DESIGN FOR our future

TU Delft

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	[redacted]
initials	[redacted] given name [redacted]
student number	[redacted]
street & no.	[redacted]
zipcode & city	[redacted]
country	[redacted]
phone	[redacted]
email	[redacted]

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

IDE master(s): ★ IPD ○ DfI ○ SPD

2nd non-IDE master

individual programme - - (give date of approval)

honours programme: ○ Honours Programme Master

specialisation / annotation: ○ Medisign ○ Tech. in Sustainable Design ○ Entrepeneurship

SUPERVISORY TEAM **

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

** chair	Matthijs van Dijk	dept. / section:	DA
** mentor	Wouter Kets	dept. / section:	DA
2nd mentor	Job Stehmann		
	organisation: van Moof		
	city: Amsterdam	country:	The Netherlands

comments (optional): A motivation to include both chair and mentor from the same department is included in the motivation description on page 7.

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.

Procedural Checks - IDE Master Graduation

TU Delft

APPROVAL PROJECT BRIEF

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

chair Matthijs van Dijk date 26 - 5 - 2020 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: _____ EC

Of which, taking the conditional requirements into account, can be part of the exam programme _____ 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 _____ date - - signature _____

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 _____ date - - signature _____

Initials & Name W.T. van der Veen Student number 4308042

Title of Project 2030: A future vision and concept for Van Moof.

2030: A future vision and concept for Van Moof.

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 04 - 05 - 2020 18 - 12 - 2020 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 last decades the mobility system has been coping with problems having to keep up with a rapidly changing society. As stated by Arup in 2018: 'Driven by population growth, consumer expectations, fiscal constraints, and environmental and health concerns, the mobility ecosystem is in a state of flux. Combined with the effects of disruptive technologies, these changes are giving rise to an exciting set of opportunities as well as complex challenges.' In urban areas that weren't developed for car usage these opportunities and challenges are becoming increasingly apparent. Therefore, mobility is reconsidered and popularity of alternative mobility solutions is increasing (Martinez. L, 2017).
Directly related to this future mobility context is the Dutch company VanMoof. VanMoof designs and manufactures electric bicycles in Amsterdam. The company strives to innovate within the sector of urban mobility and commuting with the goal to replace the car for personal mobility. 'That we're different from the others is a fact' (Van Moof, 2020). Although VanMoof proves to be successful in the current mobility sector, it is recognized by VanMoof that the changing future mobility landscape requires adaptation in order to maintain a distinguished position. Within this thesis it will be questioned what the future mobility context will be like, and how VanMoof can react to it.

As time will be a limiting factor throughout this thesis, it will be essential to define a domain in which it is desired to make a change. Rather than defining the design domain in a sentence, it is chosen to visually define it over a schematic timeline representing interdependent phenomena to be explored: developments in societal attitude and conditions in relation to Mobility.
Here, Societal attitude and conditions is the way in which people perceive and interact with their environments, and how their values are influenced by prevailing conditions. The Phenomenon 'development of societal attitude and conditions' is considered relevant as the current pandemic crisis (RIVM, 2020) will presumably accelerate the materialization of societal changes and alter the way in which people will interact with means of transportation. Due to this health crisis, new challenges and opportunities are revealed. History shows how a similar disruption led to innovation; modern day sewer systems were introduced only after global outbreaks of Cholera (Shenker, J. 2020). 'Mobility means and services' proved to be disruptive and of great influence on societal attitude in the past. In example: only a century ago, one would have limited access to mobility, increasing the importance of small communities. A century later, mobility around the globe became accessible for the masses, leading to an increase in urbanization and globalization.

It is a deliberate choice to maintain a 'distance' to VanMoof to ensure an outside perspective. In the Vision in Design process, which will be the method of choice, this will mean a starting point at the beginning of the 'designing' phase. Later in the design process, the deconstruction (preparation) phase of the Vision in Product design process serves as a tool to better understand the VanMoof brand if necessary to create concepts suitable (enough) for the VanMoof company.

space available for images / figures on next page

introduction (continued): space for images

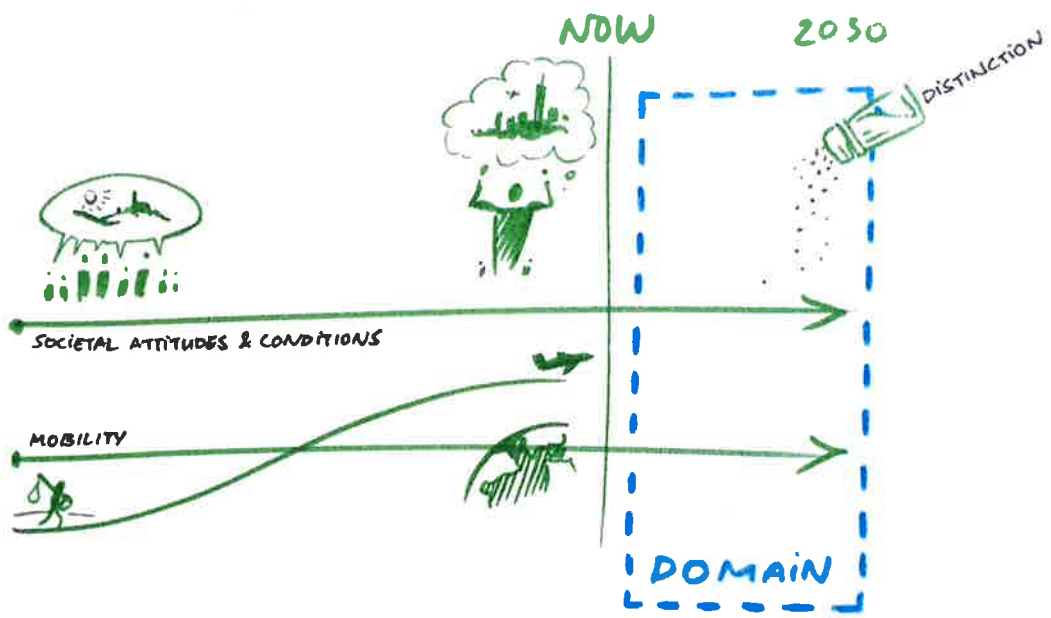

image / figure 1: Figure 1.1: Design domain

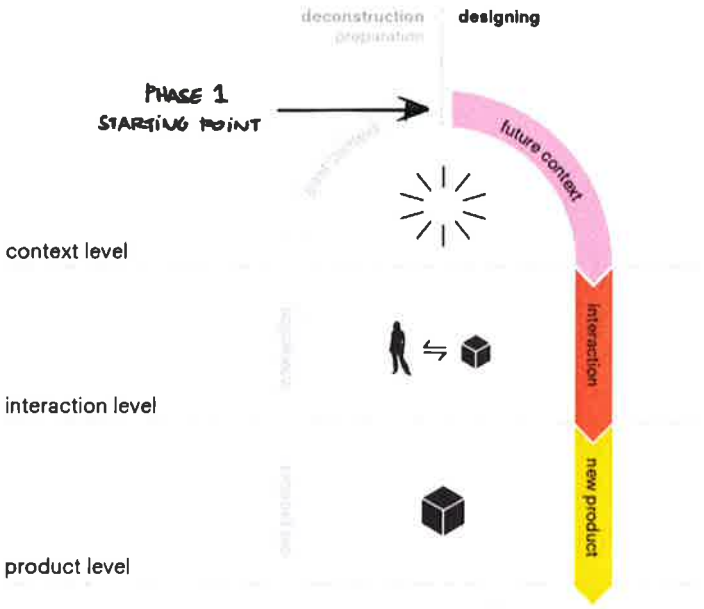

image / figure 2: Figure 1.2: Starting point Phase 1, designing.

Initials & Name W.T. van der Veen Student number 4308042

Title of Project 2030: A future vision and concept for Van Moof.

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.

VanMoof is a Dutch company changing the way we get from point A to B, building on and reinventing the bicycle as we know it today. Founded in 2009 they are currently present in 25 nations with more than 120.000 riders (VanMoof, n.d.). With a focus on urban environments, their product should make commuting increasingly efficient and comfortable, so that it will be given the preference over a car. Their combination of inventive implementation of electrical support and attention to design and detail, currently manifested in the S3 and X3 models, has led to a unique and successful product range. In 2018 VanMoof revenue was 10,7 million (Luimstra, J. 2019).

However, it is expected that competition will rise and VanMoof's distinguished position will decrease. Additionally, the current public health crisis will speed up the materialization of changes in social attitude and conditions with respect to mobility. How can VanMoof react to these changes, remain relevant and continue to distinguish themselves in the evolving mobility sector?

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.

How can VanMoof remain relevant and distinguished in the evolving world and mobility sector? Using the ViP method a future context, world view and interaction vision will be developed and reacted upon with a concept that fulfils the desired meaning. The project will be concluded with a physical prototype and/or functional model valuable for insights, testing and presentation.

The Vision in Product design process will be the guideline to construct the future world surrounding mobility. Within the Vision in design process, the gathering of context factors relies on literature study and expert interviews in each area as defined by the domain: Social attitude & conditions, Mobility means & services and Distinction. Expert interviews on mobility means & services will be conducted with future mobility experts and city planners. Research concerning societal attitude & conditions in relation to mobility and transportation will be conducted through literature research and expert interviews of different disciplines.

After two months of research and exploration, I aim to specify how the conceptual product and/or service will interact with the future world, its inhabitants and what meaning it should fulfill. Within this design direction, a phase of ideation will result in a number of concept ideas. Simultaneously, the analysis of the VanMoof position as a brand and its context (i.e. history, identity, competitors etc.) will be conducted and taken into account whenever it is essential to create a concept that coheres with the VanMoof company. A concept will be selected and developed into a physical prototype and/or functional model in order to gather further insights. Depending on A physical prototype and/or functional model is considered valuable for VanMoof for means of presentation and testing.

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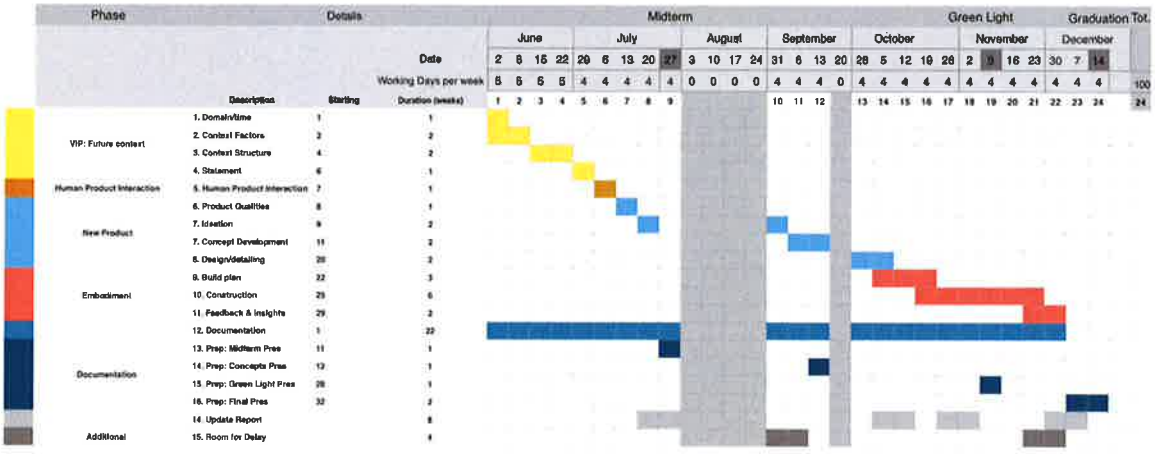
PLANNING AND APPROACH **

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 4 - 5 - 2020 18 - 12 - 2020 end date



The design process will be divided in 4 phases. Each phase being an essential part of the design process. Phase 5 and 6 are continuous activities such as project documentation and presentation.

Vision in Product Design future context development, duration: 5 weeks. Within this phase analysis and research will be concluded into a 'world view' and a 'design statement'. A description of what the future world -with respect to the domain- will look like, and what I would like to change with the design. The design method guiding this phase will be the Vision in Product design method ((4) Hekkert & Van Dijk, 2011)
Human product Interaction, duration: 1 week. Within this phase the desired human-product interaction will be described, often done so with the use of a metaphor. This human-product interaction will be the foundation of the next step: New Product.
New Product, duration: 8 weeks. This phase encompasses the ideation and conceptualisation phase. If necessary, a brief analysis of the company is included within this phase as to design a strategically fitting product. Within this phase lies the Midterm evaluation. The result of this phase will be a selected and detailed concept, a design freeze.
Embodiment, duration: 9 weeks. Starting from the detailed concept design, the embodiment phase is essential to deliver a physical prototype and/or functional model. The phase will be concluded with documentation and reflection in insights gathered during the embodiment process.

Phase 5 is a continuous process to visually communicate and present the design process. Phase 6 is containing a total number of 4 weeks reserved for delay during the process. Due to family matters, August and the last week of September will be held free for work and visiting foreign family.

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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.

This project has my preference over other options because I have had an interest in two-wheelers and mobility ever since. Alongside my studies I have always worked with bicycles and motorcycles, and I would like to combine my practical knowledge and expertise with my skills as a designer. Van Moof seems to me a fine company with great knowledge and a product I consider meaningful, and therefore the right place to finish my studies as an industrial designer.

The past semester I have been active as an intern and employee at Spark design and innovation in Rotterdam. Although it has been a wonderful and meaningful experience, I noticed that I would like to work within a company that develops its own products. I feel that one might acquire greater expertise instead of merely touching upon different projects continuously. The opportunity to work on my graduation project with van Moof will hopefully allow an in-depth experience resulting in expertise in the field of mobility design.

For this project I wanted to expand my skills as a designer by using the Vision in Product design methodology. During my studies at IDE I have used this method once or twice, and although it can be rather complex at times, it does involve aspects in design that I consider important, such as a personal vision as a designer. I believe it is challenging and suitable for this project to work with the ViP methodology because of its capability to guide design processes to understand the future and forces the designer to take responsibility for his/her proposal.

Throughout this graduation project it is a goal to develop a physical prototype. Preferably the thesis is concluded with a 3-dimensional product instead of 2-dimensional product. Not only because a physical prototype provides insights that would not occur with a 2-dimensional end product, but also because I want to become a better designer when it comes to the technical development of a product. This is a competence that I admire and try to broaden continuously with hobby related activities, but did not get enough attention during my studies. It might be ambitious planning to build a prototype while starting with a broad approach. Therefore I choose to fix specific moments when crucial choices have to be made, in order to prevent postponing.

MOTIVATION CHAIR AND MENTOR CHOICE:

For this project, Matthijs van Dijk is approached as Chair (Design Aesthetics department). As the publisher of the Vision in Product design method he has expertise with this holistic design approach. Earlier I have briefly experienced van Dijk with Elective courses, which led to interesting results.

Although coming from the same department (Design Aesthetics), Wouter Kets has different experience in the field of Automotive design. Although this project involves a bicycle manufacturer, the experience seems highly relevant as mobility is no longer a phenomenon merely related to cars. This difference in expertise is the motivation to approach Matthijs van Dijk and Wouter Kets, as they both contribute to the project in unique ways.

FINAL COMMENTS

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

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