 minutes at the museum."*

*"I think I will go back to those places because I have 2 or 3 more hours to wait."*

*"I think the audio tour helped me to see the relaxing places that I haven't seen. So maybe I will go there as well. It was very pleasant."*

*"It was very easy to find my way. When I entered every area, it was easy."*

*"I totally trusted that I would not get lost. It was really clear."*

*"If I did not receive your flyer I would have missed this nice audio tour."*

*"I noticed the statue, but not the sign as there is too much happening in the area around me."*

***"The people of the airport should thank you. Now I have good memories of this airport. For when I come back in 10 days I am already curious whether the paintings in the museum have changed. It really changed my experience here. It is a brilliant idea."***

*"I was really bored and I thought about sleeping. But now I woke up again. It works even better than coffee!"*

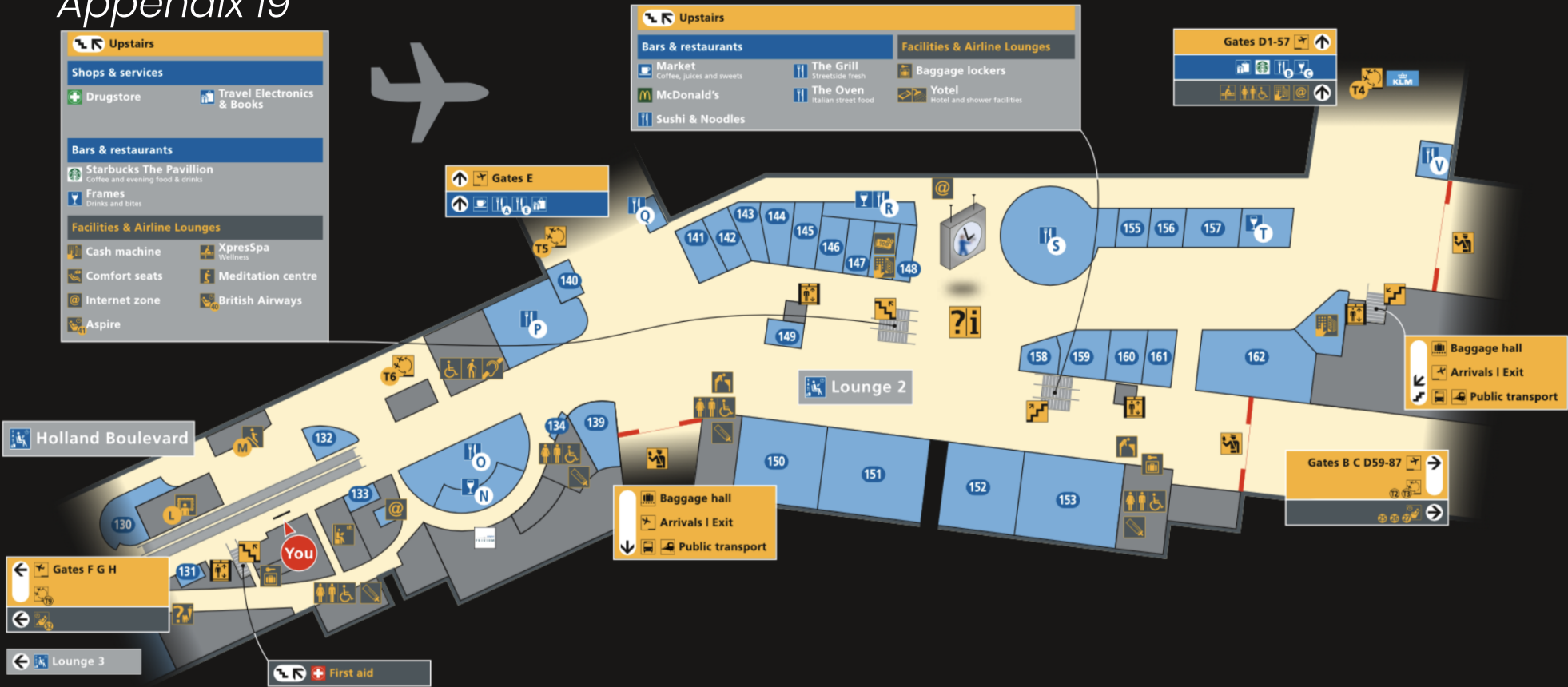


# Welcome to Lounge 2 & Holland Boulevard

## Welkom in Lounge 2 & Holland Boulevard



### Appendix 19



**Upstairs**

**Shops & services**

- Drugstore
- Travel Electronics & Books

**Bars & restaurants**

- Starbucks The Pavillion (Coffee and evening food & drinks)
- Frames (Drinks and bites)

**Facilities & Airline Lounges**

- Cash machine
- Comfort seats
- Internet zone
- Aspire
- XpresSpa (Wellness)
- Meditation centre
- British Airways

**Upstairs**

**Bars & restaurants**

- Market (Coffee, juices and sweets)
- McDonald's
- Sushi & Noodles
- The Grill (Streetside fresh)
- The Oven (Italian street food)

**Facilities & Airline Lounges**

- Baggage lockers
- Yotel (Hotel and shower facilities)

**Gates D1-57**

**Baggage hall**

**Arrivals | Exit**

**Public transport**

Holland Boulevard

Gates F G H

Lounge 3

First aid

### Legend

- Airline lounges
- Baby care (Babysierzorging)
- Baggage lockers
- Bank
- Bar
- Cash machine (Geldautomaat)
- Drinking fountain (Drinkfontein)
- First aid (Eerste hulp)
- Food / Coffee bar (Eetcafé / koffiebar)
- Hearing loop (Ringleiding)
- Hotel
- Information
- Internet zone
- Library
- Lift
- Lost & found
- Meditation centre
- Passport control / security check
- Privium Airside Lounge
- Public transport
- Reserved lounge
- Restaurant
- Shops
- Showers (Douches)
- Stairs (Trappen)
- Tax free refunds
- Toilets
- Transfer services (KLM & Partners, Other airlines)
- XpresSpa (Wellness)

### Shops

- Chocolates**
  - Cafe Cocó
- Delicatessen**
  - Dutch Food Gifts
  - FineFood
- Diamonds, Jewelry & Watches**
  - Bvlgari
  - GASSAN
  - IWC
  - Montblanc
  - Omega
  - Rohr
  - Swatch
- Electronics**
  - Electronics
- Fashion**
  - Bottega Veneta
  - Burberry
  - Gucci
  - Hermès
  - The Fashion Gallery
- Flowers & Bulbs**
  - House of Tulips
  - House of Tulips
- Gifts & Souvenirs**
  - NLJ & Fine Food
  - Museum Shop
  - Swarovski
- Liquor & Tobacco**
  - Liquor, Tobacco & Chocolates
- News & Books**
  - News & Books
- Perfumes, Cosmetics & Drugstore**
  - Perfumes & Cosmetics
  - Rituals
- Sunglasses**
  - Sunglasses
- Toys**
  - Let's Play

### Bars & restaurants

- S** Amsterdam Bread Company (Self-service restaurant)
- R** Cafe Cocó (Champagne, chocolate and fine bites)
- N** Dutch Bar (Cocktails and spirits)
- O** Dutch Kitchen (Dutch food - pancakes & sandwiches)
- Q** Grab & Fly (Food and drinks to go)
- B** Foodcourt (Freshmade food and juices)
- T** Heineken Bar (Bar and bites)
- P** Kebaya (Asian bistrot)
- E** Moods (Restaurant)
- C** Murphy's Irish Pub (Bar and bites)
- A** Silverscreen (Cafe restaurant)

### Relaxation & Services

- L** Rijksmuseum (Museum)
- M** Nemo Science Museum (Playground)

### Airline lounges

See map in folder display below

- Aspire**
  - Lounge 1 (Upstairs)
  - Lounge 2 (Upstairs)
- British Airways**
  - Lounge 2 (Upstairs)
- KLM Crown Lounge**
  - Lounge 1 (Upstairs)
  - Holland Boulevard (Upstairs)
- Menzies**
  - Lounge 1 (Upstairs)
  - Lounge 2 (Upstairs)
- Swissport**
  - Lounge 1 (Upstairs)



## Appendix 20: Personal learning ambitions

At the start of this project, I set personal learning ambitions on which I will reflect in this appendix.

In this project, I want to build upon the following two competences:

**1. Service Design:** *putting methods like customer journeys, service safari's in practice (instead of only theoretical use).*

At the start of the project, I had the idea to create a relevant journey map for this project. However, Schiphol already has many extensive journey maps and making a new one would not yield any new insights.

What I was able to do and that was new to me was organizing an internal brainstorm session at Schiphol. Besides being a personal learning experience, the goal of the session was to let Schiphol stakeholders think outside of their fixed patterns to create out of the box ideas.

To prepare the session, I followed a webinar from design agency Informaat about ideation and brainstorming. To decide on the methods to use, I used the book *Creative Problem Solving Techniques* (Katrina Heijne en Han van der Meer). The book has a wide variety of brainstorming techniques, which can be useful for future references. I prepared and planned the session well and did a trial with two peers.

I enjoyed facilitating the session and the participants were enthusiastic. They especially liked the start of the session, where we used an introductory question (what is your corona-hobby?) and an ice-breaker to get into the right brainstorming mindset before diving into the subject. Schiphol employees mentioned that they will take this with them for future sessions at Schiphol.

What I found most difficult while facilitating the session was to find a balance between giving participants the space and time to think freely, which is very important for the creative process, and calling them back to the assignment: When is the moment to intervene? This is probably something that will be learned by doing, so I am looking forward to facilitating more creative sessions.

**2. Co-creation:** *which is often combined with service design. I want to involve the passenger and Schiphol as much as possible.*

I involved the passenger in my project and evaluation of prototypes where possible within the limitations of Schiphol and Covid. I was also able to involve multiple stakeholders of Schiphol (commercial, operations, digital, marketing).

The thing that will stay with me the most regarding co-creation is the importance of just testing something (with passengers). Even though the prototype is not perfect, a lot can be learned from a simple test (for example the awareness poster tests); I gained most and valuable insights through interaction with passengers.

Furthermore, I have the following personal learning ambitions:

**Experience what it is like to work in a big company.**

Therefore, I have three points of focus:

*1. How does the size and hierarchal structure of Schiphol impact the interaction and collaboration between employees from different functions and departments?*

I experienced that sometimes the communication between different departments of Schiphol is challenging. Each department has its own specialization and a lot of knowledge on a specific topic. Due to Covid, I attended online meetings, but this did not give me insight in the minor things that do get communicated in offline meetings. I mainly experienced people from different departments to be very willing to help me with my project.

*2. How does the structure and hierarchy in the company impact the ability of Schiphol to implement change and innovations?*

(Radical) innovation at Schiphol seems to be difficult. Stakeholders have opposing interests and responsibilities are scattered over different departments.

As this project involves different departments, it was sometimes difficult for me to get access to this expert knowledge, as it is spread over different departments. I think this is inherent to a big company and is something you have to deal with when deciding to work for a big company. For a designer, this same hierarchical structure can be a hindrance as it slows down the speed of your work. For me, it was interesting to experience this difference in speed and ability to change course with the dynamics of a start-up (Nanny Nina), where it is very important to be able to adjust quickly to changing circumstances.

*3. What is it like to work in a big company in times of corona? How is the social interaction between colleagues?*

When I started with the project, some people showed me around at Schiphol, which was a nice way to get familiar with the company and its employees. For the remainder of the project I mainly attended online meetings of Schiphol. This way, you do not get to know people on the personal level unfortunately. Also, a meet-up with all Schiphol stagiairs was organized. This was a nice event to see what others are working on. However, no follow up was given to the meeting.

As a second learning ambition:

**I want to become more experienced in approaching strangers**

*(in this case mainly passengers) for an interview. In these situations it is always difficult to estimate if people are willing to spend some time, and how much time. Is it possible to ask personal questions (which is cultural related)? How to improve this relationship of trust in a short time? I will look into available literature regarding this topic to support my learning.*

I had a meeting with someone from Customer Insights to get some tips before executing the first passenger interviews. This helped me to come prepared and have a back up plan in the case passengers were not willing to participate in the complete prototype test.

I experienced that passengers were more willing to help if they knew that I was doing a research for my graduation, rather than doing research for (commercial interests of) Schiphol. Passengers do like to share their own stories, so it worked good to first ask some personal questions to passengers

to create mutual understanding. What I also noticed was that before addressing people, I could estimate based on a passenger's posture (open/closed) whether they would be willing to help or not.

In my final test for the audio tour and Rembrandt statue, I noticed that I had gained a lot of experience with addressing passengers and how to approach this best. During the project I developed my own style, which I was able to apply in the final tests.

All in all, I was very thankful that I was able to graduate within an organization in times of Covid. Graduating can be quite lonely as it is an individual project. However, at Schiphol I was able to meet with different stakeholders and to get in contact with passengers, which enriched my project and my experience of the project.