

IDE Master Graduation

Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

! USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT

Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME

Save this form according the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy". Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !



family name	Schippers	4892
initials	S R	given name Sara
student number	4972805	
street & no.		
zipcode & city		
country		
phone		
email		

Your master programme (only select the options that apply to you):

IDE master(s): ☐ IPD ☒ Dfl ☐ SPD

2nd non-IDE master: _____

individual programme: _____ (give date of approval)

honours programme: ☐ Honours Programme Master

specialisation / annotation: ☐ Medisign

☐ Tech. in Sustainable Design

☐ Entrepreneurship

SUPERVISORY TEAM **

Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair	Dr. ir. S Hiemstra-van Mastrigt	dept. / section: SDE/M&M
** mentor	Dr. ir. G.J. Pasman	dept. / section: HCD/DCC
2 nd mentor	José van der Plaats	
	organisation: RET	
	city: Rotterdam	country: Netherlands

comments (optional) In collaboration with Seamless personal mobility LAB of which amongst others 9292 and RET partners are

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v..



Second mentor only applies in case the assignment is hosted by an external organisation.



Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

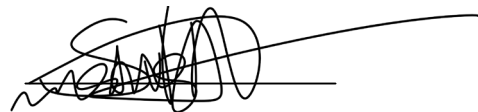
APPROVAL PROJECT BRIEF

To be filled in by the chair of the supervisory team.

chair Dr. ir. S Hiemstra-van Mastrigt

date 17 - 03 - 2021

signature


CHECK STUDY PROGRESS

To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: 30 EC

Of which, taking the conditional requirements into account, can be part of the exam programme 30 EC

List of electives obtained before the third semester without approval of the BoE

☒ **YES** all 1st year master courses passed

☐ **NO** missing 1st year master courses are:

name J. J. de Bruin

date 07 - 04 - 2021

signature

J. J. de Bruin, SPA
Digitally signed by J. J. de Bruin, SPA
Date: 2021.04.07 11:39:57 +02'00'

FORMAL APPROVAL GRADUATION PROJECT

To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **. Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?
- Is the level of the project challenging enough for a MSc IDE graduating student?
- Is the project expected to be doable within 100 working days/20 weeks ?
- Does the composition of the supervisory team comply with the regulations and fit the assignment ?

Content: ☒ **APPROVED** ☐ **NOT APPROVED**

Procedure: ☒ **APPROVED** ☐ **NOT APPROVED**

comments

name Monique von Morgen

date 12 - 04 - 2021

signature

A Mobility as a Service platform supporting public transport travellers

project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 05 - 03 - 202115 - 09 - 2021

end date

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

Over the years, usage of personal transportation has risen, causing an increase in traffic jams and lack of parking space in and around cities. Besides, pressure grows on public transport networks, creating (societal) challenges to continue to fulfil travellers' needs and to remain affordable. On top of that, the world is getting more and more digital and a platform economy is emerging. This trend is also reflected in the rise of shared mobility providers.

Mobility as a Service (MaaS) creates opportunities for cities to overcome these challenges by providing seamless, personalised and on-demand multimodal mobility. By integrating both public, shared and private transport modalities in one (eco)system, travellers can conveniently travel from door-to-door by a range of different mobility providers. MaaS allows travellers to use a specific modality only when needed, shifting from ownership to use. Hereby creating potential to establish a shift towards a more sustainable, user-friendly and futureproof transport system.

For MaaS to become a success, the current way mobility in the Netherlands is organised and offered has to change. A platform that offers Mobility as a Service has to be realised, current public, shared and private transport providers have to become part of this service and all other services that currently play a role in (public transport) travelling need to adapt to these changes to remain important and interesting. Apart from the (eco)system having to become ready for MaaS, travellers also need to adopt the use of this system.

RET is the public transport provider of the urban Rotterdam region. RET now accommodates public transport travellers through many different channels, that all have their own functionality (travel information provision, ticketing and payment, support, subscription). To remain future proof, RET wants to take on a director's role in implementing MaaS in the region of Rotterdam. Their challenge is to prepare their infrastructure and user touchpoints to adopt Mobility as a Service and provide a user-friendly service on a regional level. In this they need to prevent a sprawl of all these different mobile platforms.

9292 is nationally active as a public transport travel information service provider. Initially starting out as a call center providing travellers information on public transport options and routes, currently their main service is providing travel information through mobile application and a website. This channel has many different functionalities and has to have a 1-fits-all solution for all its many different types of users throughout the Netherlands, who all have different needs and desires. Their challenge is to remain user-friendly while adding Mobility as a Service functionalities in their service on a national level. In this, they need to prevent a sprawl of functionalities (mobile application, call center, website), and bring these together in a logical way in existing channels and technical back end & architecture.

Overlapping in the challenges of RET and 9292 is the integration of a service in one platform. Therefore, the combination of their challenges lead to the formulation of this graduation project.

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introduction (continued): space for images

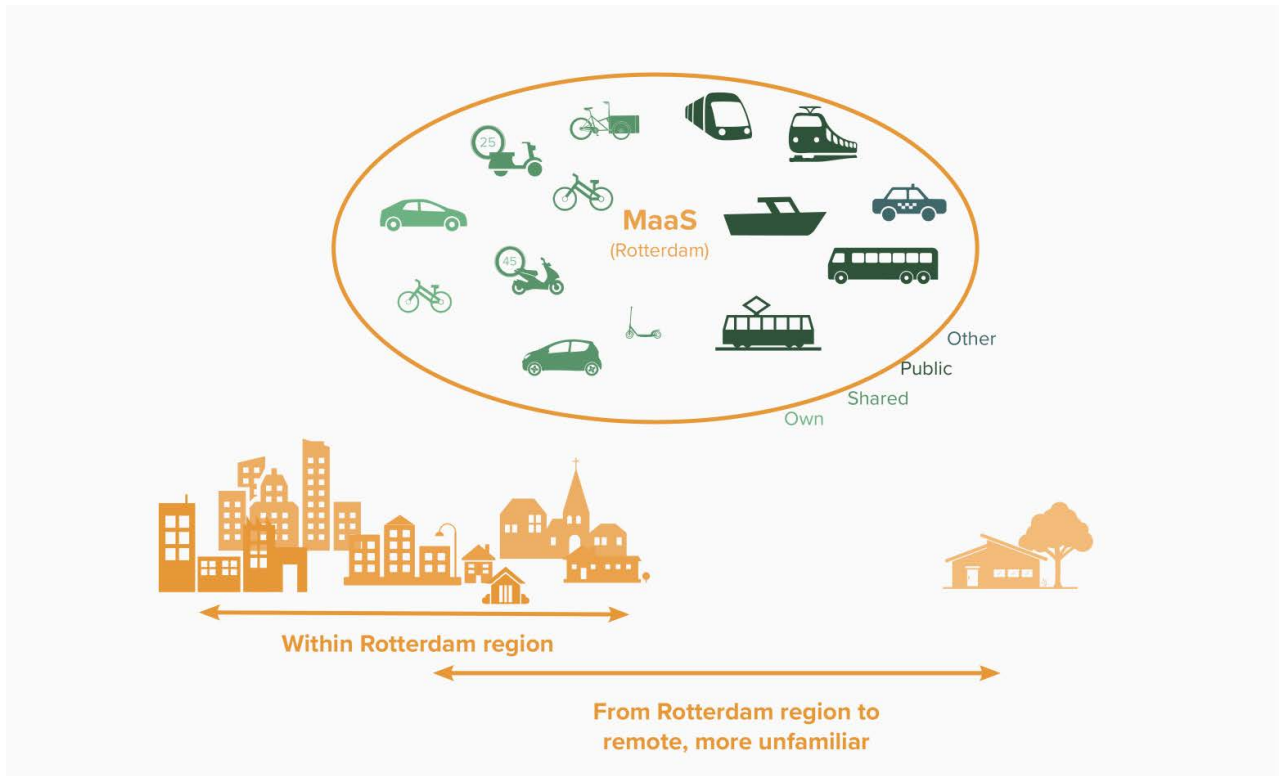


image / figure 1: Mobility as a Service - overview of project's scope



image / figure 2: Collaboration between RET, 9292 and Seamless Personal Mobility Delft Design LAB

PROBLEM DEFINITION **

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

The entire way we travel from door-to-door is changing, creating a new ecosystem of personal mobility. For travellers, current developments bring a sprawl in transportation modes, travel possibilities and their associated mobile applications. By unifying this all in one system, Mobility as a Service platforms could provide ease of use by facilitating travellers with their multimodal trips from door-to-door: within their own familiar region or beyond, across a range of transportation modes and also including the first and last mile.

As MaaS embodies a new ecosystem of personal mobility, many different stakeholders have to work together to become a success. They all have different needs and values, which makes it challenging. Currently both 9292 as RET are involved in developing MaaS platforms: 9292 to remain providing an interesting travel service and RET to be(come) in control of the mobility market in Rotterdam region and to ensure to continue to transport travellers in the growing region. Their challenge is to develop this MaaS system without cannibalising their own core business.

Current developments regarding integration of MaaS is mainly focused around developing the (eco)system. This process feels pushed by technology. For MaaS to become a success, I feel it should truly address the different individual needs and wishes of travellers in order to seduce travellers to adopt the service. Therefore, the process of designing MaaS should be user-centred, but also take on a multi-stakeholder perspective.

This project will focus on the public transport traveller when traveling within the familiar region of Rotterdam, but also travelling from Rotterdam to more unfamiliar, remote destinations. What are the different needs, desires and demands for these travellers during these two different trip types? How should the service look like while supporting them from door-to-door? But also, what interesting added value and new experiences could this MaaS system bring them during regional as well as national trips?

ASSIGNMENT **

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

Design a Mobility as a Service concept that supports and addresses the needs and wishes of public transport travellers during door-to-door trips within their own familiar region of Rotterdam as well as trips to more unfamiliar, remote destinations.

This project will focus on the public transport traveller while travelling within the familiar urban region of Rotterdam, but also travelling from Rotterdam to more unfamiliar, remote (national) destinations.

The aimed deliverable is the design of a few important touchpoints within an envisioned door- to-door MaaS journey.

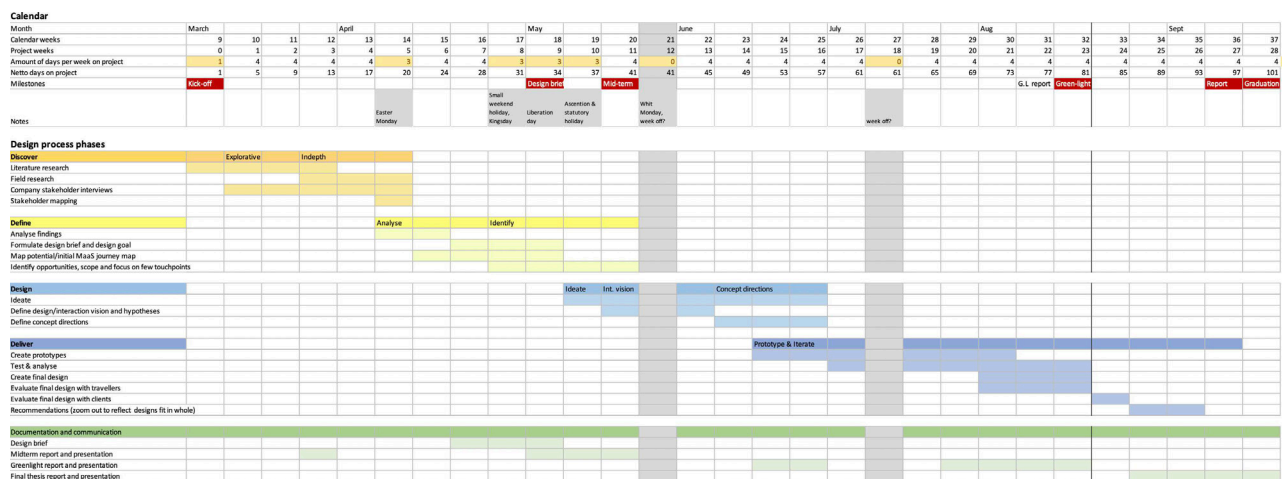
PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date 5 - 3 - 2021

15 - 9 - 2021

end date



The planning of this project is divided into 4 different phases, based on the double diamond process. The first phase is called Discover phase and is focused around exploring the context, researching and gathering information about all (current and ongoing) developments and perspectives within MaaS. Next, the Define phase is focused around analyzing and defining opportunities and challenges resulting from the Discover phase. Within this project I want to dive into designing interactions and finalize the project with presenting a validated design of a few touchpoints within MaaS. But as MaaS is about realizing an added traveling experience from door to door, I feel a service concept has to be part of the project. By the end of this phase a clearly defined problem is presented, and customer journey of one or two specific traveller groups with a few touchpoints that serve as a scope for the Design phase. This Design phase is about ideating solutions for the prior defined problem. A design vision is formulated, and concept directions are explored. In the final Deliver phase different prototypes are tested and evaluated in an iterative way. These iterations serve as input for creating the final design, which is then tested and evaluated with (prospective) MaaS travellers and evaluated with the companies to test its viability.

In addition to following the master Design for Interaction, I work as a UX designer at Moxio. For 1 day a week I will remain active at this company during this graduation project, which means I will generally be working on the graduation project for 4 days a week. Within the upcoming few months there are quite a few national and/or institutional holidays in prospect. For now, I included these national and/or institutional holidays in the planning. Next to that, I scheduled a week off right behind the midterm and well as a week in the summer holidays. The exact moments of these off-days/weeks might shift according to project but also corona-related developments. I will communicate about this well in advance.

MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, Stick to no more than five ambitions.

The theme of mobility have always interest me highly. Parallel to starting my master Design for Interaction, I worked as a UX designer at the electric shared mobility service Amber Mobility. It is particularly the "everydayness" of mobility that interests me. Everyone can relate to it, it is visible to everyone in society. Mobility opens up worlds, but can also close them... Self-driving and electric vehicles, MaaS developments, and smart transport: it offers enormous, innovative opportunities, but also social and operational challenges.

During my work at Amber Mobility, I contributed to a pitch for a Mobility as a Service pilot. Nowadays, developments within MaaS in the Netherlands are already a lot further. I felt a graduation project within MaaS would be a nice way to close off my educational career.

Within this graduation project I want to focus on interaction design and take on a user-centered approach to show competences I've acquired throughout the master education as well as the practical work experience. In this process, I want to prototype and test designs in an iterative way, and incorporate both generative as evaluative research methodologies.

Throughout the past few years, I've worked at a few companies as a designer; a shared mobility startup, a small research/consultancy foundation and a small software development company. Within the collaboration between REISinformatiegroep and RET I aim to broaden my experience in working in bigger organizations and experience how the process from strategy and product development till market implementation takes place within such companies.

A personal ambition in this project is to show the importance of sustainability in mobility and allow for stimulating more sustainable travel behavior. I've always been highly motivated to take on challenges regarding sustainability and find ways to overcome issues caused by our current consumer society. I feel MaaS could play an important role by shifting mobility towards more sustainable transport, but feel within the MaaS developments this value of and need for sustainability could serve a bigger role.

Finally, I strive to create a healthy work-life balance throughout the upcoming graduation months. I'm highly motivated and always eager to deliver work I'm proud of. With respect to this, it turns out I'm also 'very good' at taking on too much. Within this project I want to improve my project management skills, mainly by setting realistic goals and remaining critical on the feasibility of these set goals within the limited time available. I want to redirect or rescope when they turn out not to be achievable anymore, thereby provide peace of mind and allowing me to take on this project with joy rather than stress.

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

This graduation project is a collaboration between RET, REISinformatiegroep (9292) and me, and is also part of the Delft Design Seamless Personal Mobility LAB.

I will be working at the graduation project for 4 days a week, and will remain working at my side job for 1 day a week.