

AMSTERDAM SCAN CAR

FEATURE REPORT



TEAM SPOT

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INTRODUCTION

Who are we?

01

Students of



Master Digital Design



Laura Zaar

- 28 years old
- Study: Bachelor in Design
- Expertise: Design Thinking, UX design
- Hobbies: Playing and listening to music, indie cinema



Robin Ansems

- 23 years old
- Study: HvA Communication and Multimedia Design
- Expertise: Identity branding and UX/UI-design
- Hobbies: Football, sports, gaming and music



Romar van Tongeren

- 23 years old
- Study: HU Communication and Multimedia Design
- Expertise: Visual design, design processes and brand identities
- Hobbies: Hip-hop music, fitness and Esports



Keyhan Hassani

- 36 years old
- Study: Interior Architecture & Industrial Design
- Expertise: Architectural- Product- and Graphic Design
- Hobbies: Hiking, watching documentaries and football

THE DESIGN BRIEF

What was our objective?

02

[...]Design a number of **prototype solutions** or accompanying **guidelines** for the live communication of what a scan car does and how that relates to human values. [...]

[...] Ideally, a selection of your prototypes or guidelines will be used for further experimental research in the **scan car pilot in Amsterdam during 2023-2024.**

DESIGN CHALLENGE

What was our goal?

03

How can we make Amsterdam citizens **notice and understand** the function of a passing scan car by its communication?

Our goal was to find different ways of communication through car features

How can a citizen understand the actions of a passing scan car when they only have a few seconds to observe it?

And what ways of communication would citizens like to see on the scan car. Text? LED-screens? Light? Sound?

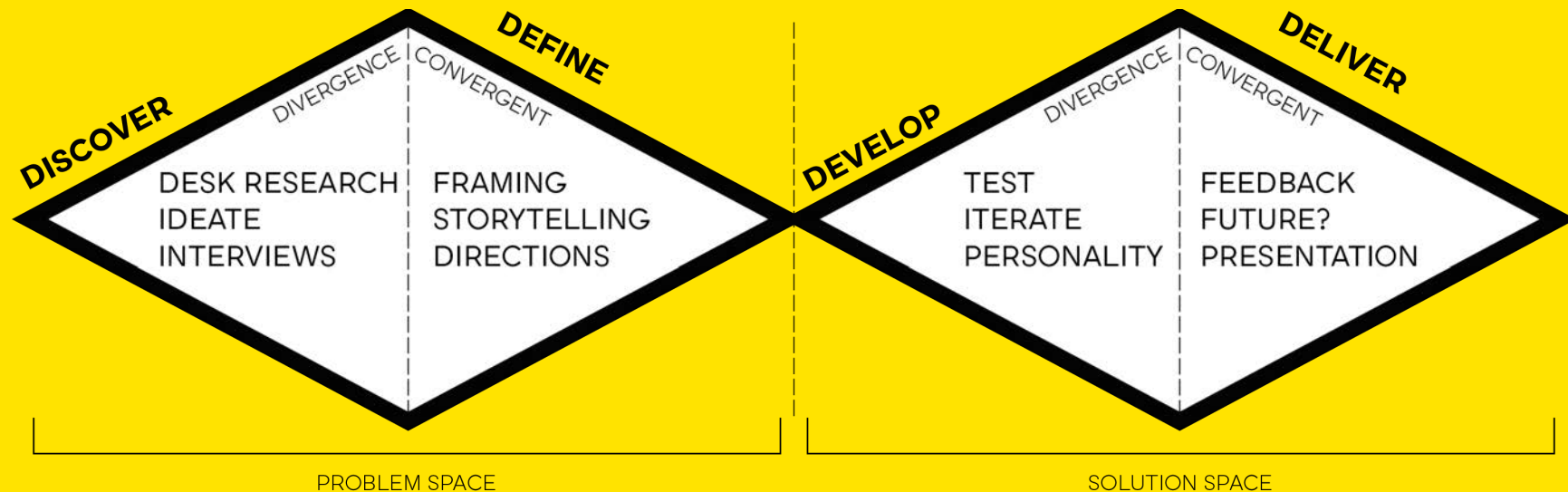
BRAINSTORM

Creating our first ideas

04

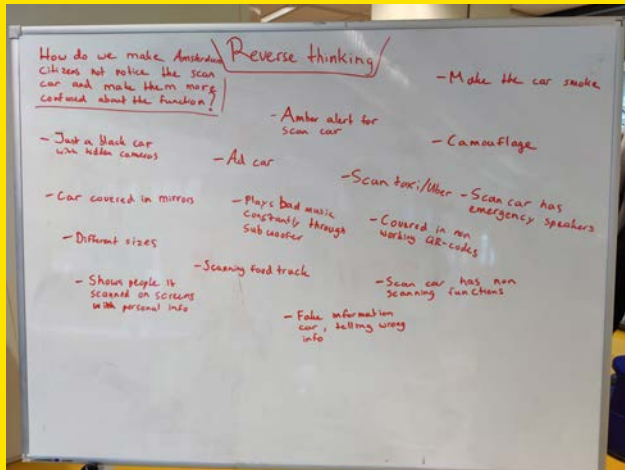
The designbrief asked us to start with brainstorming and figure out which direction to take.

We used the Double Diamond method by the UK Design Council (2005)

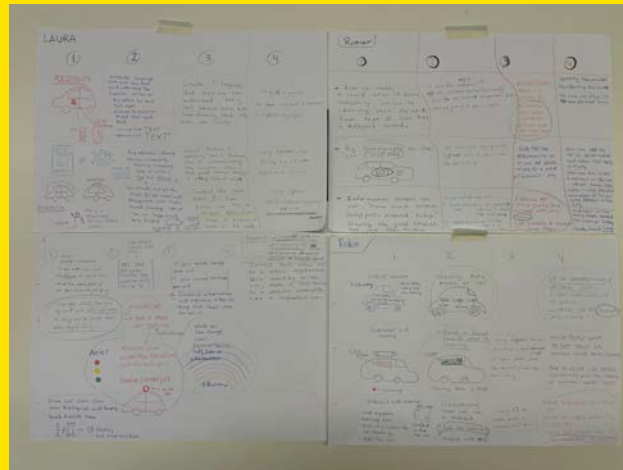


Our brainstorming was based on 3 tools:

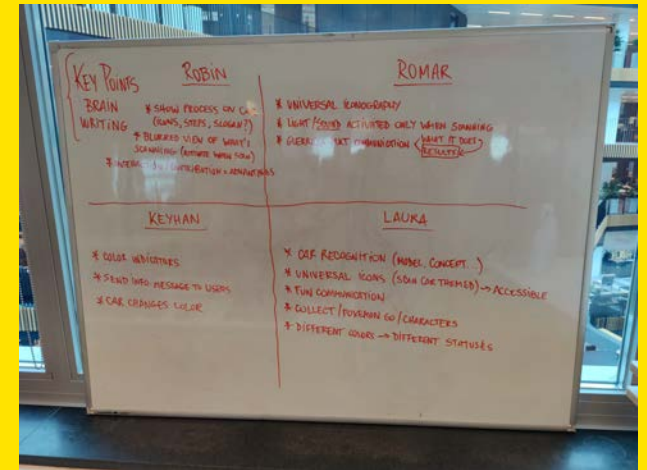
Reverse thinking



Brainwriting



Key points



3 concepts came out of brainstorming

Scan car Sound language

- a. Expressing what it is doing but with sound instead of visuals
- b. Current status (Indicators?) On / Off / Stand-by

Universal Iconography on scan car

- a. One language for all the cars, showing different functions
- b. Accessible for everyone

Characterizing the scan car

- a. Making it feel more human
- b. Gamification? Collectible (Pokemon Go)?

Before diving into creation, we needed people's input about the scan car itself. **Would these concepts make sense?**



STREET INTERVIEWS

Talking to real Amsterdammers

05

Do people have an **opinion** on Amsterdam scan cars?

Do they have an **understanding** of its function?

OUR GOAL

WE SPOKE TO
18 PEOPLE of which
16 AMSTERDAMMERS

Oosterpark Amsterdam



We asked them:

**Have you seen this car drive
around Amsterdam?**



Follow-up questions

Can you tell what the car is **doing**?

Do you have any **opinion** on this car? Do you **care** or not?

Do you think this car impacts your **privacy** in any way?

General info

Location: Oosterpark Amsterdam

Sample size: 18 people

Age range: 19-82

Average age: 34

Awareness

13 out of **18** (72%)

have seen the scan car drive through Amsterdam

Understanding

12 out of **18** (66%)

think they know what
the scan car is doing

Actual understanding

9 out of **18** (50%)

actually know what
the scan car is doing

Interest

4 out of **18** (22%)

care what the scan car is doing

Privacy

4 out of **18** (22%)

have **privacy concerns** regarding the scan car

Concern

2 out of **18** (11%)

have a **negative opinion** on the scan car driving through Amsterdam

Quotes

“The scan car makes sure that people who park illegal get a fine, which is **fair to the people who do abide the rules.**”

“I feel like it is a bit of a **balance** between freedom and security.”

“It looks like some sort of **authority** going around the city like handhaving.”

Quotes

“I **block my license plate** with leafs because the scan car won't take any action about incorrect number plates.”

“The scan car is the **least of my concerns**, the cameras on my phone are on 24/7.”

“I thought the car was a **Google Maps Car** and it was **scanning everything** around.”

Conclusion

Our research indicates that most people recognize the Amsterdam scan car, but only half of those actually know what it does.

Besides understanding how Amsterdammers perceive the scan car, we also gathered more **in-depth feedback** on our ideas to work on communication.



ACADEMIC RESEARCH

In depth validation

06

Why is the general public **concerned about their privacy** but doing little or nothing in order to protect it?

Privacy Paradox

Difference on people's intent to protect their privacy and the actions taken to ensure it

Possible causes: apathy, lack of control, behavioural change, heuristics, manipulation, framing, etc

Sources: [Barnes \(2006\)](#); [Barth & de Jong \(2017\)](#); [Hargittai & Marwick \(2016\)](#)

Home / Archives / Volume 11, Number 9 — 4 September 2006 / Articles

A privacy paradox: Social networking in the United States

Susan B. Barnes

DOI: <https://doi.org/10.5210/fm.v11i9.1394>

Published 2006-09-04

How to Cite
Barnes, S. B. (2006). A privacy paradox: Social networking in the United States. *First Monday*, 11(9). <https://doi.org/10.5210/fm.v11i9.1394>

Abstract

Teenagers will freely give up personal information to join social networks on the Internet. Afterwards, they are surprised when their parents read their journals. Communities are outraged by the personal information posted by young people online and colleges keep track of student activities on and off campus. The posting of personal information by teens and students has consequences. This article will discuss the uproar over privacy issues in social networks by describing a privacy paradox: private versus public space; and, social networking privacy issues. It will finally discuss proposed privacy solutions and steps that can be taken to help resolve the privacy paradox.

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The privacy paradox – Investigating discrepancies between expressed privacy concerns and actual online behavior – A systematic literature review

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ABSTRACT

Also known as the privacy paradox, recent research on online behavior has revealed discrepancies between user attitude and their actual behavior. More specifically: While users claim to be very concerned about their privacy, they nevertheless undertake very little to protect their personal data. This systematic literature review explores the different theories on the phenomenon known as the privacy paradox.

Drawing on a sample of 32 full papers that explore 35 theories in total, we determined that a user's decision-making process as it pertains to the willingness to divulge privacy information is generally driven by two considerations: (1) risk-benefit evaluation and (2) risk assessment deemed to be none or negligible. By classifying in accordance with these two considerations, we have compiled a comprehensive model using all the variables mentioned in the discussed papers. The overall findings of the systematic literature review will

International Journal of Communication 10(2016), 3737–3757 1932-8036/20160005

“What Can I Really Do?” Explaining the Privacy Paradox with Online Apathy

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Fordham University, New York, USA

Based on focus group interviews, we considered how young adults' attitudes about privacy can be reconciled with their online behavior. The “privacy paradox” suggests that young people claim to care about privacy while simultaneously providing a great deal of personal information through social media. Our interviews revealed that young adults do understand and care about the potential risks associated with disclosing information online and engage in at least some privacy-protective behaviors on social media. However, they feel that once information is shared, it is ultimately out of their control. They attribute this to the opaque practices of institutions, the technological affordances of social media, and the concept of networked privacy, which acknowledges that individuals exist in social contexts where others can and do violate their privacy.

Keywords: focus groups, Internet skills, networked privacy, online apathy, privacy, privacy paradox, young adults

While many Americans claim to be concerned about privacy (Madden & Rainie, 2015), their

With that, our project shifted its focus from people's sense of privacy whenever a scan car drives by...

to reassuring its function is communicated in an understandable way.

After all, we do not fear what we know :)

SCAN CAR PROTOTYPE

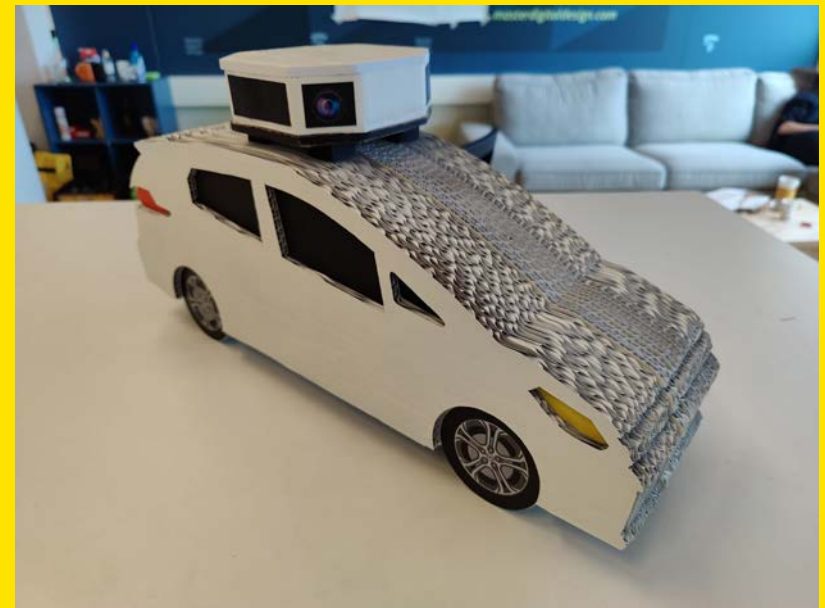
Testing our ideas and gathering insights

07

To test our ideas we build a prototype



Our scan car model



Prototype with features



With the car model prototype and features we could test out our ideas for communication, and gather in-depth feedback from Amsterdam citizens.

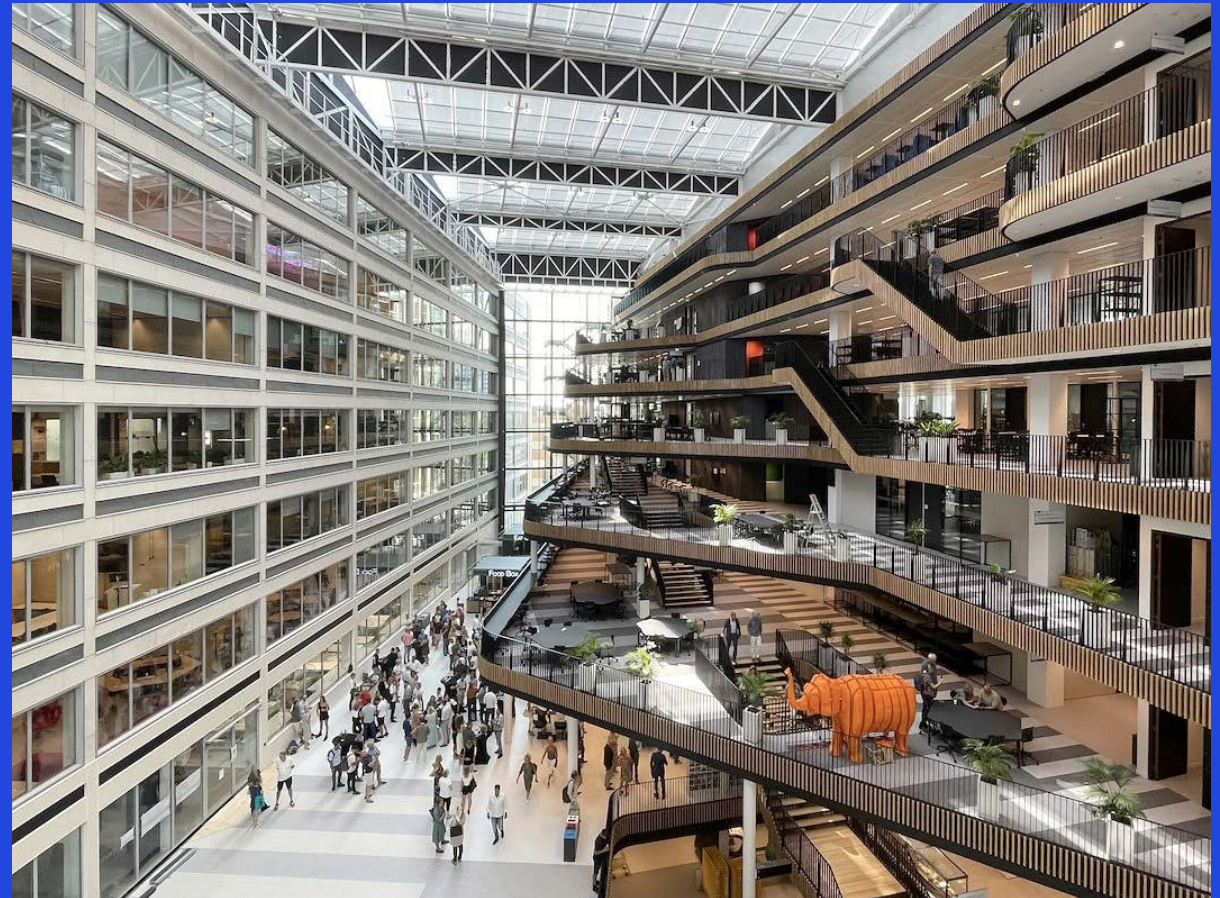
FIRST PROTOTYPE TEST

Testing with Amsterdammers

08

WE SPOKE TO 9 PEOPLE

Jakoba Mulderhuis



Testing at Jakoba Mulderhuis



Let's see which features got picked the most.



General info

Location: Jakoba Mulderhuis Amsterdam

Sample size: 9 people

Age range: 20-69

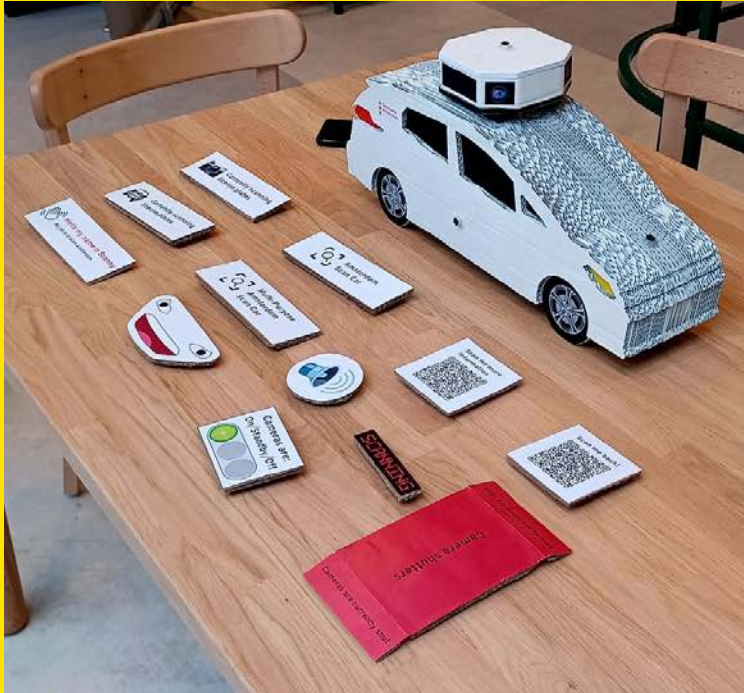
Average age: 31

Amsterdam citizens: 3/9

Test script

1. We asked people if they wanted to help us design a car.
2. We asked them if they have seen the scan car drive around Amsterdam, and if they know what it is doing.
3. To gain insights on people's communication preferences, we introduced our car model prototype and asked them to think aloud while choosing magnetized features for on the car.
4. We told participants about the possibility of future scan cars with additional functions, other than only scanning license plates.
5. We asked them to redesign the car if they would like to based on this information.

Magnetized features options



Scan for more information

Scan me back!

Cameras are currently shut

Camera shutters

Cameras are currently shut

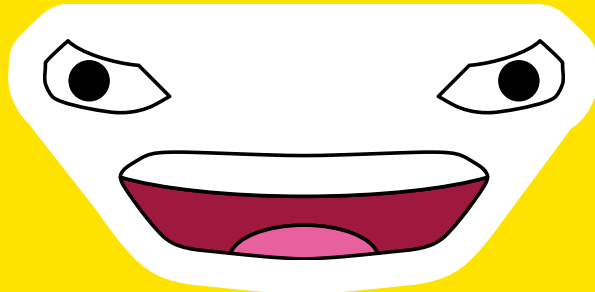
Currently scanning license plates

Currently scanning license plates

Hello, I am Scanny
My job is to scan Amsterdam

Amsterdam Scan car

Multi-Purpose Amsterdam Scan car



Cameras are: On/Stanby/Off



“Currently scanning license plates” + car icon

6 out of **9** (66%)

“Scan for more information” QR Code

4 out of **9** (44%)

“Scanning” LED bar

4 out of **9** (44%)

Camera status lights (on/off/standby)

3 out of **9** (33%)

“Currently scanning license plates” + camera emoji

2 out of **9** (22%)

“Hello, my name is Scanny”

2 out of **9** (22%)

“Amsterdam scan car”

1 out of **9** (11%)

Anthropomorphic face

1 out of **9** (11%)

Quotes

“Emoji’s doesn’t fit to the branding of the municipality. Change smiley face, it should be more welcoming and pleasant.”

“Change the text on the light indicator and watch out with green, orange, red lights, it could be a traffic hazard, but it is visually pleasant and instantly noticeable. I like it!”

“I am against undefined purpose with cameras unless well communicated. I am against generic surveillance vehicles, if it were a car just for trash, it would have another connotation.”

“If the car would have more functions you should inform that it is still scanning license plates. But I would rather have more functions on a car than just one in a single vehicle.”

PROTOTYPE ITERATION

Applying our testing insights

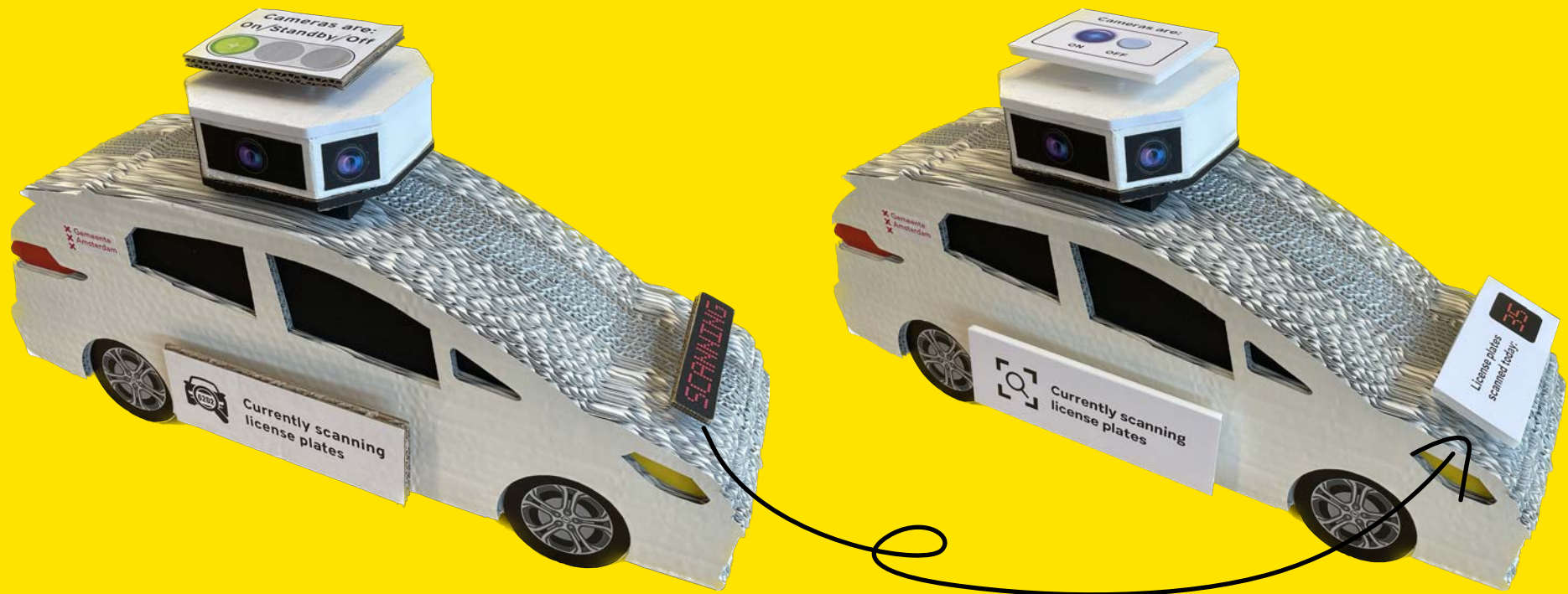
09

Upgrading the features

To make it look more professional we crafted the features out of foamboard instead of cardboard.



Upgraded communication features for a more professional look



A1 features kit

To enhance the interactivity and engagement of our prototype.



Providing explanations and an overview of the features.

Second version of the prototype



The A1 features kit, with upgraded and newly added features, based on insights, creates a more user-friendly conversational tool.



SECOND TEST

Validating our iteration

10

WE SPOKE TO 4 PEOPLE

Wibauthuis



General info

Location: Wibauthuis Amsterdam

Sample size: 4 people

Age range: 21-36

Average age: 25

Amsterdam citizens: 4/4


Test script

- 1.** We asked people if they wanted to help us design a car.
- 2.** We asked them if they have seen the scan car drive around Amsterdam, and if they know what it is doing.
- 3.** To gain insights on people's communication preferences, we introduced our car model prototype and asked them to think aloud while choosing magnetized features from the A1 features kit for on the car.
- 4.** We told participants about the possibility of future scan cars with additional functions, other than only scanning license plates.
- 5.** We asked them to redesign the car if they would like to based on this information.


Magnetized features options



Scan for more information




Scan me back!

Currently scanning license plates




Amsterdam Scan car




Currently scanning license plates



Amsterdam Scan car




Hello, I am Scanny
My job is to scan Amsterdam



Hello, I am Scanny
My job is to scan license plates

License plates scanned today:



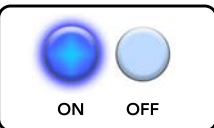


Scan sound

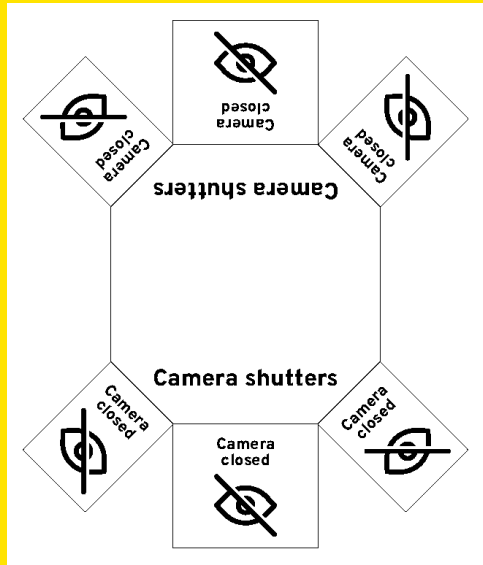


Hello, I am Scanny

Cameras are:



ON OFF



Second test after features iteration



Let's see which features got picked the most.



“Currently scanning license plates” + car icon

3 out of **4** (75%)

“Scan for more information” QR code

1 out of **4** (25%)

“Scan me back” QR code

1 out of **4** (25%)

“Scanning ...” LED bar

1 out of **4** (25%)

LED number counter

1 out of **4** (25%)

Light indicator

1 out of **4** (25%)

“Hello, my name is Scanny, my job is to scan license plates””

2 out of **4** (50%)

Camera shutters

2 out of **4** (50%)

Quotes

”It tells “I am here for this, not to scan other things”

”Where is the limit of scanning versus privacy? But again, if it’s focused on objects, not persons, there’s a big difference”

“Camera shutters and light indicators add privacy and you feel like you are not being followed”

”I like the garbage [scanning] because sometimes you forget if you paid [parking ticket]”

“There’s people who think it’s AI scanning their faces”

“They shouldn’t throw in functions to try it, unless they have a good reason to”

”It would be better for the Gemeente to have one general car than cars with different functions”

INSIGHTS

Concluding our research



Outcome of the street interview

- A street interview was conducted with 18 individuals in Oosterpark Amsterdam.
- 16 out of 18 participants were Amsterdammers.
- 72% of participants were aware of the Amsterdam Scan Cars.
- 66% claimed to understand what the scan car is doing.
- 50% had a proper understanding of its purpose.
- Only 22% of participants showed any level of interest or concern about the scan car.
- Just 22% expressed privacy concerns regarding the scan car's potential impact on their privacy.
- Only 11% of the participants had a negative opinion about the scan car.

Outcome of the street interview

Conclusion

The interview revealed that while there is some awareness about the scan car driving through Amsterdam, there is a lack of understanding of its purpose and minimal interest or concern about its impact on privacy. However, very few individuals expressed negative opinions about the scan car.



Outcome of the initial prototype test

- An initial prototype test was conducted at Jakoba Mulderhuis Amsterdam.
- Participants were provided with various features for the Amsterdam Scan Car and asked to indicate their preference.
- The sample size was 9 people, including 3 Amsterdam citizens, with an age range of 20-69 and an average age of 31.
- The feature that received the most interest from the participants was the Amsterdam Scan Car currently scanning license plates, with 6 out of 9 participants (66%) selecting the feature with a car icon to represent this functionality.
- The QR-code feature and the SCANNING LED-bar feature were chosen by 4 out of 9 participants (44%).
- Only 2 out of 9 participants (22%) selected the feature that indicated license plates were being scanned with a camera emoji.

Outcome of the initial prototype test

- The participants demonstrated less interest in the branding or identity features of the Amsterdam Scan Car
- Only 1 out of 9 participants (11%) selected the "Amsterdam Scan Car" feature, while 2 out of 9 (22%) opted for a "Hello my name is Scanny" feature. Only 1 out of 9 participants (11%) selected a feature depicting a face
- The sample size of Amsterdam residents was relatively small, with only 3 out of 9 participants (33%) being Amsterdamers, so the results may not be fully representative of the preferences of Amsterdam residents.

Outcome of the initial prototype test

Conclusion:

The prototype test results suggest that participants were more interested in the functional features of the Amsterdam Scan Car than in its branding or identity. However, further research with a larger and more diverse sample size, especially among Amsterdamers, is necessary to confirm these findings.



Outcome of the advanced prototype test

- An advanced prototype test was conducted with 4 Amsterdammers to determine their preferences for features on an Amsterdam scan car.
- The sample size was small and limited in demographic representation (all participants were Amsterdam citizens aged 21-36).
- The car icon was the most preferred feature, with 75% of participants selecting it, indicating that people expect a scan car to be easily recognizable.
- The "Hello, I am Scanny" and camera shutter features were also well-received, with 50% of participants selecting each, suggesting that people may prefer a scan car that is transparent in its operations and appears friendly.
- The QR-code with scan for more information, LED-bar, LED-counter, and light indicator stickers were each selected by only one participant (25%), indicating that these features may not be as important to people.
- Only one participant selected the QR-code with scan for "scan me back" (25%), suggesting that this feature may not be relevant or useful.

Outcome of the advanced prototype test

Conclusion

The results of the advanced prototype test provide insights into people's preferences for features on an Amsterdam scan car, but further research with larger and more diverse samples is necessary to confirm and generalize these findings.

The preferences of the Amsterdammers in the study suggest that people want a scan car that is easily recognizable and transparent in its operations.



TESTING GUIDELINES

How to use our conversation tool

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Our conversational tool is a tool that helps **engage participants** and **start discussion and dialogue**.

We advise using the tool on testing occasions such as interviews, test panels or focus groups.

1. Set a table with the A1 **features kit sheet** and organize the features according to their placement.
2. Start with a few base questions regarding the scan car on the streets, for example: **have you seen this car? do you know what it is doing? do you have an opinion on it?**
3. Ask the participant to **select three features** from the table to attach to the car, that communicate its function (scanning plates) the best.
4. Ask the participant to **think out loud** while selecting features, about the features they choose but also those that weren't.

5. Run the same test for a second time, but stating that the **scan car would also have different functions**, for example, locating heavy objects along the canal or broken lamp posts on streets.
6. Ask the interviewee if they would **add, remove or change any features** on the scan car after its functions have been expanded.
7. Finish with more direct questions regarding the scan car performing multiple tasks and its communication, for example: **does your opinion on the scan car change in any way? how would you know what functions it is performing, and at what time?**
8. **Gather insights on scan car features and its way of communicating functions** by quantity (most chosen features), but more importantly by quality (opinions, views and feedback on the scan car).

SECOND PHASE OF TESTING

A second phase of the test can be performed after the **participant is already familiar with our ideas for scan car communication.**

Provide the **A3 scan car canvas sheet** showing a blank scan car.

Ask participants to design communication for the scan car, but this time **without any limitations.**

This is supposed to be a free-style activity, **the participant can give their input in any way they want.** Drawing, writing, talking, using sticky notes, etc.



AFTERLIFE

Individual iterations after the main project

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Keyhan's Afterlife:

SPOT Virtual Prototype Test



The virtual prototype test website was created to simulate the physical prototype of the scan car and facilitate user interaction with its features. The primary objective of the website was to broaden participation in the test and ensure robust data collection for the research. Comprising several pages, each with a distinct purpose, the website effectively guided users through the test process.

Website Overview

Homepage/Introduction and Consent: The homepage introduced the project and team, with an illustrated background of Amsterdam buildings. A loop animation of the scan car added dynamism. Users were prompted to provide consent for personal information collection.

Features Showcase: An animation showcased the options and encouraged users to proceed to the next page to customize their favorite scan car by choosing their preferred features.

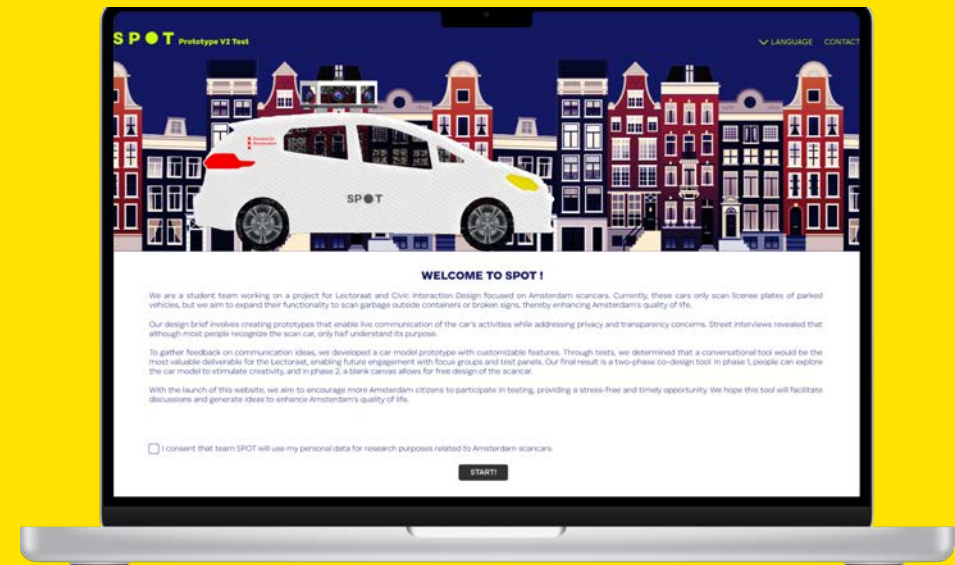
Customization Canvas: Users interacted with the scan car model, selecting preferred features by hovering over and clicking on them. The spinning car animation dynamically updated with the chosen features.

Feedback Form: After customization, users filled out a form with personal details and explained the reasons for their feature choices using three text boxes.

Contact Page: This page provided contact information for the team and introduced project partners, promoting transparency and collaboration.

Key Findings and Future Prospects

The SPOT virtual prototype test website proved to be a valuable tool for engaging a larger participant base and collecting valuable data for the scan car project. By replicating the physical prototype and allowing users to customize features, the website provided an immersive and interactive experience. Compliance with research ethics was ensured through a consent prompt and a data collection form. The user-friendly interface and visually appealing design enhanced the overall user experience, potentially increasing participant engagement and data reliability. The website's ability to replicate the physical prototype in a virtual environment holds promise for future iterations and improvements of the scan car project.



Test Link:

<https://www.figma.com/proto/n86FqSeuL3fLjScJ2FbhQB/Team-SPOT-virtual-test-prototype?type=design&node-id=298-122&scaling=scale-down&page-id=0%3A1&starting-point-node-id=12%3A8&show-proto-sidebar=1>

Screen-recorded Video Link:

https://drive.google.com/file/d/1dk5EkLUsw4CBF-1KOC0E7T6yASvfoaOx/view?usp=drive_link

Laura's Afterlife:

Guerrilla Marketing Campaign



Assemble a guerrilla marketing campaign about the **disadvantages of bad parking**, related to the city itself and to **people's own interests**.

Reinforce that locating and fining wrongly parked cars is necessary (though not always nicely viewed) and citizens can benefit from it.

Guerrilla Marketing

"[...] aims to surprise your target audience by presenting a shocking and unconventional marketing tactic.

The objective is usually achieved by executing a planned strategy that upsets potential customers and, in a sense, forces them to pay attention to the message being conveyed to them."



Guerrilla Girls

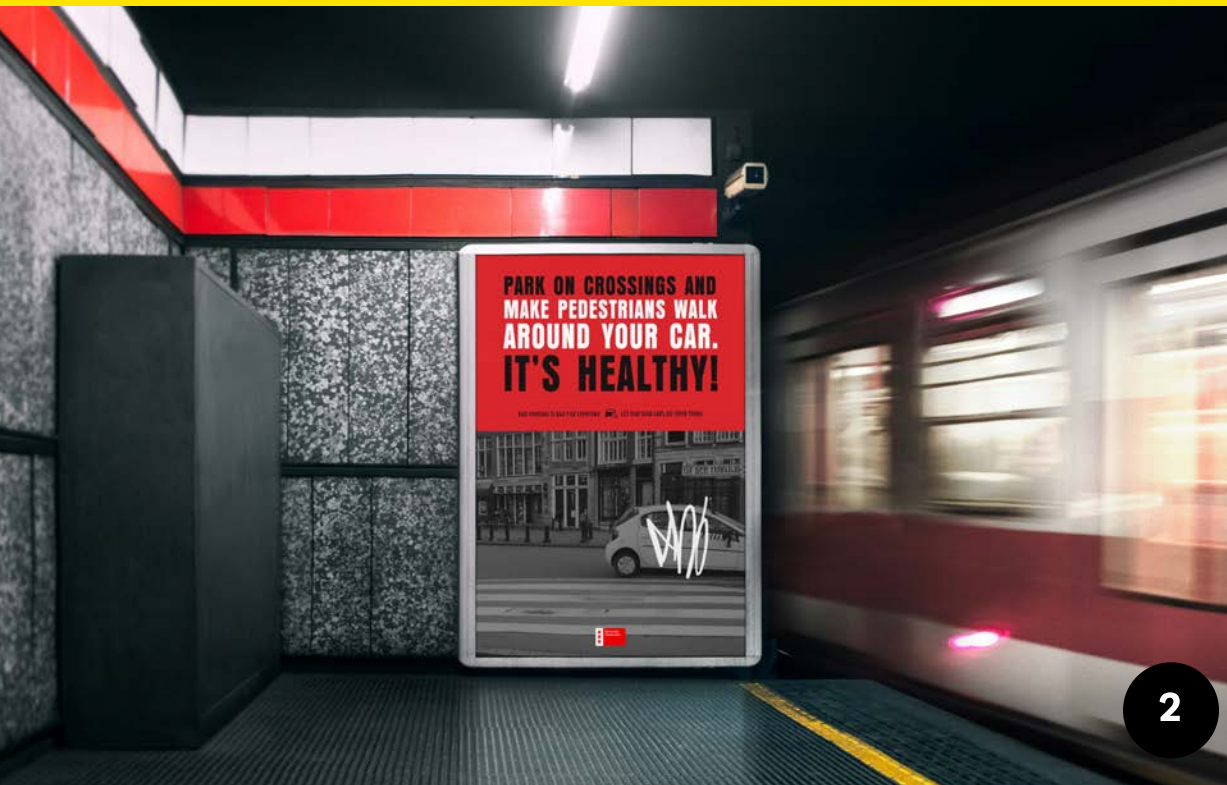
"[...] an anonymous group of feminist, female artists devoted to fighting sexism and racism within the art world.

They also often use humor in their work to make their serious messages engaging. The Guerrilla Girls are known for their "guerrilla" tactics, hence their name, such as hanging up posters or staging surprise exhibitions."



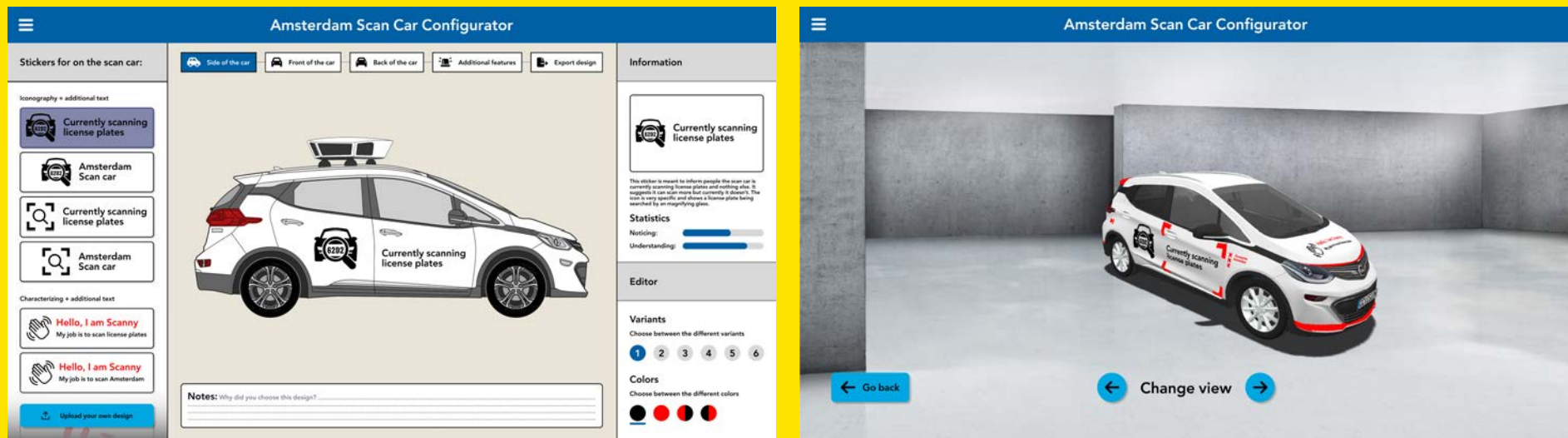
SITUATIONS WITH BADLY PARKED CARS

- 1) Garage entrance
- 2) Sidewalk (constantly busy, various demographics)**
- 3) Special needs spot
- 4) Private property
- 5) Two parking spaces (scarcity of parking in Amsterdam)**
- 6) Bus stops
- 7) Fire hydrants
- 8) Bike lanes (constantly busy, various demographics)**



Robin's Afterlife:

Amsterdam Scan Car Configurator



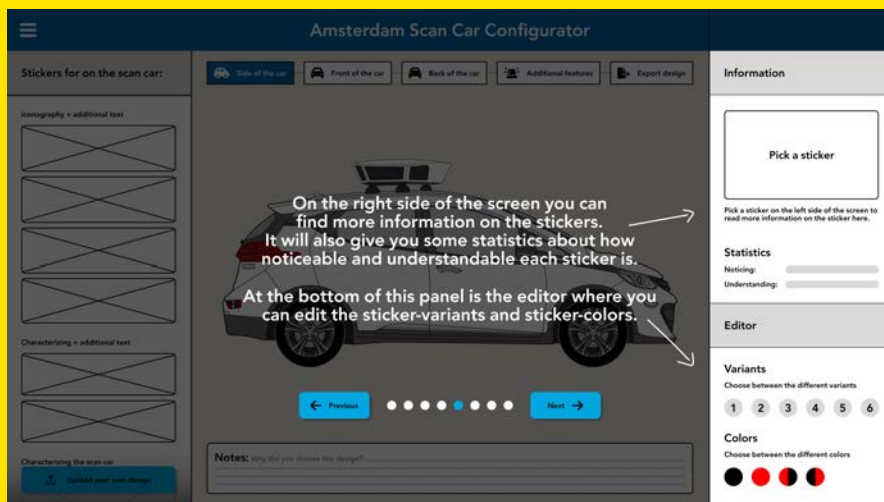
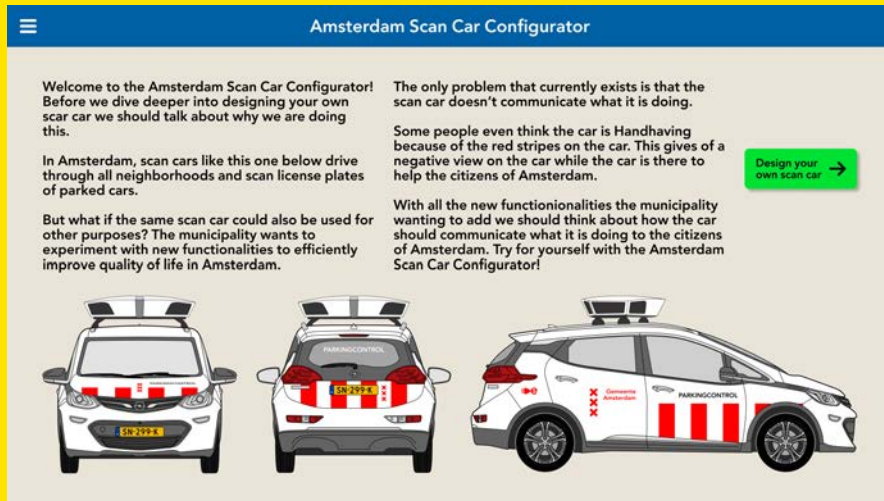
Introduction

During the scan car project, we created a physical conversation tool for co-design. However, it is not able to visualize the actual look of the car. Our prototype offers a glimpse of how it could look, but I aimed to go further by developing an interactive Figma prototype with drag-and-drop functions for customization. It allows users to design the car, experiment with different features, and see everything instantly on a 3D car model. With this prototype I hope to inspire the Lectoraat on how to digitally co-design to gather more insights, and how to freely design the scan car on a website.

Final result:

I give an introduction to sketch the current problem and give a walkthrough for a better user experience:

Using steps you can design the front, side and back of the car. Add additional features or add your own custom design.



Review, share & export your design to get other people excited. Press the render-button to view the car from multiple angles and see how it would look like in real life.



Prototype link

If you want to have a look at the prototype, here is the link:

<https://www.figma.com/proto/urwMsspj1eCpIT3uWHf8QW/Amsterdam-Scan-Car-Configurator?page-id=0%3A1&type=design&node-id=29-30252&viewport=-4298%2C-114%2C0.12&scaling=min-zoom&starting-point-node-id=29%3A30252>

If you want to have a look at video:



<https://youtu.be/dX3OaRRp4HY>

Romar's Afterlife:

Amsterdam Scan Car Editor

Digital conversation tool

The main deliverable during project L was our conversational tool. This being a physical tool had the benefit of making a hands-on experience during testing or co-design sessions. But it also had drawbacks, I noticed that it was difficult to fully envision what features would actually look like on a real car in a real environment.

Within these drawbacks I saw an opportunity to create a digital prototype that can fulfill a different purpose with testing. To gather more in-depth feedback on the communication features in a realistic setting.

How would **you** design
the Amsterdam scan car?

Let me try it >



The digital tool

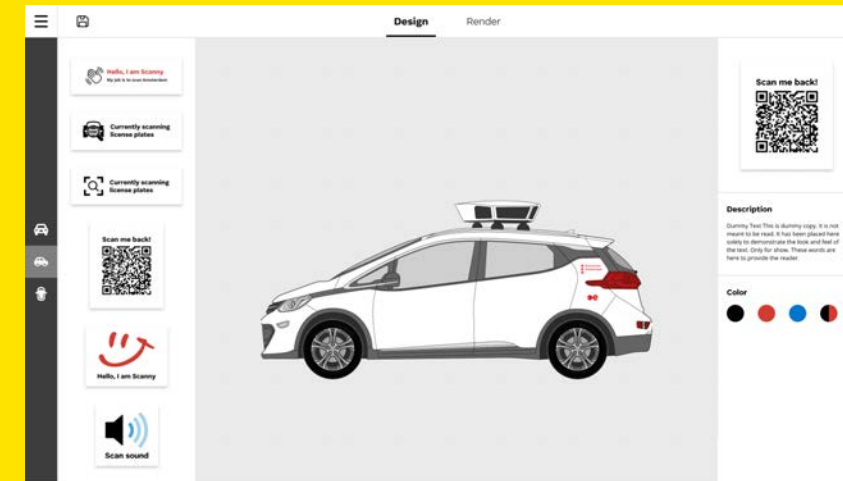
By creating a digital version of the conversational tool I could show the communication features in more detail and also visualise what these features would look like in a more realistic environment.

Design process

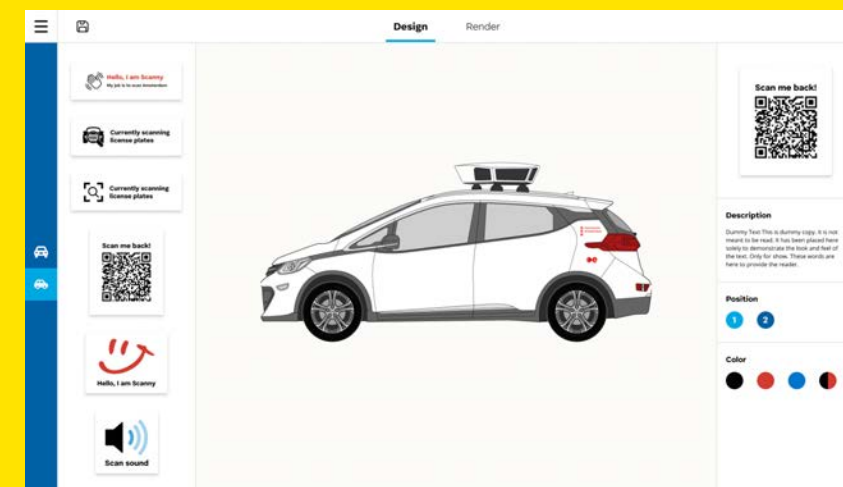
I started of collecting initial inspiration, where I looked at a lot of different configurators, for example interior builders. I started creating a base for my own design in Figma.

Afterwards I started creating a base for my own design in Figma. The initial idea I had was to use buttons to select a front, side and rear view of the car. You can then select a feature, which will appear on the car, and choose different colours.

First design of digital prototype



Second design of digital prototype

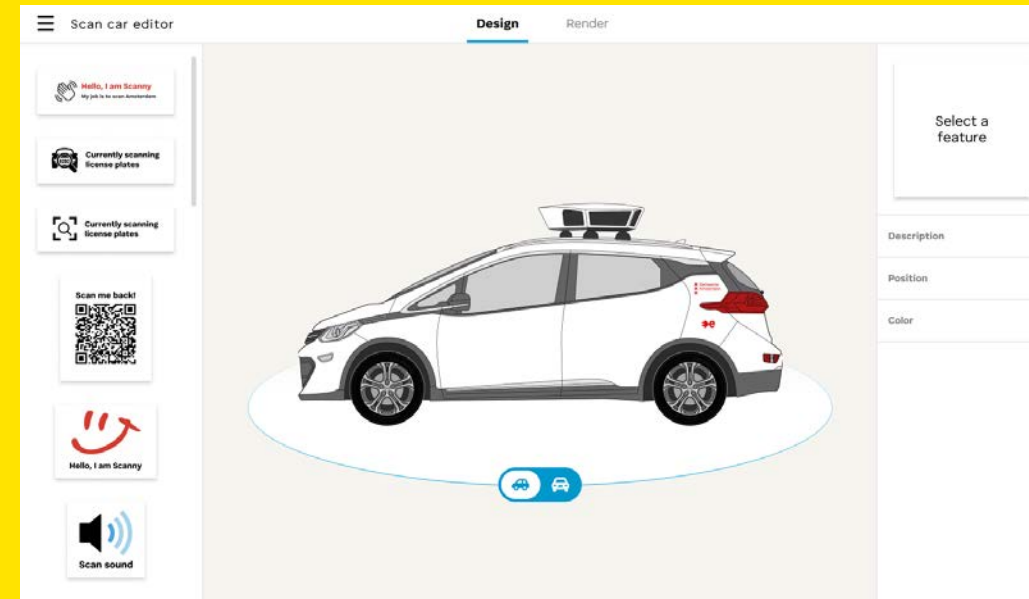


Creating the final design

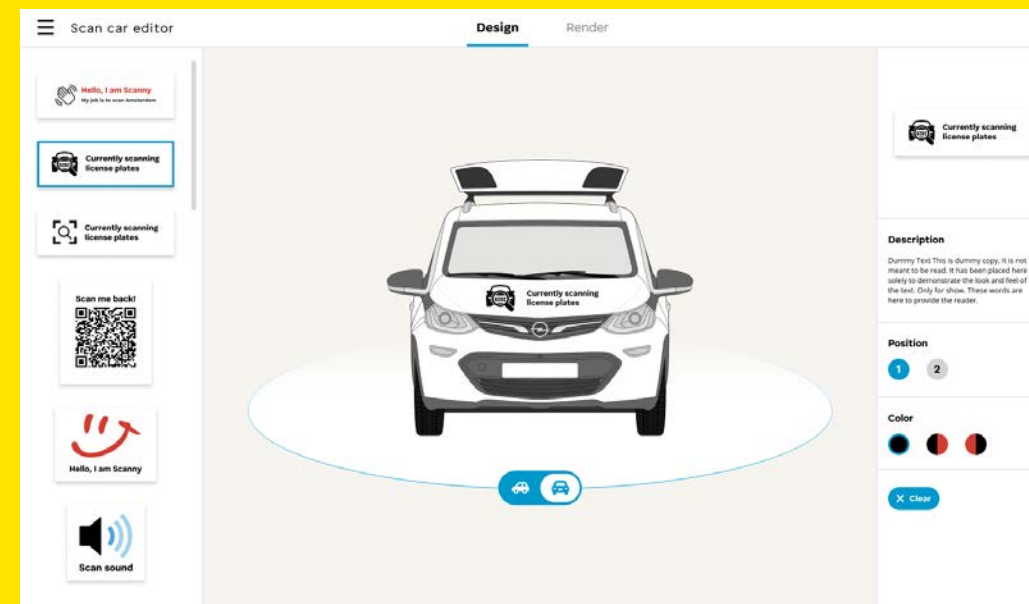
After creating my initial design and seeing how the features look on each side of the car, I ended up choosing to remove the rear view. To make the process of designing the scan car communication a bit more engaging, I added new functionalities.

The first one was being able to change the colours of the features. The second was an idea I got from interior builders. Being able to select different positions for the feature on the scan car. Allowing a bit more freedom in design.

Final digital prototype (side view, no feature selected)



Final digital prototype (front view, feature selected)



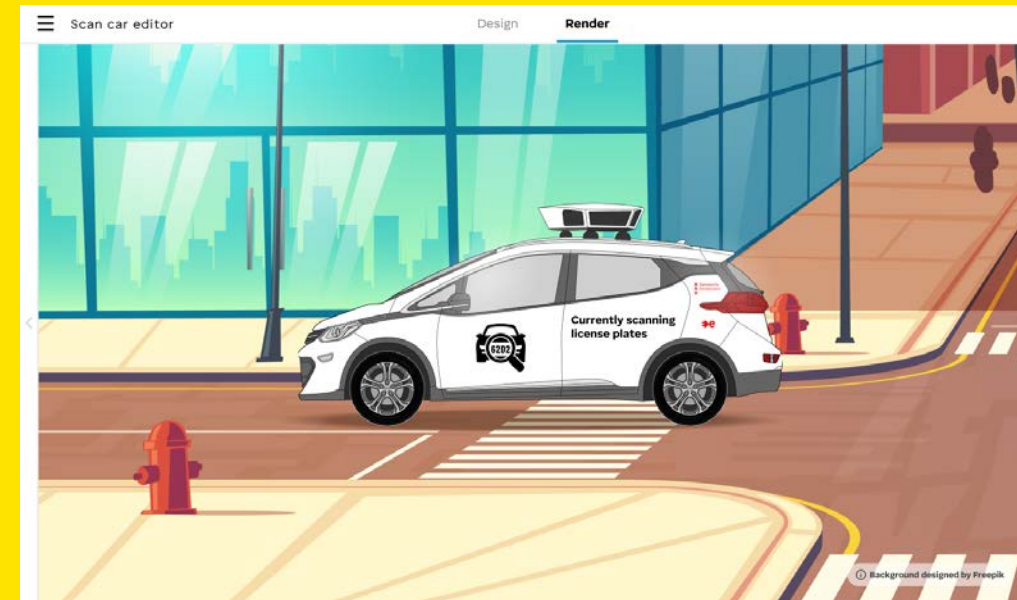
Communication features in a more realistic environment

The main idea for creating this digital prototype was being able to view the communication more realistically on the car.

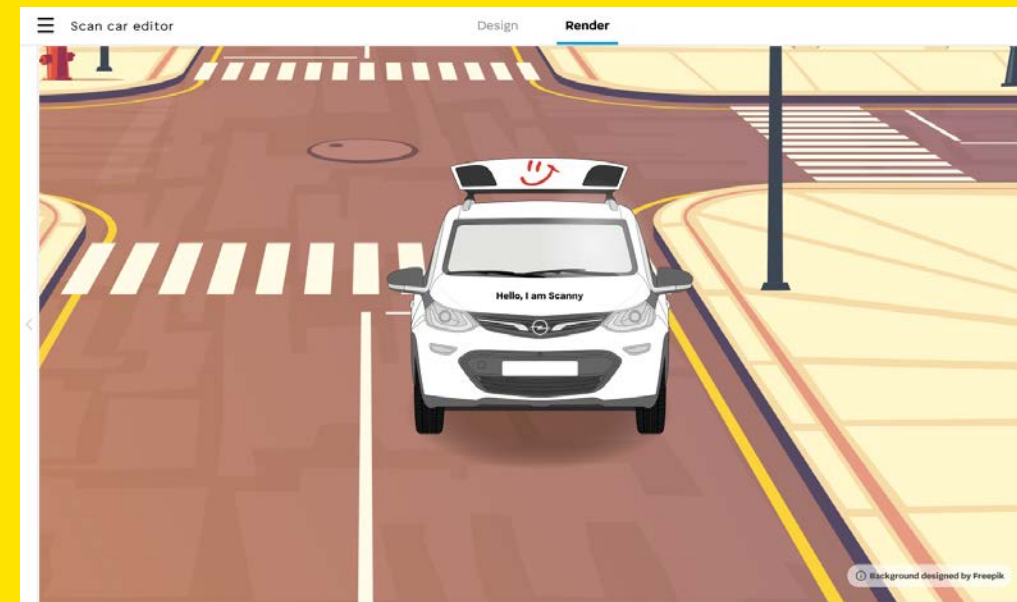
I ended up using a 2d vector design of a city, to create the environment that the scan car is placed in.

Using the render function in the digital prototype, you could view a chosen feature in a more realistic environment.

Render function inside digital tool (side view, feature selected)



Render function inside digital tool (front view, feature selected)





Youtube video

You can watch this video to see how the prototype works:

<https://www.youtube.com/watch?v=8XL6tfSbuMs>



Figma prototype

Or try out the prototype for yourself, with this Figma link:

<https://www.figma.com/proto/fX0mvGxcdLWOLoTpozQWDg/Scan-Car-Editor?page-id=0%3A1&type=design&node-id=45-4&viewport=181%2C-748%2C0.09&scaling=min-zoom&starting-point-node-id=45%3A4>

**THANK YOU
FOR READING**