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	Chan
initials	M.C.C. given name Megan
student number	
street & no.	
zipcode & city	
country	
phone	
email	
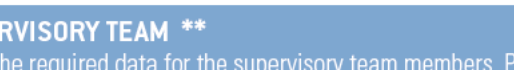
Your master programme (only select the options that apply to you):

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)
(Entrepeneurship)

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

** chair	Valentijn Visch	dept. / section: Design Aesthetics
** mentor	Jasper Faber	dept. / section: Design Aesthetics
2nd mentor		
	organisation: TU Delft	
	city: Delft	country: Netherlands

comments (optional): Jasper Faber and Valentijn Visch both have expertises that are essential for my graduation project. Jasper is expert in the target group (cardiac patients with a low SEP), Valentijn is expert in persuasive game design and motivation.

(!) 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 Valentijn Visch   date 06 - 12 - 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: _____ 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 M.C.C.   Chan   Student number 4555228

Title of Project From the rehabilitation context to daily life - A game for cardiac patients

From the rehabilitation context to daily life - A game for cardiac patients   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   22 - 11 - 2021   20 - 06 - 2022   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, ...).

Every year there are new people suffering from coronary heart deseases. In 2019, more than 75 thousand new patients with an acute mycardial infarct were registered (Volksgezondheid, 2020). A mycardial infarct or other heart failures often has a major impact on people's lives. After an hearth failure, patients suddenly realize that their lives are at stake and that their behavior could be the cause. In the direct weeks after the incident, the most important thing for them is to get healthy again and to be able to return to their normal everyday life.

The patients are refered from the hospital to cardiac rehabilitation centres to recover. Capri in Rotterdam is such a cardiac rehabilitation centre where the patients will start a six-week rehabilitation program. At Capri the patients are the centre of the program and they will be helped with tailor-made care. This because everyone is different and everyone has different lifegoals. They work on fitness, self-confidence and counseling to pick up their social and work life again. Trained supervisors are monitoring everything closely so if something happens, the experts will be there quickly. During those weekly exercises, the patients are getting motivated by the experts, but they also connect with other people who are in the same boat.
Before they know it, the 6 weeks of rehabilitation are over and they have to depend on their own motivation. At first they may seem happy that they finished the training and that they are back on track again. But they soon realize that it is not so easy to continue a healthy lifestyle in their everyday life, resulting in a relapse into old unhealthy lifestyle habits. When looking at other relapse situations with people who wanted to quit smoking, drinking or doing drugs, it can be seen that 76% of the relapse episodes fall into just three categories: Coping with negative emotional states, social pressure and coping with interpersonal conflicts (G.A. Marlatt, 1979). A lot of the prevention strategies for relapses in addiction are very interesting for the daily life context after the cardiac rehabilitation process. In this graduationproject, a persuasive product will be designed in collaboration with Capri Rotterdam, that smoothens the transition from the safe rehabilitation context to the daily life context.

Some eHealth solutions are already available to help people to gain more motivation for a better lifestyle. eHealth solutions are about digital applications in healthcare, that support and improve health and healthcare. However, for people with a low socio-economic position (SEP) such interventions are not accessible and difficult to use. A low socioeconomic position refers to individuals with a low educational achievement and/or low household income. Research has shown that there is an association between a low SEP and poorer health (RIVM, VT) and that shows that a majority of the cardiac patients also have a low SEP (Kaplan, 1993). In this graduation project, the focus lies on the transition of the rehabilitation to the daily life context of all cardiac patients, including the patients with a low SEP. A design intervention can be most valuable for this target group to maintain this healthy lifestyle after rehabilitation, if they match their needs. By researching this context switch with the help of the practioners and patients at Capri Rotterdam, a minimum viable product (MVP) of a design intervention will be cocreated and evaluated.

- Coronaire hartziekten | Cijfers & Context | Huidige situatie | Volksgezondheidenzorg.info. (2020, 28 december). Volksgezondheid. Geraadpleegd op 3 december 2021
- Marlatt, G. A. (1979). the Relapse Process. Behavioral analysis and treatment of substance abuse
- Gezondheidsverschillen | Volksgezondheid Toekomst Verkenning. (2018, juni). Rijksinstituut voor Volksgezondheid en Milieu. Geraadpleegd op 3 december 2021, van https://www.vtv2018.nl/gezondheidsverschillen
- Kaplan, G. A., & Keil, J. E. (1993). Socioeconomic factors and cardiovascular disease: a review of the literature. Circulation, 88(4), 1973-1998.

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Initials & Name   M.C.C.   Chan   Student number   4555228

Title of Project   From the rehabilitation context to daily life - A game for cardiac patients
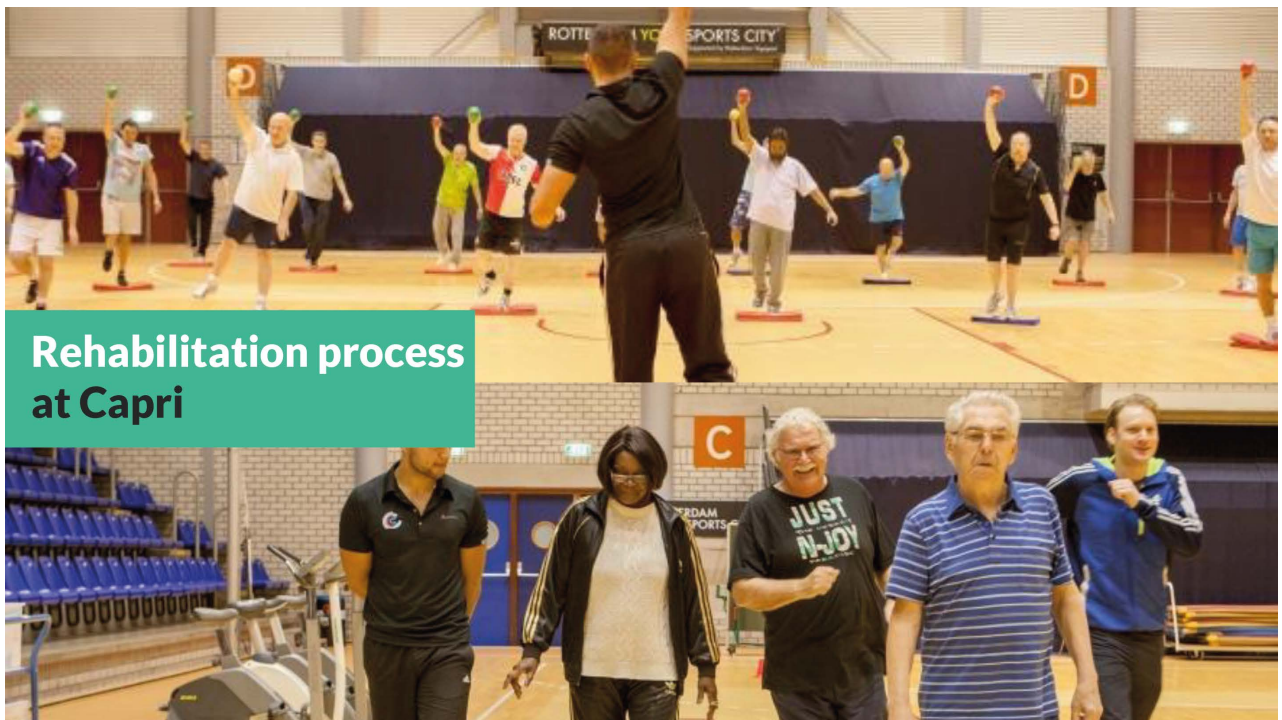
Rehabilitation process at Capri

image / figure 1:   Focus on the transition from the rehabilitation process to the daily life context

image / figure 2:   Cardiac rehabilitation in the Capri sports hall

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.
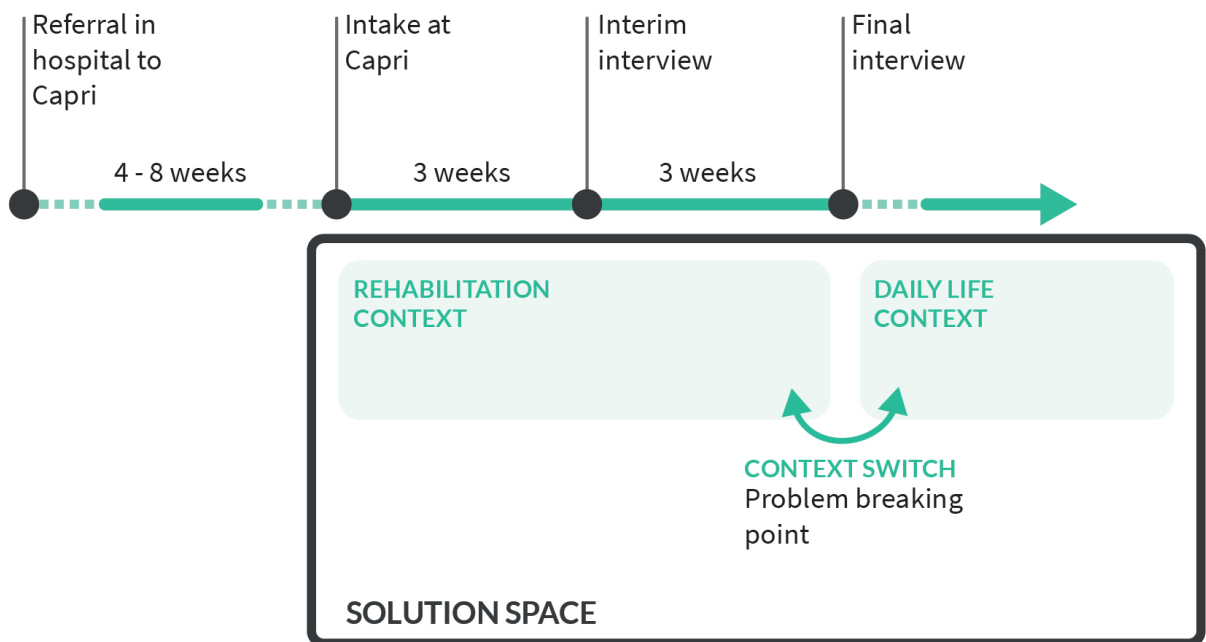
The biggest thing, that the cardiac patients want is to be able to do the normal things in their daily life again. When the rehabilitation training starts they meet people that experience the same thing and are working towards the same goal. Every week they are guided and complimented by the sports experts which gives a boost to their selfconfidence.

With the training, Capri employees help the patients overcome the barriers that they faced, such as taking responsibility, keeping up the motivation and feeling insecure. Other barriers, such as the lack of digital skills or social influence are also taken into account with the training. It is a great way to include every patient and give them the personal guidance they need.

However, when the rehabilitation period ends, they have to maintain this motivation themselves. Due to the sudden change of context, they lose the structure they had in recent weeks and they fall back into old unhealthy lifestyle patterns. It is easy to start smoking again with your partner or to pick going to the pub with your friends above working out. The previous barriers are slowly being reinforced again and this time the patient doesn't have the help of Capri's rehabilitation training to overcome them.

This design project adresses the loss of positive feedback, accessible information and social support that the patients experienced at the Capri rehabilitation training. The transition from these two contexts should be smoother, allowing patients to continue their physical activity and healthy lifestyle on their own. In the figure above, this breaking point in the context switch is visualised. In this graduation project this problem will be adressed in the given solution space within the rehabilitation training at Capri.

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.

During this project, several persuasive gaming techniques will be analysed and tested with cardiac patients to uncover their drivers and barriers to maintain a healthy lifestyle. A minimum viable product will be designed that helps the target group stay motivated during the transition from the rehabilitation context to daily life.

To gain more insights about the target group a user study will be done in collaboration with the PhD project of Jasper. With the data of the interviews and observations an analysis will be done and a design direction will be formulated. The following research questions should be answered: 1) What are the drivers and barriers of cardiac patients to maintain a healthier lifestyle after the cardiac rehabilitation? 2) What are the drivers and barriers of cardiac patients to fall back into previous unhealthy lifestyle?

To get more grip on the context switch, some extra interviews should be done with patients that just finished their rehabilitation training at Capri. The next research question should be answered: 3) What is the best phase in the user journey for an intervention and is this the same for everyone?

Next to that, it is important to reach and motivate the target group with the persuasive design. Talking to experts who are experienced in this can help to get more knowledge about this. Furthermore, a study on persuasive gaming methods should be done to answer the research question: What persuasive game elements match with the motivations and needs of people with a low SEP?

As a result of this graduation project a minimum viable product will be tested, designed and evaluated. This design can serve as a base for future interventions or for inspiration in this design field.
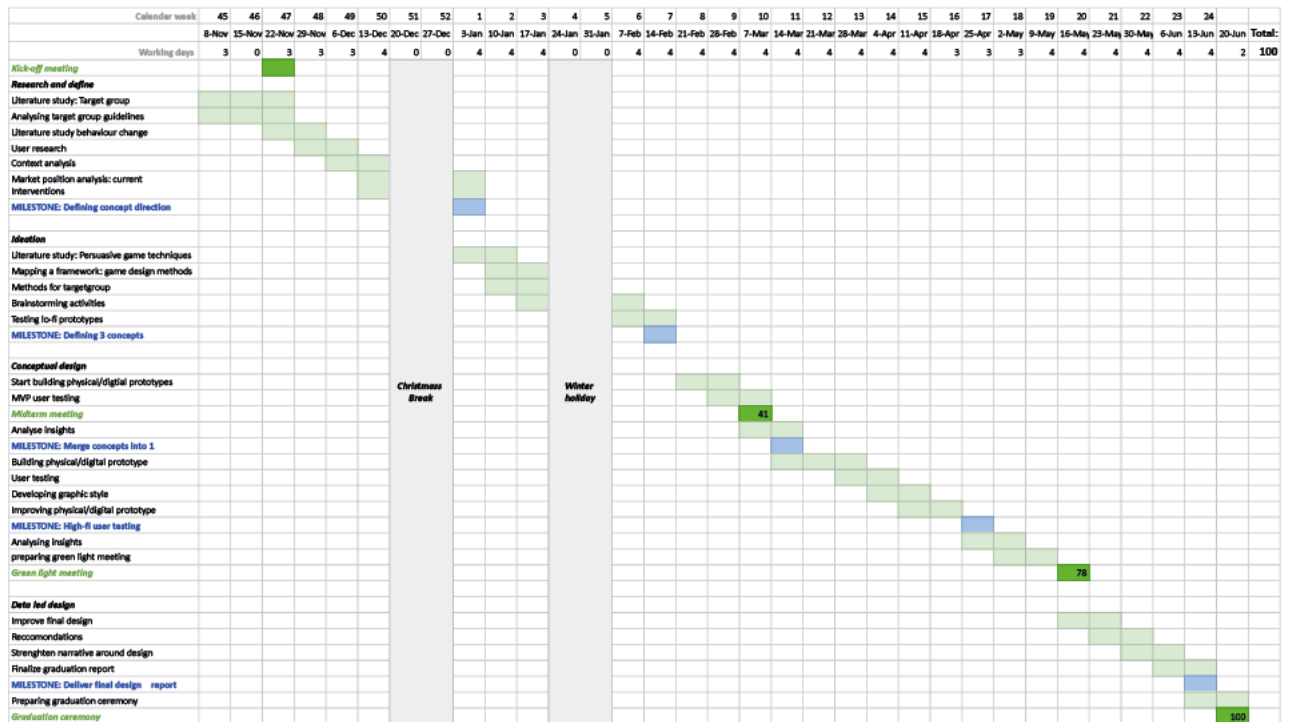
Initials & Name ___M.C.C.___ Chan_____   Student number __4555228__

Title of Project ___From the rehabilitation context to daily life - A game for cardiac patients_____

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   22 - 11 - 2021   20 - 6 - 2022   end date

Gantt chart with the following activities:

- Kick-off meeting
- Research and define
  - Literature study: Target group
  - Analysing target group guidelines
  - Literature study behaviour change
  - User research
  - Context analysis
  - Market position analysis: current interventions
  - MILESTONE: Defining concept direction
- Ideation
  - Literature study: Persuasive game techniques
  - Mapping a framework: game design methods
  - Methods for targetgroup
  - Brainstorming activities
  - Testing lo-fi prototypes
  - MILESTONE: Defining 3 concepts
- Conceptual design
  - Start building physical/digtial prototypes
  - MVP user testing
  - Midterm meeting
  - Analyse insights
  - MILESTONE: Merge concepts into 1
  - Building physical/digital prototype
  - User testing
  - Developing graphic style
  - Improving physical/digital prototype
  - MILESTONE: High-fi user testing
  - Analysing insights
  - preparing green light meeting
  - Green light meeting
- Deta led design
  - Improve final design
  - Reccomondations
  - Strenghten narrative around design
  - Finalize graduation report
  - MILESTONE: Deliver final design   report
  - Preparing graduation ceremony
  - Graduation ceremony

Christmass Break and Winter holiday periods indicated.

Initials & Name   M.C.C.   Chan   Student number 4555228

Title of Project   From the rehabilitation context to daily life - A game for cardiac patients

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.

FINAL COMMENTS

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

Initials & Name   M.C.C.   Chan   Student number   4555228

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