MANUAL

FOR THE EVALUATION OF EXHIBITIONS

This booklet will guide you through all the steps to prepare, conduct and analyse the evaluation of an exhibition. It is advised to first read all steps thoroughly before starting the evaluation process, so you know what you are working towards.

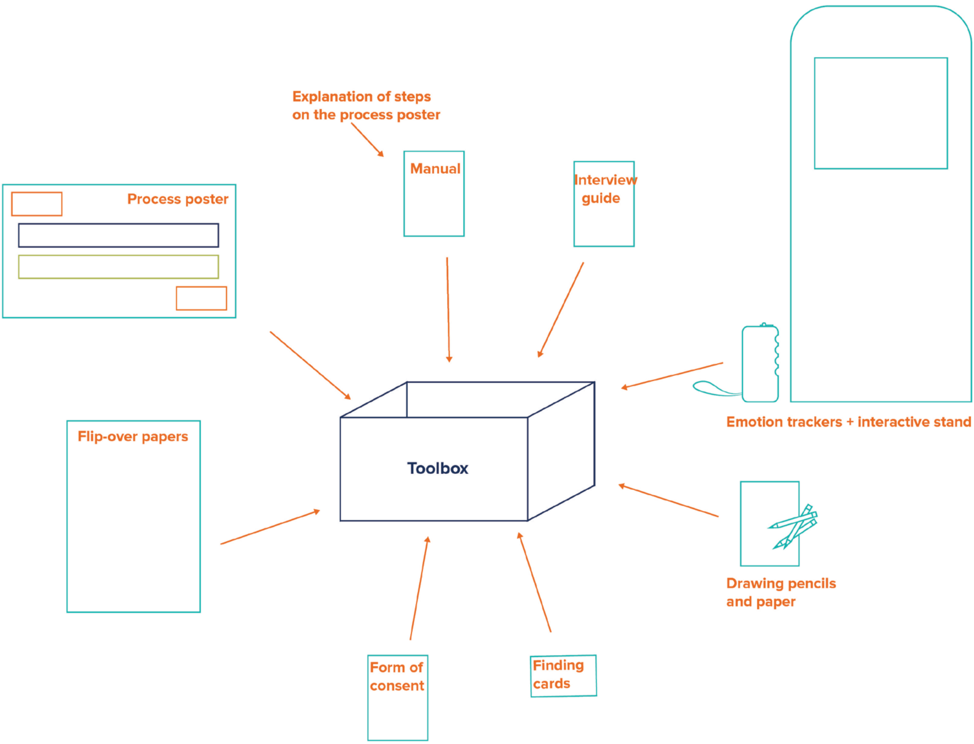
Did you open this booklet while you are still designing the exhibition? Excellent! This is the best moment to start to thinking about the evaluation! Did you are already realised the exhibition you want to evaluate: No worries! You can still catch up!

Good luck!

THE TOOL-KIT

This booklet is part of a bigger tool-kit, which, next to this booklet, consists out of:

- Portable emotion tracker devices
- Interactive stand, including visualisation software
- UWB Anchors
- Interview guide
- Finding cards
- Form of consent

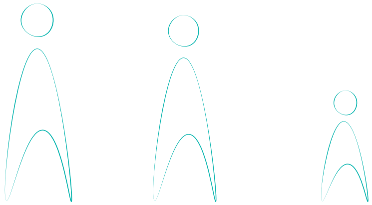


FIRST THINGS FIRST: ARE YOU IN THE RIGHT PLACE?

Before we can start, let's check whether this method is the right one for you to use.

Family exhibitions

This method was originally made for the Maritime Museum Rotterdam. However the method might also be useful for other exhibitions, it is designed for evaluating family exhibitions.
Family exhibition are focussing on families consisting out of one or more children, accompanied with their parent and/or grandparents. The children are 4 years old and up. The parents are between 20 and 40 years old and the grand parents are 60 years old or older.



grand parents
age: 60 +

parents
age: 30- 40

children
age: 4 years & up

What are you about to find out?

When this evaluation is conducted correctly, it results into valuable qualitative insights, combined with powerful quantitative data.

It will provide answers to the questions:

› What parts of the exhibition are appreciated by which age group?
› At what places do visitors spent a lot of time?
  - Why?
› At what places do visitors spent very little or even no time?
  - Why?

Other exhibition specific research questions can be added to this research. You will learn more about this on page X.

SHORT EXPLANATION OF THE METHOD

This method is based on the principle of experience sampling. Experience sampling consists out of two steps.

Quantitative data gathering

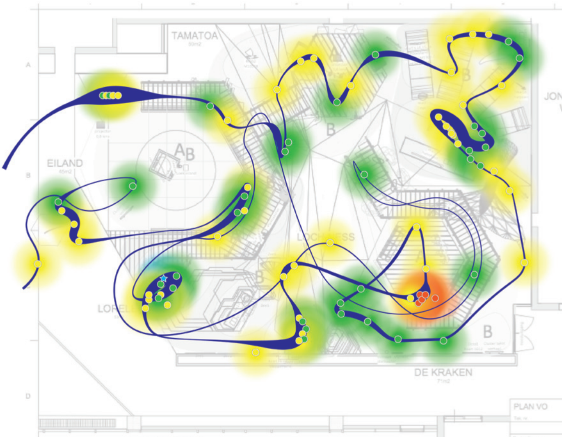
Visitors give small samples of what they think of the exhibition, while they are visiting the exhibition. They will give these sample by using the emotion tracker device. Visitors take the device with them and are asked to rate the exhibition every minute. They do this by pressing a button with :). :/ or :(. Besides that, the device also tracks the location of the visitor.

The data collected by the portable tracking device is send to the interactive stand, which creates a visualisation of the path of the visitor on a floor plan of the exhibition. It also visualises how long the visitor stayed at certain places.

Qualitative data gathering

Next, the visualisation can be used as a base for an interview with the visitor. This interview will give you insights in the 'why' behind the given feedback.

The tracking device



Example of a heat-map

HOW TO RUN THE PROCESS

Gathering qualitative data by conducting interviews and processing the data which evolves from this is very time-consuming. Therefore, interviews can only be held with a limited amount of visitors.
At the other hand, the quantitative data gets more powerful the more people provide feedback. To get best of both worlds, this method therefore is split up into two versions.

Version 1: Quantitative research to identify focus points

This version runs for several days. Random visitors are asked to take along and use the tracking device. The interactive stand creates heat-maps out of this. No interview is conducted.
This quantitative data can be used to identify outstanding patterns within the data.

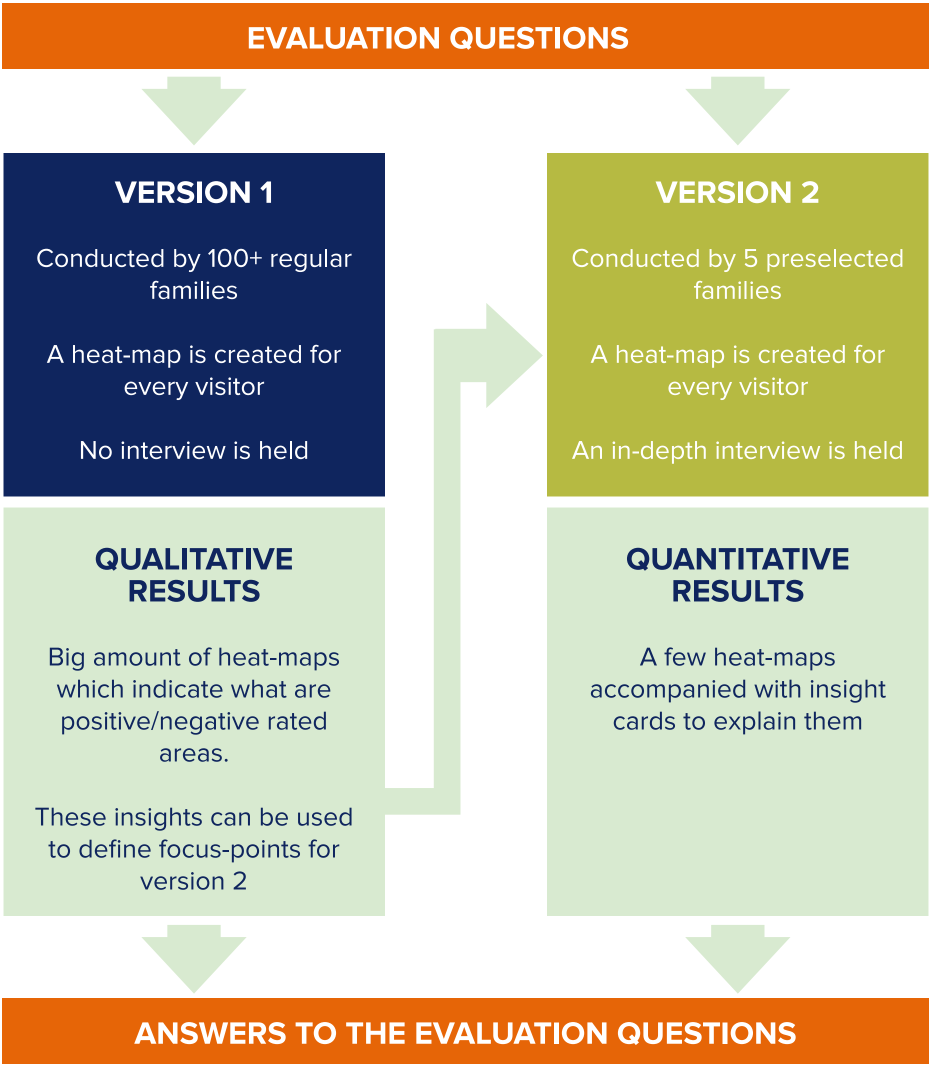
Version 2: Quantitative and Qualitative research

During version 2, one special test-day is planned on which several preselected visitors are invited. These visitors will not only use the portable tracking device during their museum-visit which creates a heat-map, but are also interviewed about their heat-map.

OVERVIEW OF THE PROCESS

The poster which comes with this booklet, helps you to understand the order of the steps in the evaluation process. The poster indicates steps that are explained in this booklet. Go to the page in this booklet as identified on the poster to learn how to conduct the different steps.

A more simplified overview is also given in the figure below.



GENERAL PREPARATIONS OF THE EVALUATION PROJECT

Before you can run the execution of part 1, there are some things you have to prepare. The system needs some files and information before it is able to function.

DEFINE EVALUATION QUESTIONS

It is important to get clear what it is you want to know. This way, you are able to prepare the interview in such a way that you will get answers to your questions. The method will always give some answers to some fixed research questions, but more specific questions could be added, depending on exhibitions you are testing.

FIXED EVALUATION QUESTIONS

The method is designed so you will find the answer to the following evaluation questions:

- What parts of the exhibition are appreciated by which age groups and what parts are not?
- At what places do visitors spent a lot of time?
  - Why?
- At what places do visitors spent very little or even no time?
  - Why?

ADDING SPECIFIC QUESTIONS

Other exhibition specific research questions or themes you want to know more about can be added to this evaluation. These specific evaluation questions can be used to specify the interview even more.

FORMING QUESTIONS USING THE TM21 TOOL KIT

Having a hard time defining what it is you want to know? A tool that will help you with this is the TM21 tool kit. This method will help you to define measurable goals. This tool-kit can be downloaded via: https://designingexperiencescapes.com/tools/toolkit-de-tentoonstellingsmaker-van-de-21ste-eeuw-evalueren-van-ontwerpbeslissingen/

Assumption cards

The tool-kit contains assumption cards. These cards are filled in during the design phase. During the exhibition phase, some of these assumption cards are selected to test.

Use the tool-kit during a project-group meeting at the moment when preliminary design is formed. Formed assumptions and success factors will be formulated as follows:

Example of an assumption

› As [fill in role] I expect that [name of part] will have an effect on[name role, eg the visitor], so that [goal].
› As a designer [role] I expect the use of colour on the floor [part] can contribute to a clearer routing of the exhibition [effect], so that visitors know better what to find where[goal].

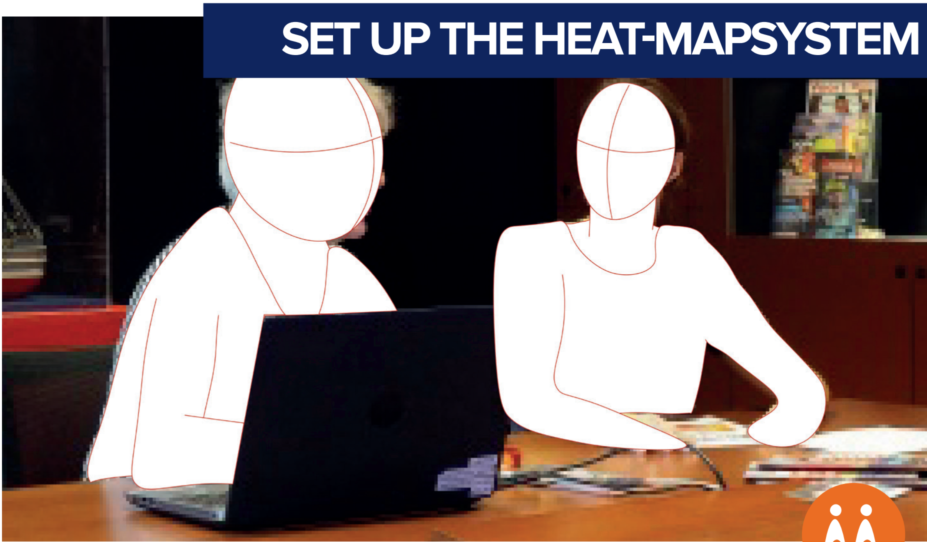
Examples of success factors

My expectation is a success if:
› Observations show that visitors follow the routing;
› Interviews show that the routing contributes to a better understanding of the exhibition.

Testing the assumption card

The assumptions as written down on the assumption card can be included in this research. Decide how the success factor will be tested. Will the success factor be tested from the quantitative data (version 1 of this research) or from the qualitative data (version 2 of this research)?

SET UP THE HEAT-MAPSYSTEM



Two facilitators

We will use a heat-mapas a leading structure during the interviews. The specially designed software will create this heat-mapfor you, but it needs some preparations before it is operational.

1. CREATE A RECOGNIZABLE FLOOR PLAN

The visualisation software will draw the route of the participant on a floor plan. This floor plan will be leading during the interview. Therefore, the floor plan should not only be functional, but also be recognisable for the participants.

STEP 1. FIND OR CREATE A BASIC FLOOR PLAN OF THE EXHIBITION

Make sure to have a floor plan of the exhibition to start from. The dimensions of the floor plan should be 1000*1500 px and it should be saved as an jpg. Convert the floor plan is such a way that it exactly has these dimensions and file type.

STEP 2. RECOGNISABLE ELEMENTS

What are big, recognisable elements in the exhibition for the visitor? Make pictures of these elements. Upload the pictures to the software.

STEP 3. COMBINE THE FLOOR-PLAN AND THE ELEMENTS.

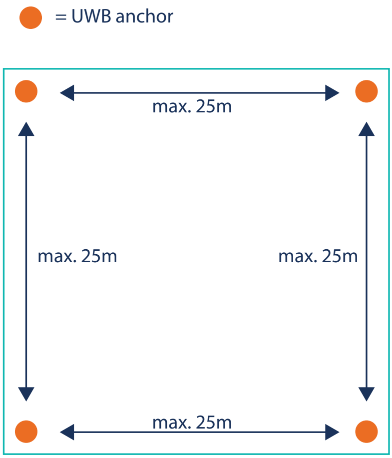
Use the software program to place the elements on the floor plan. These elements can turned off to make the heat-mapcalmer for the researcher who know the exhibition well enough to read the floor plan without the elements. During the interview the elements will be turned on, so it gives the visitor points of recognition which will make it easier for them to read the floor plan

2. INSTALL THE ANCHORS

To define where in space the visitor is located, anchors need to be placed within the exhibition-area. The system will be able to calculate the distance from the device to the anchors. This way, it is able to define where in the exhibition the device, and therefore the visitor, is located.

PLACING THE ANCHORS

If you would draw a polygon by connecting the placed anchors, the area within this polygon is the area in which the system is able to detect the location of the device. The UWB anchors may be up to 25 meters apart and should be placed two and a half to five meters above the floor.



It is important to take in account that the signals which the anchors are radiating won't be able to go through thick, massive objects, like walls. At every location within the exhibition, the device needs to be able to reach at least three anchors.

Make sure you place the anchors in such a way that this area covers the whole exhibition. This tool kit comes with four anchors. When you are planning on evaluating an exhibition that covers a bigger area, or an area with massive objects like walls in it, you will need to purchase extra anchors.

The anchors can be powered via USB or PoE (Power Over Ethernet). A 10000 mAh USB battery can power the anchor for 50 to 60 hours.

INDICATE THE LOCATION OF THE ANCHORS IN THE SOFTWARE

When the anchors have been placed, the location of the anchors should be indicated in the visualisation software, so it is able to calculate the location of the device, and therefore the visitor, on the floor plan.

VERSION 1

Due to the scope of this project, this part of the evaluation process is not worked out.

VERSION 2: BEFORE THE TEST DAY

PRAVCTICAL PERIPHERAL MATTERS

Who and what do we need at what moments? During this step you will fix all practical peripheral matters to make the research work.

RESERVE A ROOM

Reserve a room where the interview will be held. This should be a room that feels like part of the museum. A room at the backstage offices of the museum is therefore not suitable. In the MMR, this could be the Verolme room.

BLOCKING AGENDAS

Make sure to reserve time in your agenda and the agenda of your fellow researcher. Fort the test day you need two full days (eight hours). For the processing, you need half a day (four hours). Try to schedule the processing day the day right after the test days, or at most one day in between.

PRINTING FORMS

For the interview you need to copy the finding cards. Make sure to have about 20 copies per family.

BRING PENCILS

Bring some coloured pencils to the interview room, and some pens to write with.

GIVE-AWAYS

The give-aways are little, physical products to thank the participants. Make sure to have enough give-aways for all participants.

ARRANGING CATERING

Facilitate coffee, thee, lemonade and water for the visitors. Also organise to have something to eat to offer the participants like cookies and a healthy alternative like fruit.

INSTRUCT TICKET DESK EMPLOYEES

Make a list containing the names of the families who will come at the test day. Also write down the time when they are scheduled on this list. Give one of these lists to the employee who works behind the ticket desk. Instruct the employee to tell the families to wait in the entrance hall when they arrive at the given time. If they arrive earlier, the employee should explain the family that they can visit the museum till the scheduled time, but that they should not visit the exhibition which will be evaluated yet.

INSTRUCT EXHIBITION SUPERVISOR

Inform the exhibition supervisor that is guarding the exhibition about the test day.

CHARGE THE PORTABLE TRACKING DEVICES

Make sure to fully charge the portable tracking devices and the tablet.

An example of a give-away is this magnet, which children got when they helped evaluating the Sea Monster exhibition at the MMR

ORGANIZE PARTICIPANTS

We preselect our participants, so they will have time to take part in the interview and so we can time there participation better.

CRITERIA

This method is designed for family exhibitions. Therefore, we need five families with the following characteristics:
-A family of 2 to 4 persons
-One or two children in the age of 6 to 12
-One or two adults

Regarding on the evaluation questions as formed in on of the previous steps and the target group of the exhibition, extra criteria could be added to this list. This can for example be criteria based on:
- Gender
- Age
- Family composition
- Ethnic background
- Etc.

HOW TO FIND THEM

Try to find participants who are willing to spend time on the test. You could for example place a call on your social media channels, send an e-ail to all the 'Spetters'. 'Spetters' is an existing pool of people who feel connected with the museum and like to participate in events and researches of the MMR.

INSTRUCT THE FAMILIES

Instruct the families before their visit by sending them the following e-mail.

“Dear family [FAMILY NAME},

How incredibly nice that you have registered as a museum tester! On [DATE OF TEST], you will test the “sea monsters” exhibition. This letter provides more information about the day. If you still have questions, don’t hesitate to ask!

Course of the day

You are expected at [TIME] in a museum. You can report at the ticket desk. Please tell the employee behind the desk your name, so he or she can instruct us that you arrived. I will pick you up in the hall after which you will get more explanation about the evaluation.

You will visit the exhibition together with your family. Afterwards we would like to ask some questions about the visit through an interview. In this interview, there are no wrong answers! So don’t be afraid that you have to like everything. We would love to hear what you like, but we are also really interested in the things you did not like!
All in all, the entire test will take approximately one to one and a half hours. You are free to continue visiting the museum after the test.

Photos, video and privacy

During the test we sometimes take photos that you will also be on. We use these photos to show our colleagues how the day went. Sometimes we make such a beautiful photo that we would like to put it on our social media or in a newsletter. We will never include your last name or contact details.
Of course we always take into account the privacy of our visitors. We therefore ask you to take a look at the form of consent attached to this email. It states once again what we intend to do with the photos that we make during the test day. You can indicate on this form whether you give permission for the use of the photos and whether you would like us to make the photos anonymous. We respect your wishes and will not post any photos if you give no permission for this. During the test day we will ask you to fill in and sign a printed version. Feel free to share photos of the test day on social media yourself if you want to!

Contact
If you have any questions or if you are unable to arrive, contact me:
[CONTACT DETAILS]

With kind regards
[YOUR NAME] ”

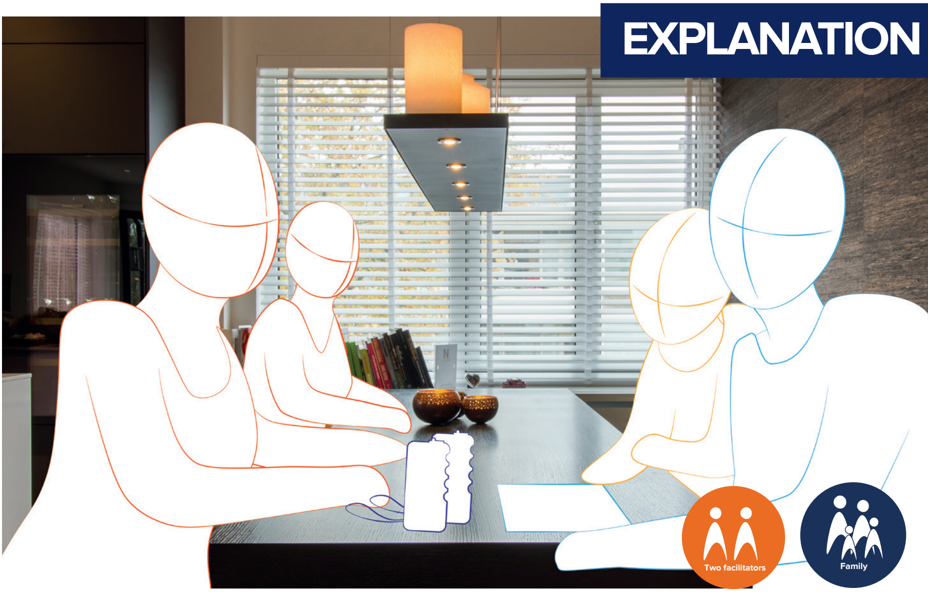
Defining the evaluation
Version 1: before the testdays
Version 1: during the testdays
Version 1: after the testdays
Version 2: before the testday
Version 2: during the testday
Version 2: after the testday
Finalizing

VERSION 2: DURING THE TESTDAY

ARRIVAL AT THE MUSEUM

The family will arrive at the entrance hall. Make sure to put a list with names of the participants at the ticket desk. Pick up the family at the ticket desk.

EXPLANATION



1. PICK UP THE VISITORS AT THE ENTRANCE HALL

There is a high chance that the visitors have not been in the museum before, so therefore you have to pick up the them in the entrance hall to take them to the interview room.

2. MAKE THEM FEEL AT EASE

It is important that the visitors feel comfortable, so they open up and give honest feedback during the research. Offer the participants something to drink.

3. SIGNING THE FORM OF CONSENT

The visitors already received the form of consent by email. Give the adults two times a printed version of the form of consent and ask them to sign it. Make clear that this form is meant to protect their privacy. Keep one of the forms yourself and give one of them back to the visitor.

4. EXPLAIN THE RESEARCH

Now it is time to explain the research to the visitor. This will be something like this:

“Thank you for participating! Today, we will evaluate the Sea monster exhibition. We are very interested in what you think of the exhibition. It is important to know that you as participant can’t do anything wrong. Of course it is nice to hear when you like things about our exhibition, but we are just as happy to hear from you what you don’t like about it.

In a few minutes, you will go visit the Sea monster exhibition. You will get a special museum testing device with you during the visit. This device will keep track of where you walk and also asks you to tell it how much you like the exhibitions every now and then. After the visit, you return here and we will ask you some questions about the input you gave.

Look, this is the testing device! You can carry it around in your hand. The strap is put around your wrist. When you need both hands for something in the exhibition you can just let go of it and the device won't fall but hang on the strap."

Give all family members the devices that you just connected to them in the software and attach it to their wrist. Explain how the device acts by using the table below. Make sure you tell them that they should rate how much they like it themselves and that no answer is wrong.

Turn on the preview mode on the device. This will let the device function, even though it isn't in the exhibition area jet. The family is now free to try out the buttons and see how it responds.

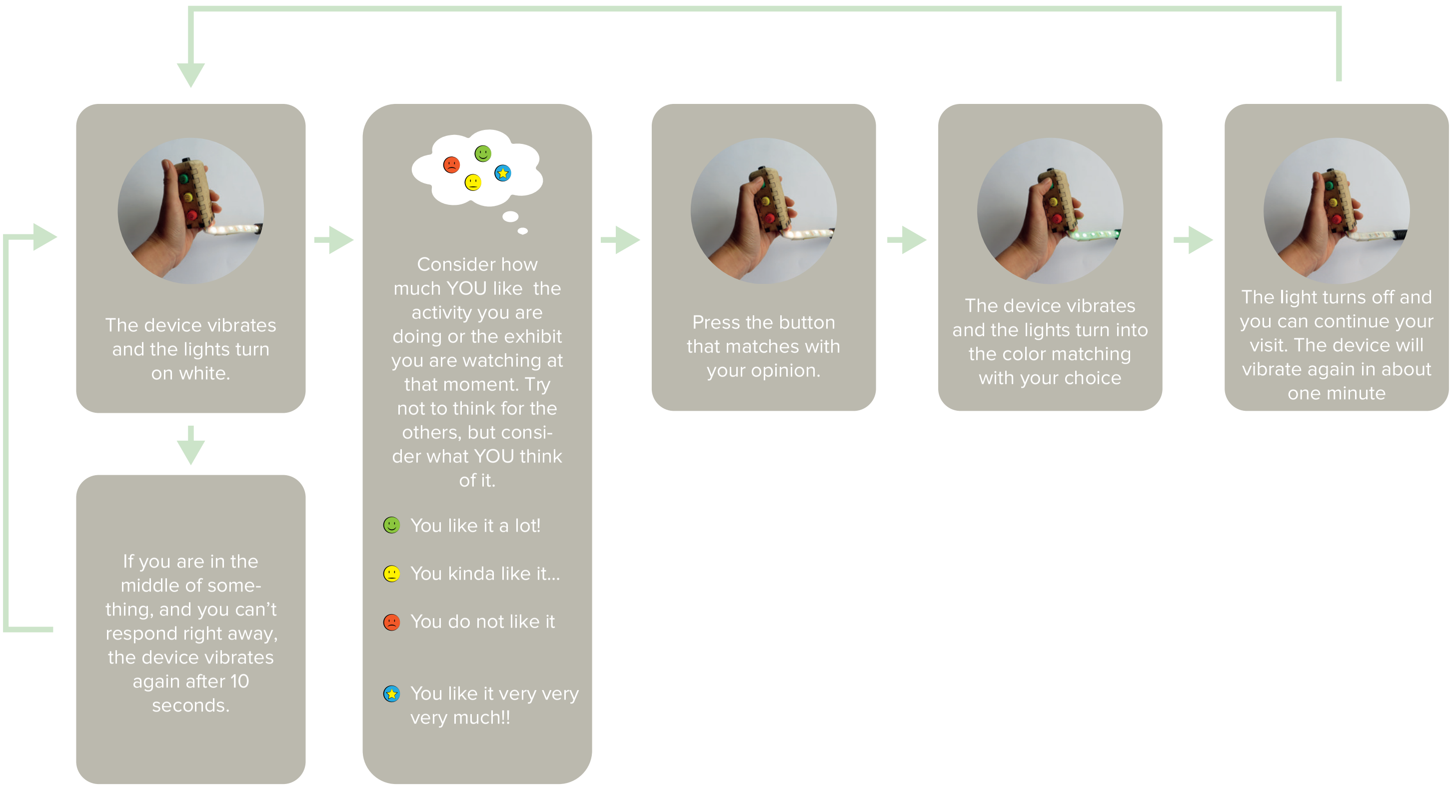
5. CONNECT THE DEVICE TO THE FAMILY MEMBERS

Give all family-members a tracking device. Indicate in the heat-map software which device is used by which family member.

6. SEND THE FAMILY TO THE EXHIBITION

Turn of the preview mode and tell the family that they can now go an visit the exhibition. The devices will start functioning automatically as soon as they enter the exhibition area. Tell them that they can return when they are done visiting the exhibition. Make sure to mention that it doesn't matter how much time they take or whether they visit the complete exhibition or not. Just visit the exhibition as you normally would do!

In the case that a family takes more then 40 minutes to visit the exhibition, the time schedule for the next family will get in trouble. This is why after 40 minutes, the lights in the device will show a disco pattern with all kinds of colours. When this happens, the family should come back to the interview room.

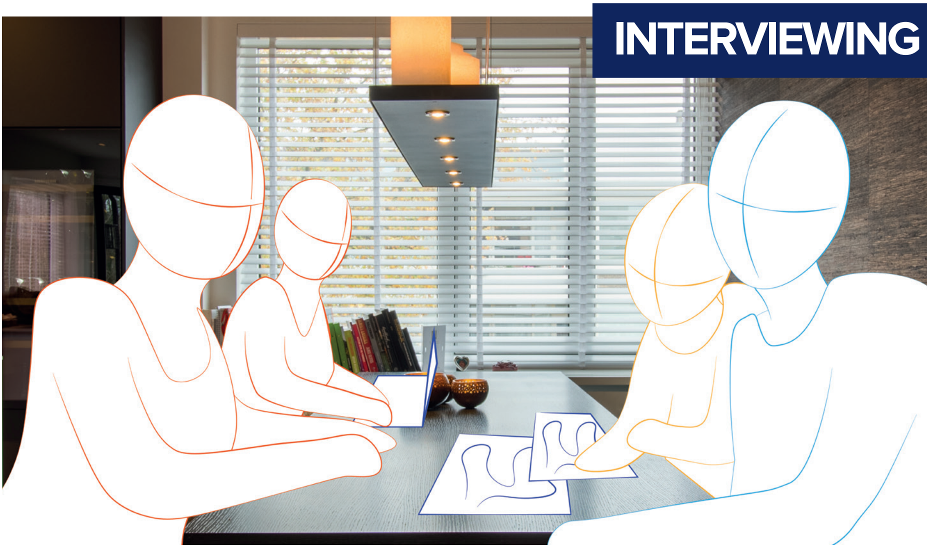

The device vibrates and the lights turn on white.
If you are in the middle of something, and you can't respond right away, the device vibrates again after 10 seconds.
Consider how much YOU like the activity you are doing or the exhibit you are watching at that moment. Try not to think for the others, but consider what YOU think of it.
You like it a lot!
You kinda like it...
You do not like it
You like it very very very much!!
Press the button that matches with your opinion.
The device vibrates and the lights turn into the color matching with your choice
The light turns off and you can continue your visit. The device will vibrate again in about one minute

EXHIBITION VISIT

The visitors will do this part of the research all by their own. Make sure to tell the museum observer of that day what is going on.

This time gap can be used to analyse the gathered data by the interviews from the previous family.

INTERVIEWING



During the interview, one facilitator will take the lead and conducts the interview. The other facilitator assists when needed, and is given the task to document the interview. The interview guide is shown on page X and X. The

1. RETURNING TO THE INTERVIEW ROOM

After the visitors finished the visit of the exhibition, the family returns to the interview room. Have the child and parent sit side by side. Offer them something to drink.

2. FIRST REACTIONS

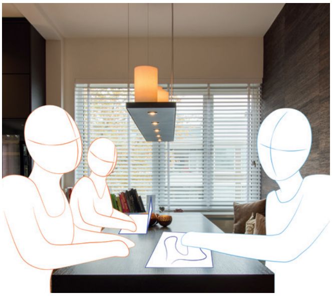
Ask the participants how they think it went. Pay attention to what they say! Do they already mention why they did or did not like something?

Show the parent and child their heat-map. Take a moment to let first reactions come naturally. Ask if they understand the map. First let them figure out the map by themselves. This will already evokes reactions and they will probably already mention some interesting things. If they do not understand the map, mention some recognizable elements of the exhibition.

3. SPLITTING THEM UP

When the first reactions have taken place, ask the child to sit down at a different table and make a drawing of what he / she likes best about the exhibition. In the meantime you can interview the parent.
First, you will interview the parent. Next you will interview the child. Give the child some drawing pencils and paper. Ask them to draw the most interesting things they saw in the exhibition.

4. INTERVIEW THE PARENT



- Follow the route the participant walked on the heat-map. Ask questions about outstanding elements. For every point ask:
  - What happened here?
  - Why did or didn’t you like it here?
  - Always try to ask: Why? Why? Why?
- If you are done asking about the heat-map, ask more about the theme’s you defined.
  - Did you learn something new in this exhibition?
  - In which places did you teach your child something?
  - *(fill in extra theme)*
  - *(fill in extra theme)*
- Ask the participant whether he or she would like to add anything else.

5. INTERVIEW THE CHILD

When interviewing the child, try to make the parent interferes as less as possible. Create some physical distance to favour this.
First, ask the child about the drawing he or she made. Next, conduct the interview according the same steps as you did with the parent.

- Follow the route the participant walked on the heat-map. Ask questions about outstanding elements. For every point ask:
  - What happened here?
  - Why did or didn’t you like it here?
  - Always try to ask: Why? Why? Why?
- If you are done asking about the heat-map, ask more about the theme’s you defined.
  - Did you learn something new in this exhibition?
  - In which places did you teach your mother/father help you to understand or do something?
  - *(fill in extra theme)*
  - *(fill in extra theme)*
- Ask the child whether he or she would like to add anything else.

6. ROUNDING UP

At the end of the interview, ask the parents and the child if there is anything else they would like to add.

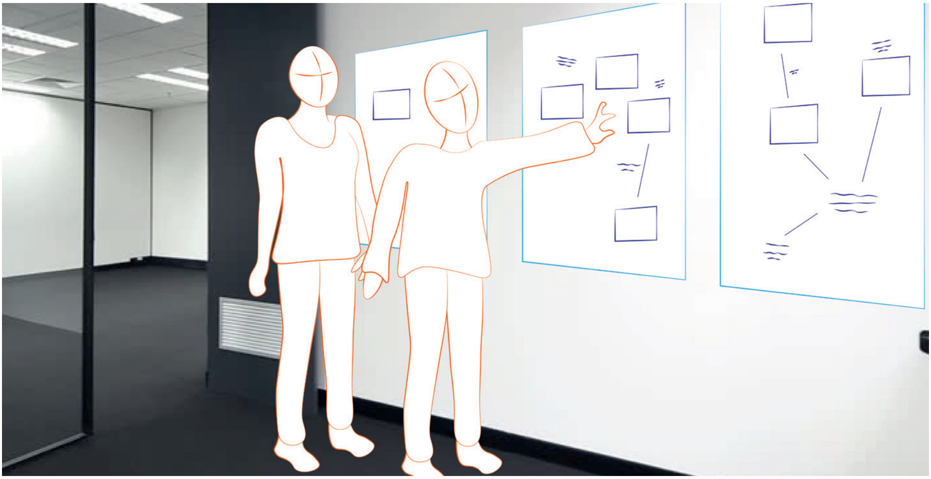
Thank the participants by giving them a small give-away.

THE VISITORS RETURN HOME

At this point, the visitor completed al his/her tasks. They feel like they made a meaningful addition to the museum and are proud on the special Museum-tester badge they got.
The family can decide to go home, but may also continue the museum visit.

PROCESSING THE DATA

Right after the interview, it is time to fill in the finding cards that are also in the tool-box. Write down all interesting findings you did during the interview. Use the notes that were made during the interview for this.
New idea's might arise from this. Make sure to also note these ideas.
New themes to focus on during the interview with the next family might be decided on.



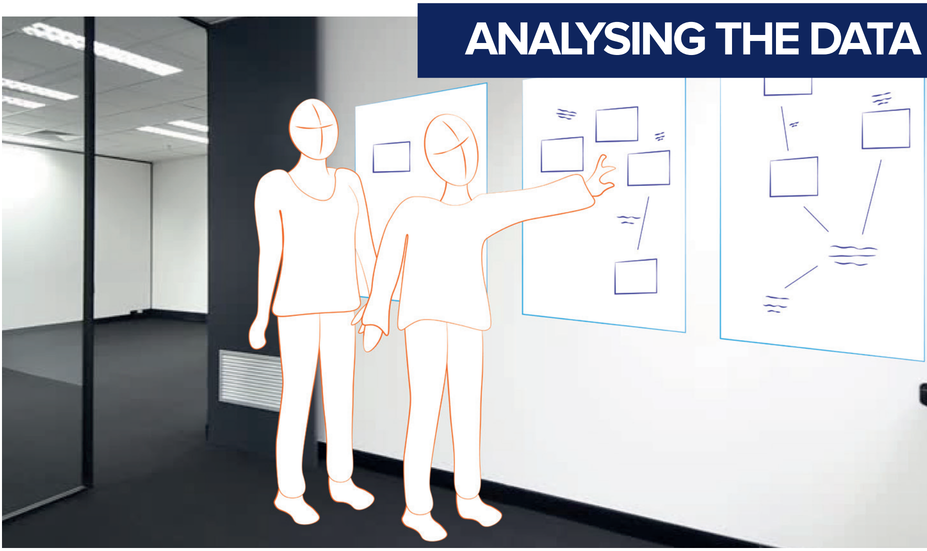
After every interview, a short analysis will take place. During this analysis, you will use the data which was gathered during the interview to try to find patterns, generalize findings to a broader scope and finding evidence to support your conclusions.

Move yourself to the analysis room. This room should be a different room than the interview room, since you do not want to effect families during that will be interviewed later.
Here you hang several flip-overs on the wall. On the top of the flip-overs, write down the themes which you defined during the defining of the research. For example “interaction between child and parent”. Leave some flip-overs open to create space to come up with new themes or to park finding-cards which do not belong to any specific theme.
Use some tape to stick the finding-cards to the flip-over with the matching. When new idea’s arise, write these down on the papers. You might want to use sticky-notes to write things down and add to the flip-overs. Feel free to draw and write whatever and wherever you want.

If new themes or questions arise, make sure to write these down on the interview-guide. During the next interview, you can pay extra attention to whether the participants tell you thing that belong to the themes.

VERSION 2: AFTER THE TEST DAY

Part 1 gave you quantitative information about how visitors rate your exhibition. It gave you a view on what parts visitors like, which parts they like less, what exhibits they spend a lot of time with and on what exhibits they spend less time, or even skip completly. Part 2 will help to gather quantitative data to figure out why visitors feel and behave like they do.



ANALYSING THE DATA

After all interviews were done, take a look at the flip-overs you created one more time. See whether new connections and idea's can be developed.

Take a look at the research questions you made at the beginning of the evaluation. Can you answer them? Draw conclusions and write them down on the flip-overs.

Next, one of the interview conductors will take the responsibility to create a poster out of these insights cards. He of she will make a raw set-up of the poster, containing insights and recommendations for the future. Feel free to add pictures of the exhibition. The professional graphic designer within the museum can be asked to make the poster look perfect. This poster should be hung in the canteen, so all employees of the museum can see the result. This likely will cause conversations to take place between employees of the museum during lunch-breaks, which helps to spread the information between the different employees.

CONCLUSION

PRESENT AND DISCUSS

After the data is processed and the insights are gathered, present the poster to the project-group who realize the exhibition and all project-leaders. This way, the insights will be shared among all employees of the museum.

SHOW AND SHARE

This poster should be hung in the canteen, so all employees of the museum can see the result. This likely will cause conversations to take place between employees of the museum during lunch-breaks, which helps to spread the information between the different employees.