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: Sun 5904
initials: H. given name: Hanchu
student number:
street & no.:
zipcode & city:
country:
phone:
email:

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: Gerd Kortuem dept. / section: SDE / IoT
** mentor: Roy Bendor dept. / section: HCD / DCC
2nd mentor:
organisation:
city: country:

comments (optional)

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 Gerd Kortuem date 13 Sept 2022 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: 35 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 C. van der Bunt date 16 - 09 - 2022 signature C. van der Bunt Digitally signed by C. van der Bunt Date: 2022.09.16 10:14:20 +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 20 - 09 - 2022 signature

Initials & Name H.Sun Student number 5126886

Title of Project Design a more effective and meaningful public sensor registry for the city of Amsterdam

Design a more effective and meaningful public sensor registry for the city of Amsterdam — 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 29 - 08 - 2022 — 29 - 01 - 2023 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, ...).

In the last two decades, closed-circuit television (CCTV) surveillance cameras have come to occupy a central role in contemporary crime prevention across the world (Thomas et al., 2021). Despite the benefits we gain from public CCTVs in terms of ensuring public security (see Piza et al., 2019; Thomas et al., 2021; Vigne et al., 2011), the debate between proponents of public security and advocates of citizen privacy has become heated as more and more surveillance cameras are being installed in cities' public spaces (Goold, 2018; Rapp, 2013). In the city of Amsterdam, there are increasing concerns about the privacy infringement caused by public CCTVs from different voices such as the city government (Gemeente Amsterdam, 2022a), citizens (Ferri et al., 2018), and academia (Groot, 2019; Jameson et al., 2019). According to Jameson et al. (2019), Amsterdam citizens were reported to have a general feeling of uncertainty towards the city's CCTV surveillance system, while some of them have expressed their concerns regarding the opacity of surveillance, largely based on considerations of who and how to trust (Ferri et al., 2018). On the other hand, it is unknown to what degree the citizens are aware of how pervasive the cameras are distributed around them, and how their personal data might be misused.

To address the relevant issues and concerns, the municipality of Amsterdam has made efforts to get public surveillance cameras more regulated. Amsterdam is the first city in the Netherlands that introduced a notification obligation for sensors in public spaces, which requires organizations that currently own public sensors to register the sensor information with the municipality (Gemeente Amsterdam, 2022a). For each public sensor, its overview information, such as location, owner, and the purpose of installation, will be registered and integrated into an online Sensors Register Map (Gemeente Amsterdam, 2022b). According to an interview with the privacy officer in public monitoring earlier this year, the municipality of Amsterdam is currently focusing on getting those commercial sensors registered since the data of commercial cameras is quite incomplete in the current sensor map. The cameras owned by companies can give rise to many ethical questions due to their ability to predict citizens' gender, sexual preference, emotional state, and socioeconomic status over time (Nieuwenhuis, 2022). The typical examples of commercial cameras include store-front cameras, billboard sensors, as well as those mobile ANPR (automatic number plate recognition) cameras that are able to scan car plate numbers and find the car's owner from a searchable database (Dreijer, 2022). In addition to the sensor registry system, two teams (AI team and Computer Vision team) within the municipality have been discussing the potential of using machine vision techniques to detect public cameras from the large image database they collected (mostly street-view images). Their current goal is to add new cameras to the online sensor map, given the fact that the map itself is quite incomplete at present, especially lacking the data of commercial cameras (Sukel, 2022; Dreijer, 2022). It is worth mentioning that neither of the two initiatives (i.e., sensors register map and machine vision application) has gone further than the bigger idea of a public sensor registry.

The Link to the Reference List:
https://docs.google.com/document/d/1C-TSqVnhYfvgtJLscVlzY5kJXb4ueTnMfA9VhbNHYc4/edit?usp=sharing

space available for images / figures on next page

introduction (continued): space for images

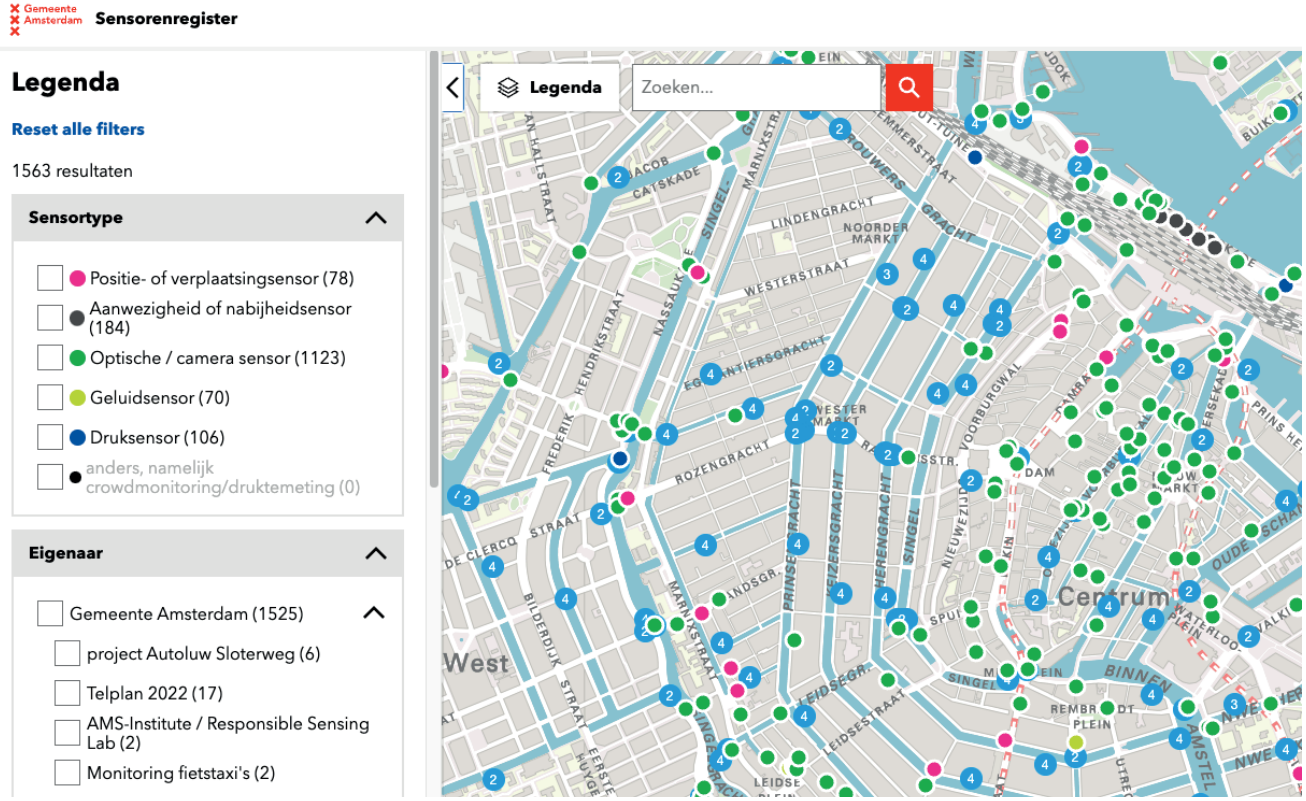


image / figure 1: Online Sensor Map: initiated by the Municipality of Amsterdam

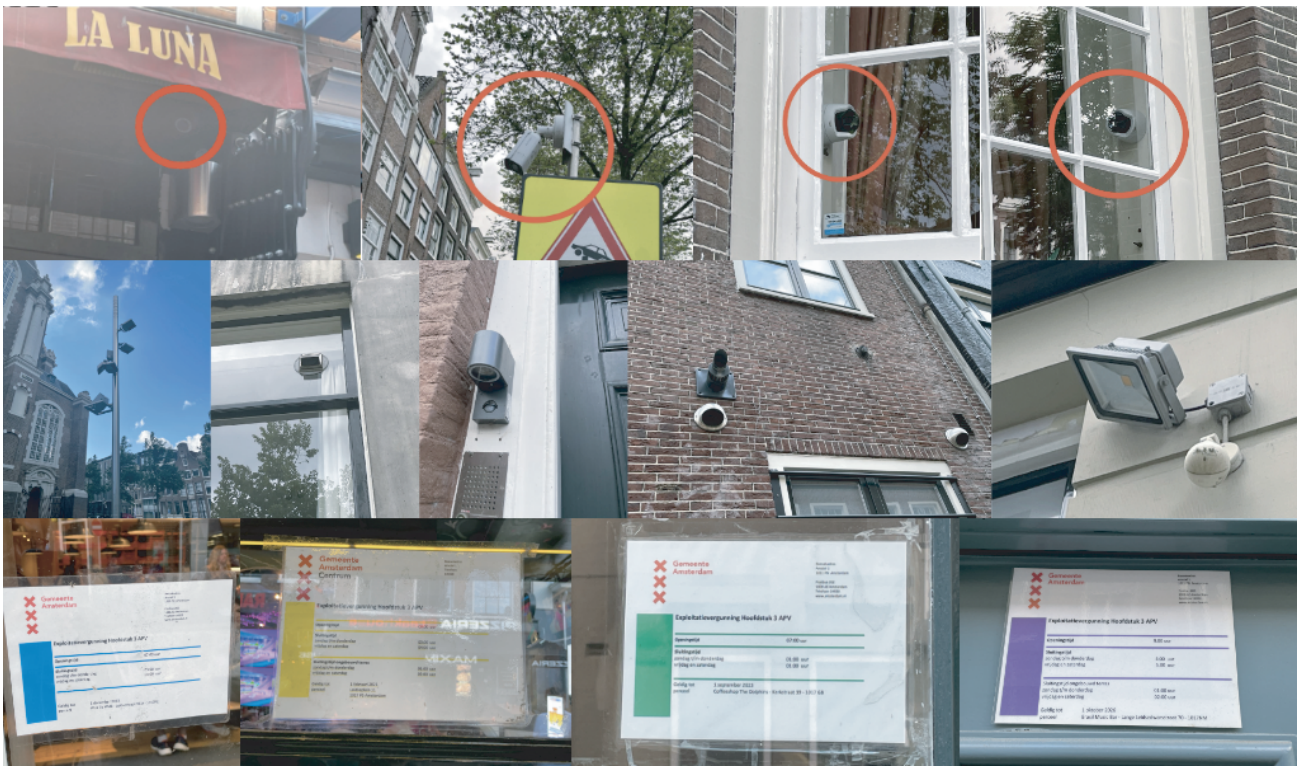


image / figure 2: Photo Collage from my Primary Investigation

Initials & Name H.Sun Student number 5126886

Title of Project Design a more effective and meaningful public sensor registry for the city of Amsterdam

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.

Although we see the municipality of Amsterdam is making an effort, we have grounds to doubt whether the current sensor registry is effective or not. Based on my primary investigation and earlier interviews, three problems have been identified regarding the current initiative of the public sensor registry. First, the online sensor map is quite incomplete at present, especially lacking data on commercial cameras (e.g., storefront cameras, cameras installed on billboards, etc.). This shortcoming makes the sensor registry ineffective since commercial cameras take up a large proportion of public cameras across the whole city. Second, there is a gap between the municipality's proposal and implementation. A good example is that only a small number of shops have registered their cameras on the online sensor map, despite the fact that many other shops have also handed in their sensor register form to the municipality via the online website. Third, the whole registration process is primarily concerned with legal compliance, providing very limited space for citizens to play a role. This shortcoming makes the whole idea of a sensor registry less effective as the intention of this initiative was more or less related to creating public transparency, which makes no sense if citizens are not informed of such an initiative or don't play a role in the process.

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.

My graduation project aims to design a more effective and meaningful public sensor registry for the city of Amsterdam. The main outcome of this project is expected to be a new sensor registry platform. Besides, an additional outcome could be a few recommendations to other cities on how a sensor registry could be made.

The assignment consists of four parts, which is described below:

First, I need to analyze the existing sensor registry system and figure out what the pain points are.

Second, I will conduct interviews with stakeholders (e.g., citizens, shop owners, municipality workers, etc.) to gain insights into their motivation, rights and legitimate concerns.

Third, I want to build a few use scenarios in which I am going to define how people are going to use this sensor registry, and each use scenario can lead to a different set of ideas and prototypes.

Last, I will build a prototype based on the selected concept and go through the process of testing or validation.

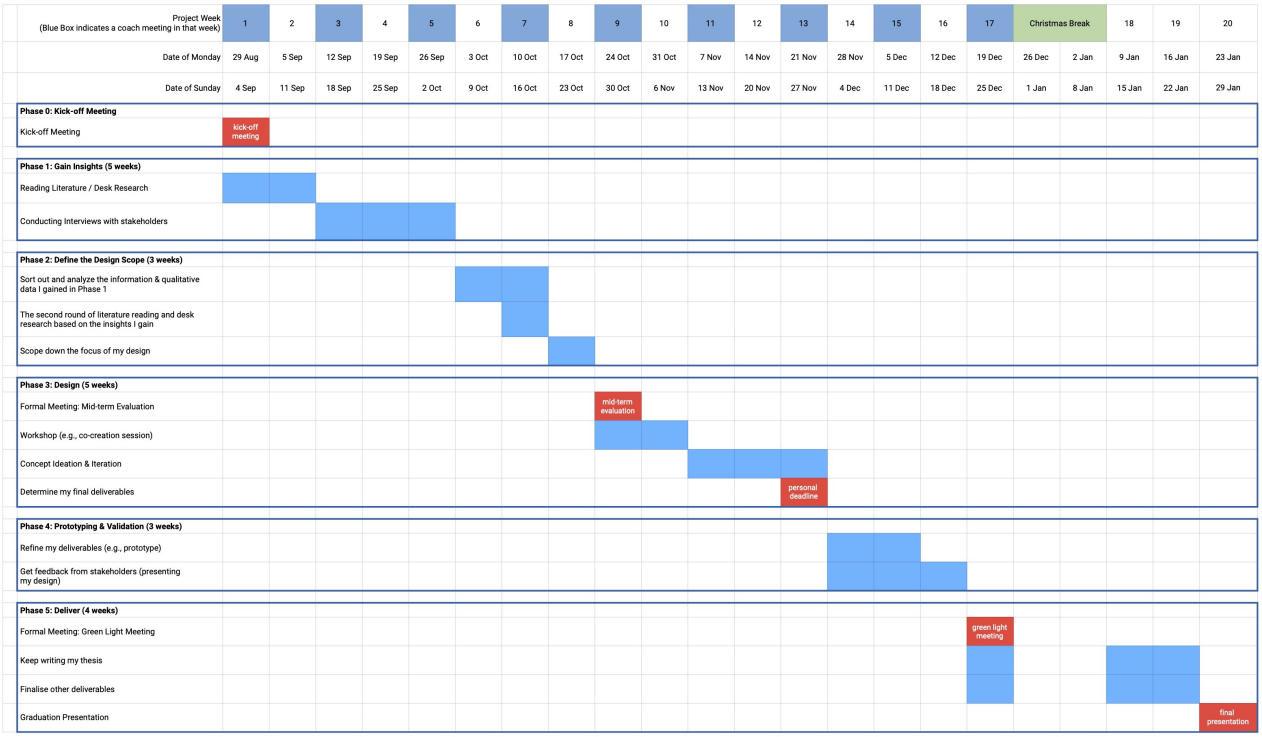
Initials & Name H.Sun Student number 5126886

Title of Project Design a more effective and meaningful public sensor registry for the city of Amsterdam

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 29 - 08 - 2022 29 - 01 - 2023 end date



The Link to My Graduation Timeline:

https://docs.google.com/spreadsheets/d/145gdHEux2Gf15gjQSkhLSb5BTA5p2u5U18qgmkiOWrg/edit?usp=sharing

Phase 0: Kick-off - Kick-off Meeting (2022-08-29)

Phase 1: Gain Insights (5 Weeks) Week 1 - Week 5 (Aug. 29th to Oct. 2nd)

(1) *Literature Reading / Desk Research* related to several topics, including: (i) the general culture & technology related to public surveillance; (ii) how to design a digital platform which can effectively involve citizens; (iii) the potential technology that can be used for design; (iv) public's opinion towards sensor registry (e.g., online forum).

(2) *Conduct Interviews* with stakeholders, including: (i) Amsterdam citizens (or Dutch citizens); (ii) initiators and experts within the municipality of Amsterdam; (iii) shop owners, companies, etc., (iv) Others who have an interest in sensor registry.

Phase 2: Define the Design Scope (3 Weeks) Week 6 - Week 8 (Oct. 3rd to Oct. 23th)

(1) Sort out and analyze the information & qualitative data I gained in Phase 1

(2) The second round of literature reading and desk research based on the insights I gain

(3) Scope down the focus of my design

Phase 3: Design (5 Weeks) Week 9 - Week 13 (Oct. 24th to Nov. 27th)

(1) Formal Meeting: Mid-term Evaluation; (2) Workshop (e.g., co-creation session); (3) Concept Ideation & Iteration; (4) Determine my final deliverables

Phase 4: Prototyping & Validation (3 Weeks) Week 14 - Week 16 (Nov. 28th to Dec. 18th)

(1) Refine my deliverables (e.g., prototype); (2) Get feedback from stakeholders (presenting my design)

Phase 5: Deliver (4 weeks) Week 17 - Week 20 (Dec. 19th to Jan. 29th)

(1) Formal Meeting: Green Light Meeting; (2) Keep writing my thesis; (3) Finalise other deliverables; (4) Graduation Presentation

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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.

A deeper understanding of design for society

I see my graduation project as a great opportunity to gain some knowledge related to social design. This project allows me to get a better understanding of many topics, such as citizen participation, civic media, policy-making, etc. As I have read a few books related to social design, the case studies presented in those books are easy to understand but very difficult to really understand their complexity. The public camera system is a great case for me to study as everyone knows it, but the problems are by nature very complex when it comes to the city and its citizens.

Get inspiration from my supervisors and other mates

The difference between reading books and having a project with two supervisors is that I can always exchange my thoughts with my supervisors and get their feedback. This is ultimately important since I strongly believe that “getting inspired” is the most essential thing for my education. This is also good for my mental health as If I stay open-minded all the time, then the whole world becomes my library.

FINAL COMMENTS

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

Initials & Name H.Sun Student number 5126886

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