

CONCEPT TEAM

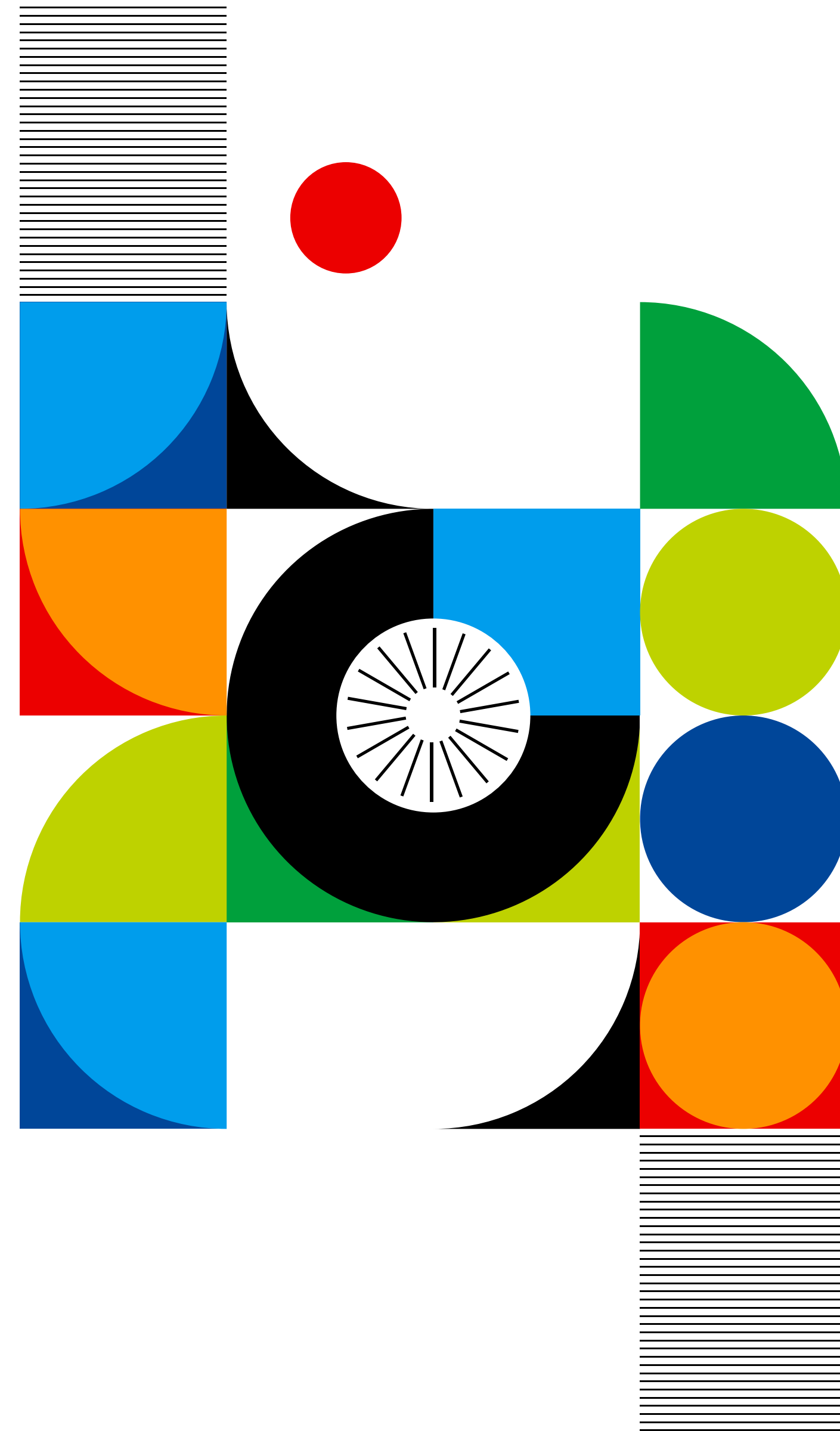
Broken Elevators.

case study



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UX Designer

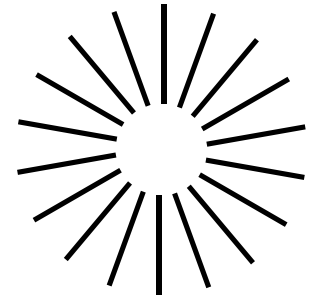
RESEARCH REPORT





STRUCTURE

Anatomy of this report .



Study overview

What we did and why

Problem and Background

Research goal & objectives

Approach and participants



Research Findings

What we learned

Key insights / summary

Recurring themes or core findings

Artifacts: personas, journey, etc.



Next steps

Where we go next

Next steps

Recommendations

Opportunities



PROBLEM

Elevators in public transport stations and stops are sometimes out of service, and some citizens do not have an alternative way of transport ●



Dependency on others

Need assistance of others, which reduces independence



Unreliability

Being late or missing appointments, sometimes work



Reduced participation

Less chance to get a job or complete daily tasks

Goal - Ensure citizens reach their destination on time, no matter how they travel. They should have everything that supports them, whether it is an elevator, assistance or alternative routes/transport



Iedereen doet mee

Wat de gemeente aan toegankelijkheid doet

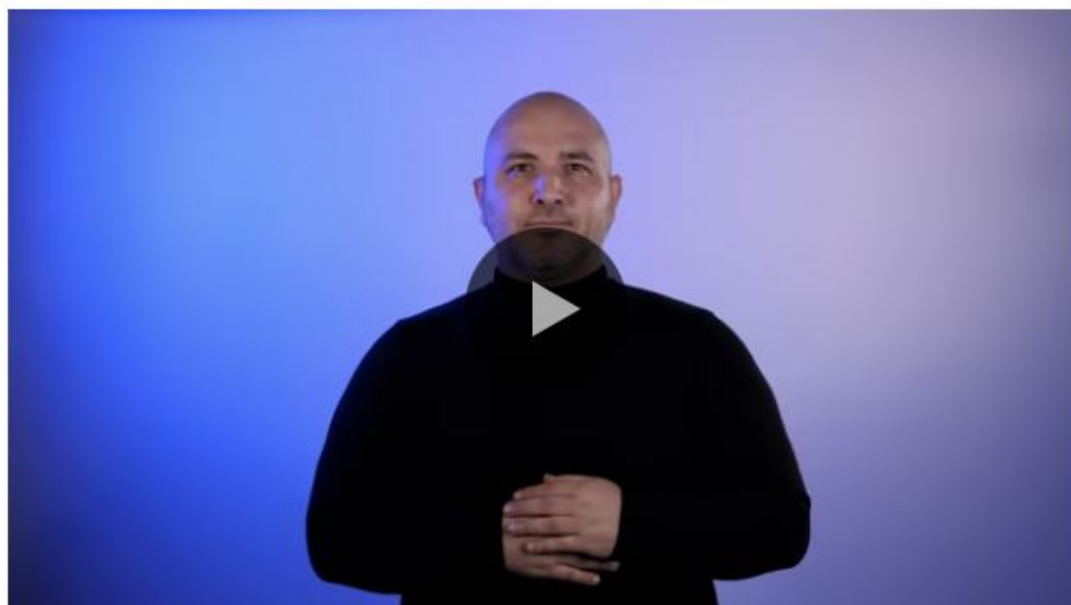
In Amsterdam willen we dat iedereen zichzelf kan zijn en zich zelfstandig en veilig kan verplaatsen. Daarom moeten de gemeente, bewoners en ondernemers de stad zo toegankelijk mogelijk maken voor mensen met een beperking. Samen maken we van Amsterdam stapsgewijs een stad waarin iedereen die dat wil mee kan doen en zich welkom voelt, met of zonder beperking.

De gemeente zet zich in om de stad fysiek, sociaal en digitaal toegankelijker te maken. Hierin werken we als gemeente samen met mensen met een beperking en organisaties die hen vertegenwoordigen.

In de [Voortgangsrapportage toegankelijkheid Iedereen doet mee 2021](#) (PDF, 7,6 MB)  staat een overzicht van alle doelen en acties.

Hieronder leest u de samenvatting van het rapport 2021 in begrijpelijke taal. Er is ook een video in gebarentaal.

Video in gebarentaal



RIGHTS

“Everyone should be able to travel independently by public transport”

in rijksoverheid.nl



Besluit toegankelijkheid van het openbaar vervoer

The [Public Transport Accessibility Decree](#) has different provisions to guarantee equal treatment for people with disabilities



Iedereen doet mee

The Gemeente Amsterdam wants everyone to be able to be themselves and to move around independently and safely. One of the [goals](#) is to ease travelling by public transport.

Both state the requirement of elevators in all stations and stops when needed, which Amsterdam fulfilled. The next step is to guarantee they are working and that citizens are adequately informed.

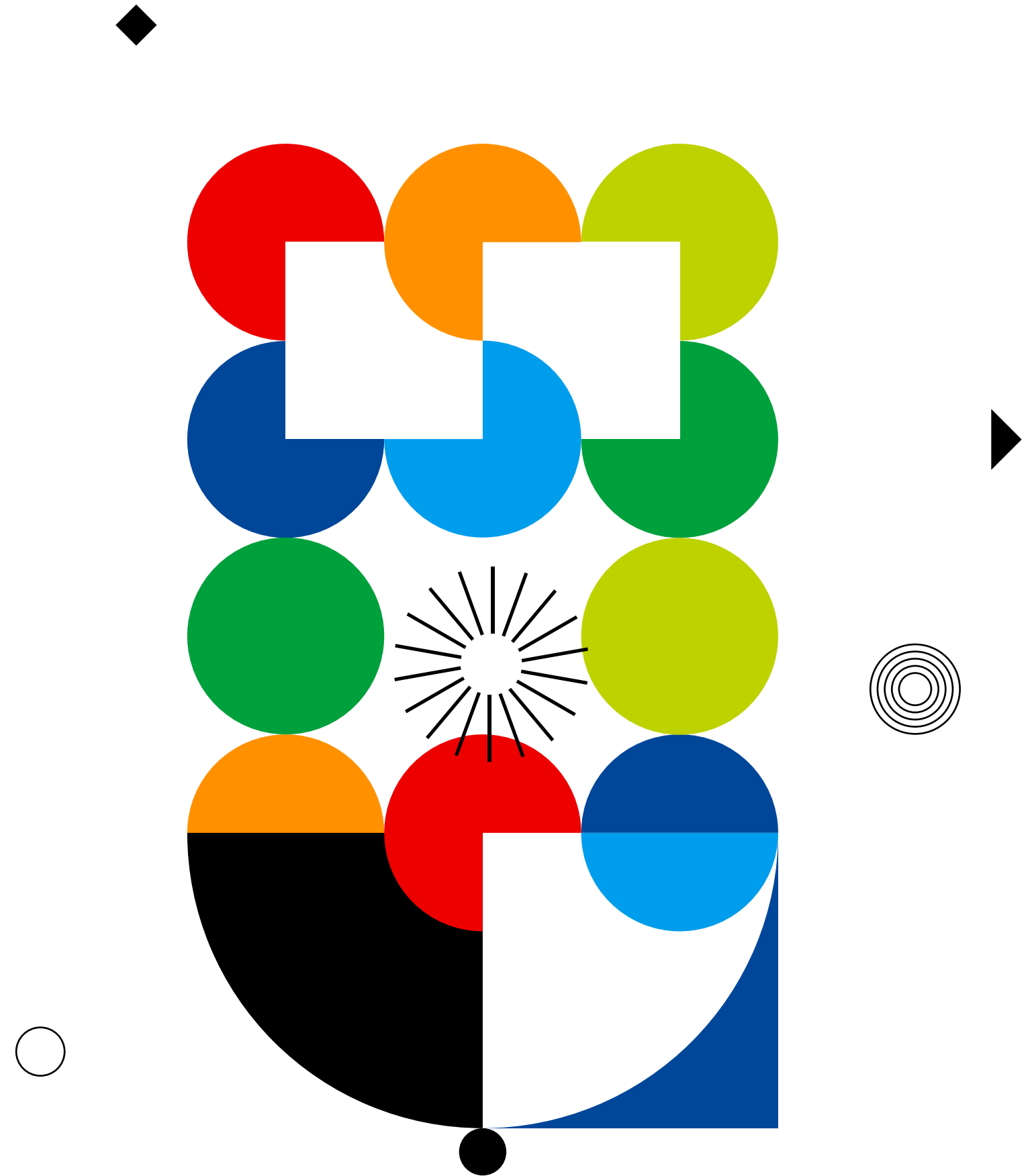


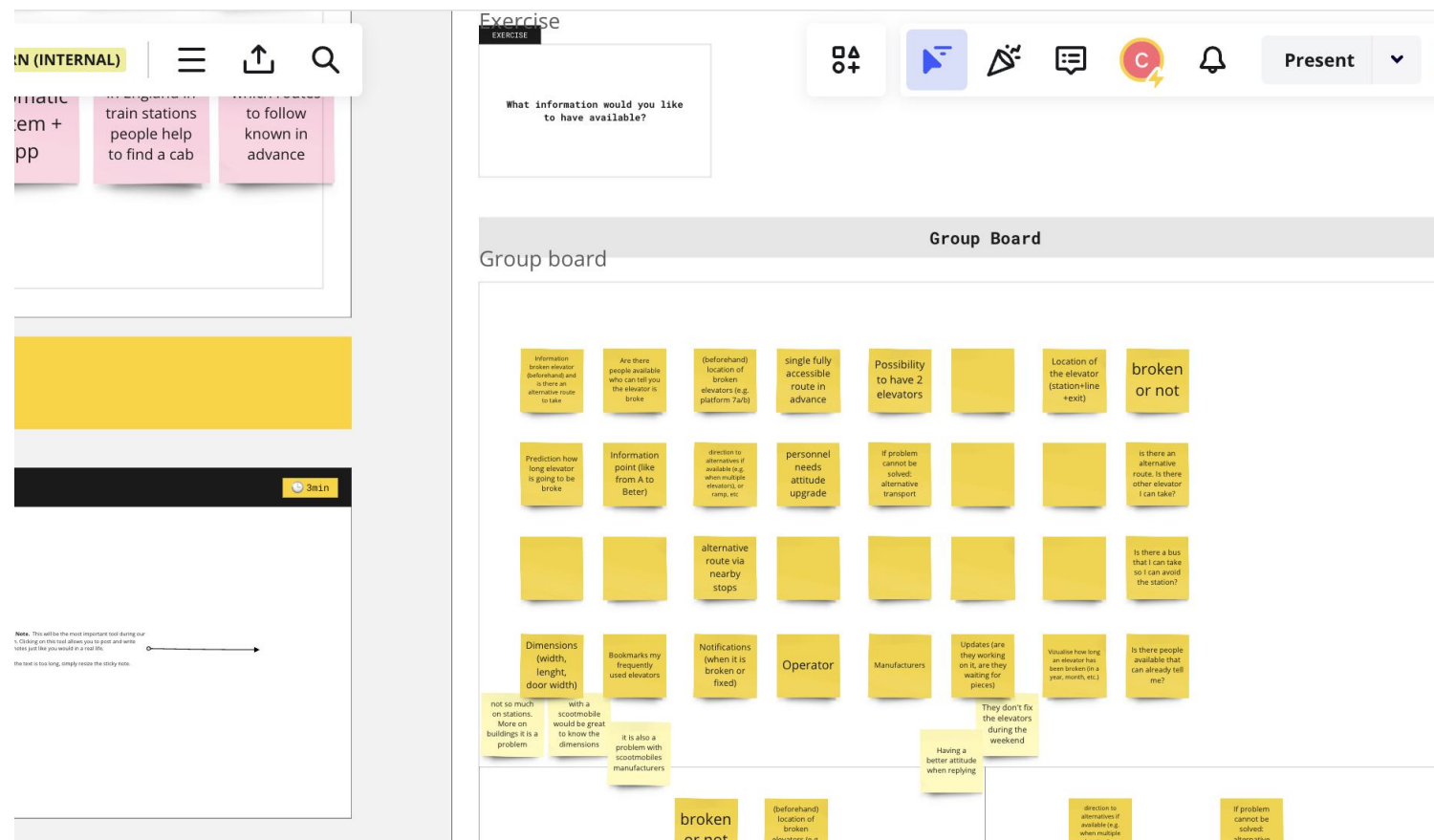
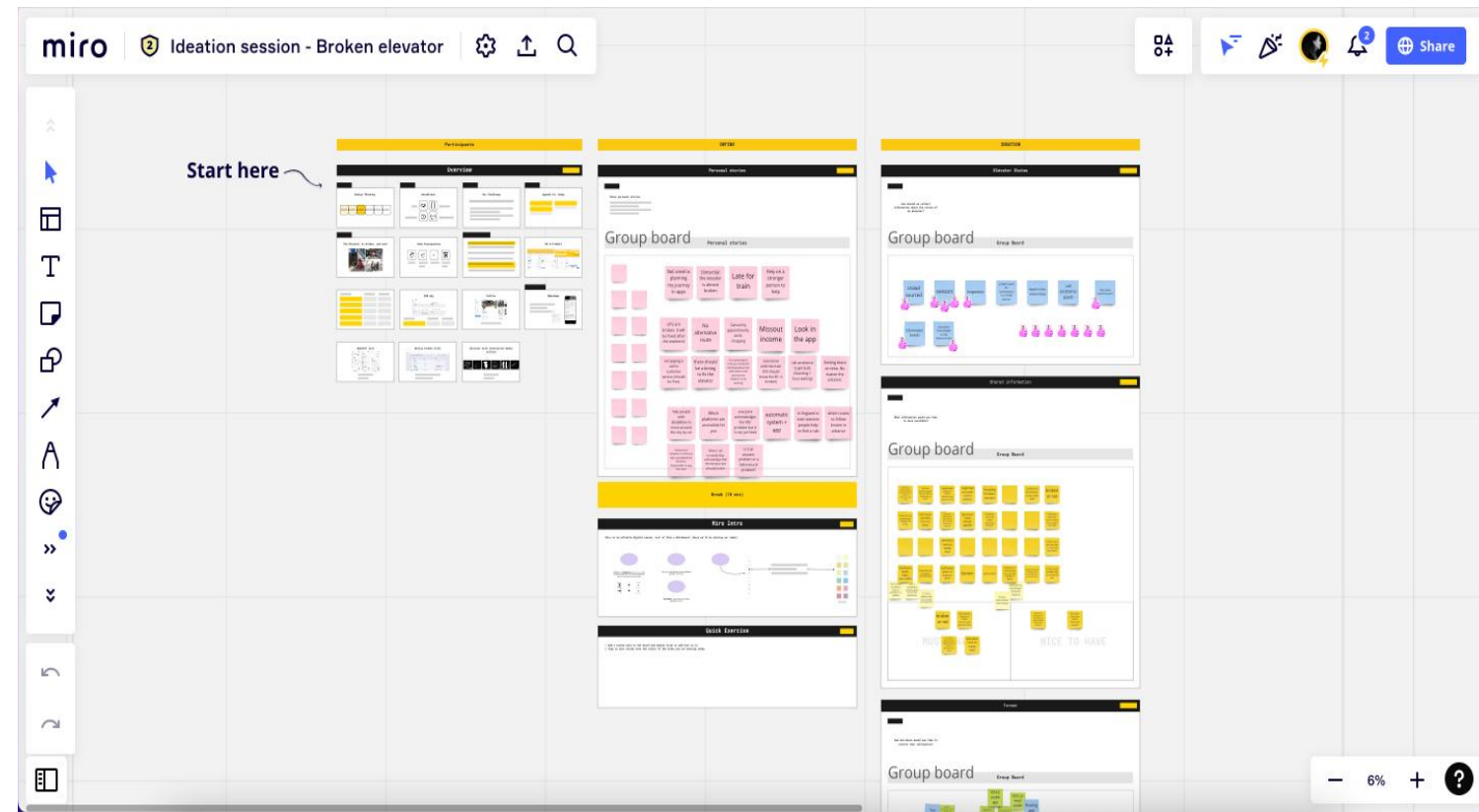
GOAL

Research questions.

Understand the needs, expectations and bottlenecks around broken elevators in the city and assess if and how we can improve the service.

- 1 Identify who are the target groups
- 2 Identify the challenges it brings in their daily lives
- 3 Identify limitations in the current service
- 4 Identify opportunities
- 5 Define design questions
- 6 Brainstorm about solutions
- 7 Find a work direction





SCOPE

Research approach.



Desk research

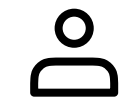


Workshop

4C's framework (Collect > Choose > Create > Commit)

2h30 session

7 participants (limitation: only 1 wheelchair user)



Semi-structured interviews

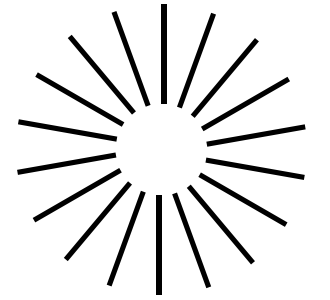
Focused on current limitations in the service, ongoing projects and desirability and viability of new solutions

Clientenbelang, GVB and email exchange with wheelchair users



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Wheelchair user

They need a wheelchair to move around. If an elevator is not working, they cannot use the stairs and might become stuck in a platform, for which they need assistance to get out of the station/stop.

Might be needed multiple people to help up/down the stairs.

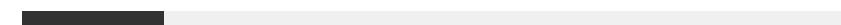
Need for assistance



Effort to assist in stairs



Available alternatives



Crutch/stick user

They can have a temporary or long-term problem that reduces their mobility. For that reason, they might use a crutch or stick.

If an elevator is not working, escalators are a quick and easy alternative. One assistant could also help them up or down the stairs.

Need for assistance



Effort to assist in stairs



Available alternatives



Stroller pusher

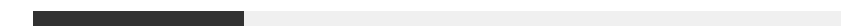
They are usually parents travelling with their babies in strollers.

If an elevator is not working, they might need someone else to pick one side of the stroller to get up or down the stairs.

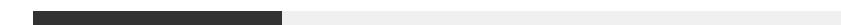
Need for assistance



Effort to assist in stairs



Available alternatives

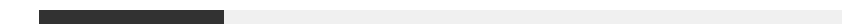


Luggage carrier

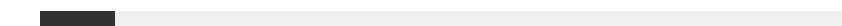
They transport heavy or big-sized objects.

If the elevator is not working, escalators are a viable alternative. If also out of service, they might need assistance carrying it up/down the stairs or slowly doing it themselves.

Need for assistance



Effort to assist in stairs



Available alternatives





The techy

Technology and devices are part of their daily life. They frequently try out new apps and have all the local apps they find helpful to plan their routes.

They are up-to-date with last-minute information in the app.

Tech savviness



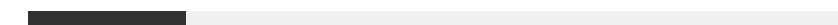
Use of local apps



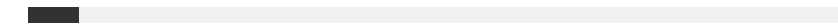
The tech-free

They don't use a smartphone because of never adapting to technology or because it is an active decision. They know their routes and frequently use public transport schedules by heart. Last-minute changes are challenging to anticipate.

Tech savviness



Use of local apps



The tourist

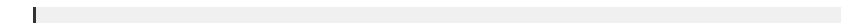
When visiting a new city, they rely on city guides and internationally used route planner apps to know their way around the city.

They don't get to know information that is only offered in local apps.

Tech savviness



Use of local apps



Low-vision

Low vision or blind

They try to rely on the familiar routes they know by heart and sometimes ask someone else to plan it or go with them.

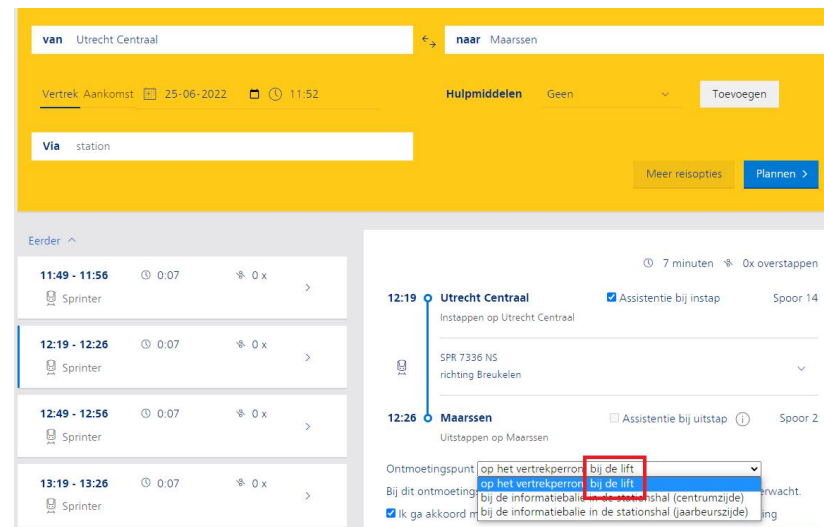
Current route planners (excluding navigation) do not have a voice-over, and the typography usually needs to be bigger.

* variation



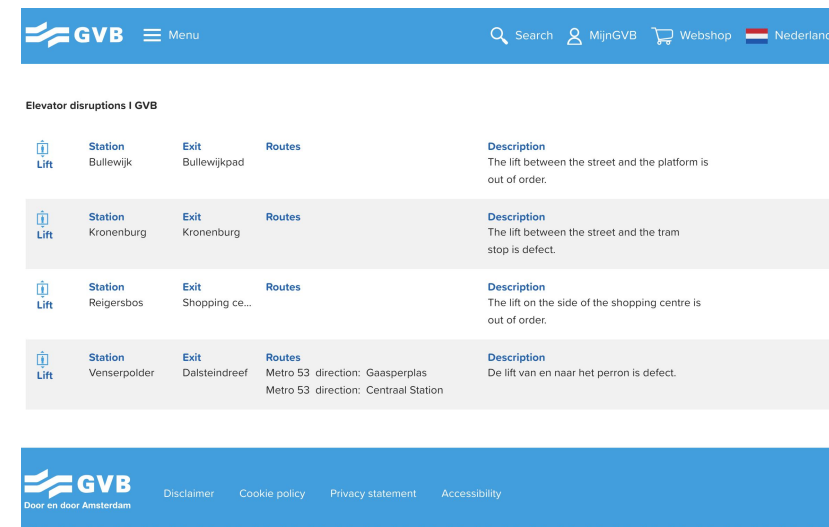
ARTIFACTS

Current services.



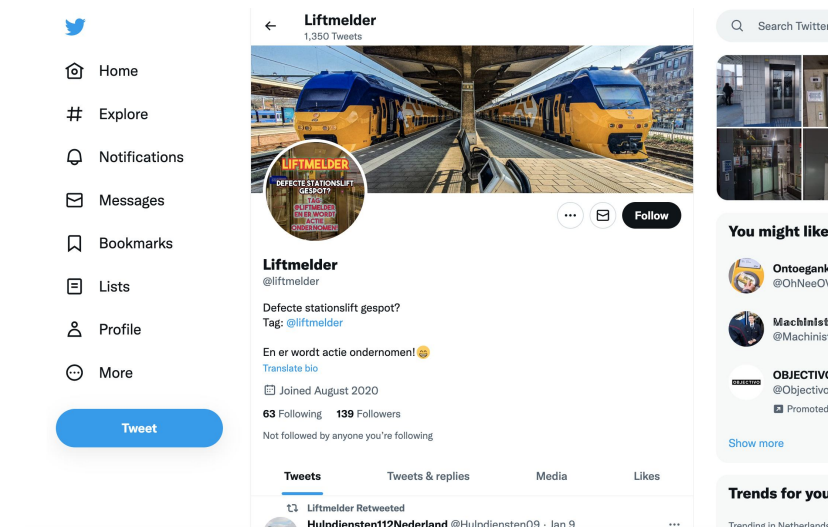
NS & ProRail

- Information about the existence of elevators in the different stations;
- Possibility to schedule assistance via NS Customer Service;
- Report malfunctions via call or button inside elevators;
- Working on an automatic monitoring system.



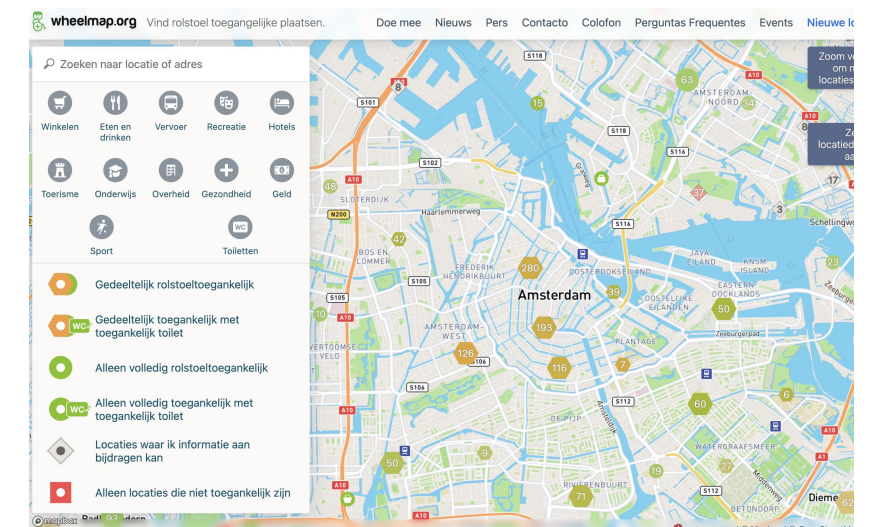
GVB

- Information about broken elevators on the disruptions page in GVB app/website;
- Report malfunctions via call or button inside elevators;
- Working on an automatic monitoring system.



Twitter account

- Tag @liftmelder to report a malfunction with a station elevator;
- Post when an elevator is broken and has been fixed.



Others

- [Wheelmap](#)
- [Bahnhof live](#)
- [Berlin broken lifts](#)



OWNERSHIP

Who is responsible for the elevators in the city? ●

Owners and maintainers

- Gemeente Amsterdam
- GVB (maintainer)
- NS
- Pro Rail (maintainer)

Challenges

- Different owners have different priorities and projects to tackle the same problem. There is no centralised solution. People want to take their routes and be informed no matter which elevator they are using;
- Time efficiency and punctuality are priorities over friendliness or if all customers arrive at their destinations.

“ The main problem is, is that most elevators are on private property. That makes the owner/ exploitant responsible for fixing it.

Suzanne Egging

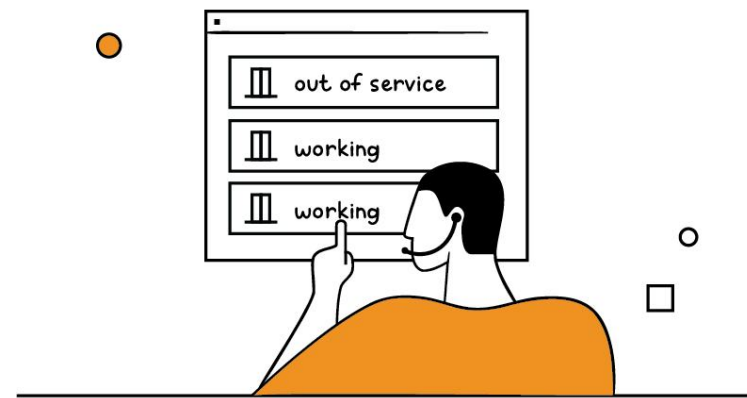
“ GVB gets compliments when they are quick and punctual. What we need to add is that they also have to be nice, friendly.

Cailin Kuit



COLLECT

How is data being collected, and what are alternatives?



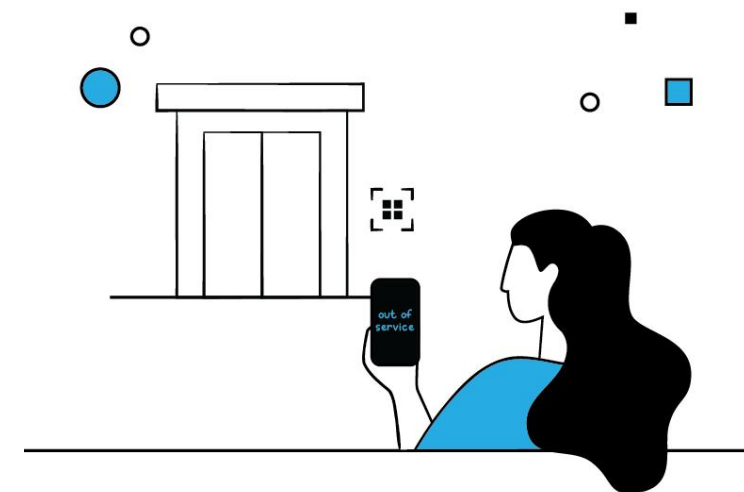
Customer Service current solution

How does it work?

Elevator users or employees call to inform about a broken elevator, and in the help centre, they add it to the internal system.

Challenges and opportunities

- ❌ Dependency on back-office work to share information;
- ❌ Phone calls are paid;
- ✅ Elevators have a free call button inside, so they could also be placed outside;
- ❌ Not knowing how to identify the elevator;
- ✅ Some elevators show an ID code.



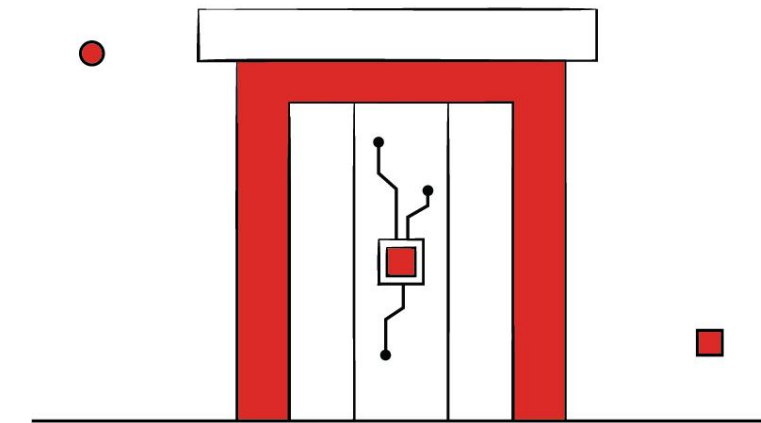
Crowdsourcing

How could it work?

Elevator users share with the community whenever an elevator is broken through a quick digital form or text.

Challenges and opportunities

- ❌ It can be unreliable if people do not participate or add the wrong information;
- ✅ Removes dependencies on the back office and others can have the information sooner.



Sensors

How could it work?

Sensors are added to all elevators that automatically report if it is not working and what the problem is. This information can be open source to be used in other apps.

Challenges and opportunities

- ❌ Elevators are from different providers; so there is a need for a centralised solution;
- ✅ Ongoing projects in GVB (pilot in Noorderpark with results in April) and Pro Rail.



INFORM

How are citizens being informed about whether an elevator is working? ●

Current options

- GVB app
- Twitter account (liftmelder)

Challenges

- The GVB app is not accessible (small letters, lack of zoom);
- The elevator information in the GVB app is not findable;
- The elevator information in the GVB app is not reliable;
- The information about broken elevators should be in more places;
- Some people do not speak Dutch;
- Some people do not have smartphones;
- GVB is actively reporting but not NS;
- Station boards are only sometimes updated.

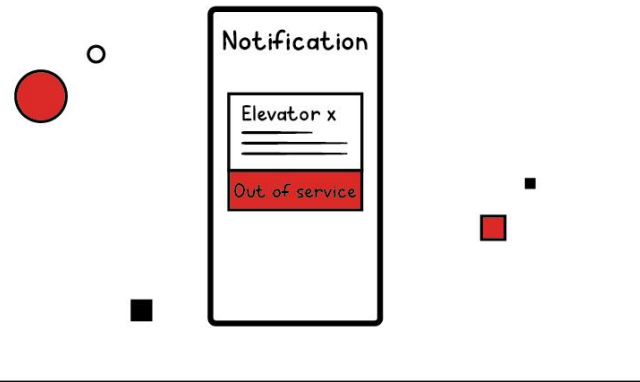
“ Because it is late in the app, it is all the way in the end of the page. So you are scrolling and scrolling, hoping to find the information. And I am partially sighted so for me there is an extra difficulty. I depend on other people to see if that I can go there.

Cailin Kuit



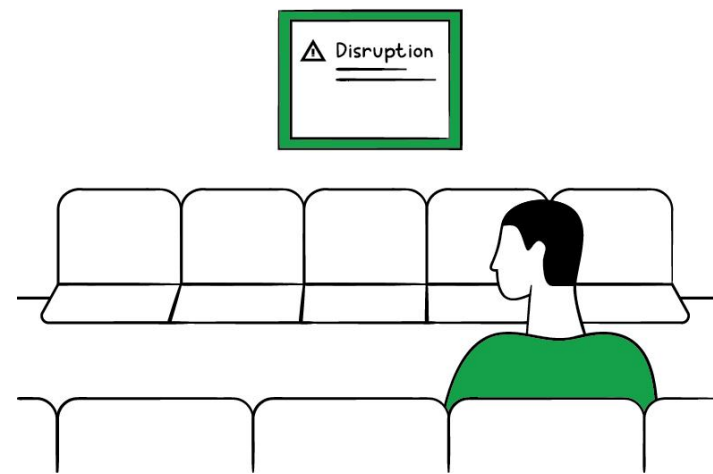
INFORM

How might we inform citizens in advance about a broken elevator? ●



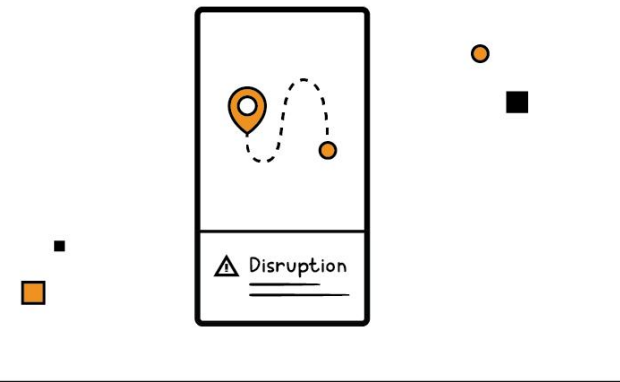
Text message or notification

Allow people to subscribe to their most used elevators and received notifications when it is broken and working again



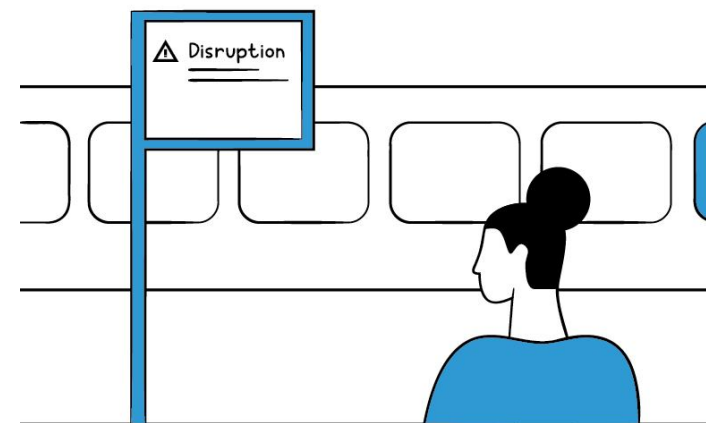
Vehicles' route displays

Add elevator disruptions linked to a specific stop or station in the route in the vehicle displays



Existing routing apps

Incorporate elevator information in existing routing apps (9292 - most accessible; google maps; NS; GVB) in a helpful way



Platform diplays at stations/stops

Add elevator disruptions linked to a specific stop or station in the station display



Assistants

Current assistants that help people get in and out of vehicles can also give information about disruptions in the route



ASSIST

How are citizens being assisted when an elevator is not working? ●

Current options

- call customer service
- ask for help in the service shop
- ask for help from other people around
- schedule assistance in advance to get in or out of the train

Challenges

- Customer service answers with a lack of responsibility and empathy for the problem;
- Lack of transparency about what is happening to fix the elevators;
- Assistance can take hours when elevator users are stuck in a platform;
- Elevator users are fed-up with excuses.
- Individualistic culture compared to other countries where anyone on the streets would offer help.

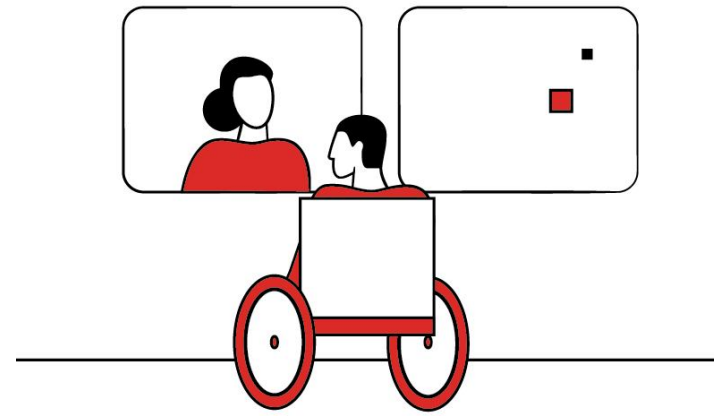
“ Many times I am basically stranded. I can take the train back, but that means I have to call assistance and wait at least an hour to get it. So you are just standing there for an hour. They don't understand that you, as a person with a disability, also have a life to live.

Cailin Kuit



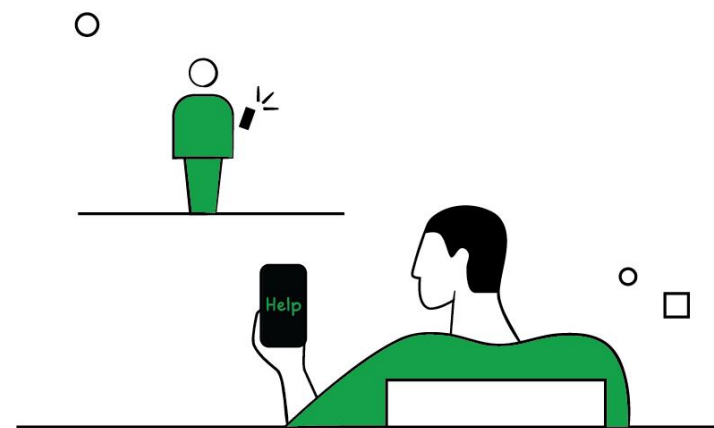
ASSIST

How might we offer a friendly, trustworthy and quick assistance? ●



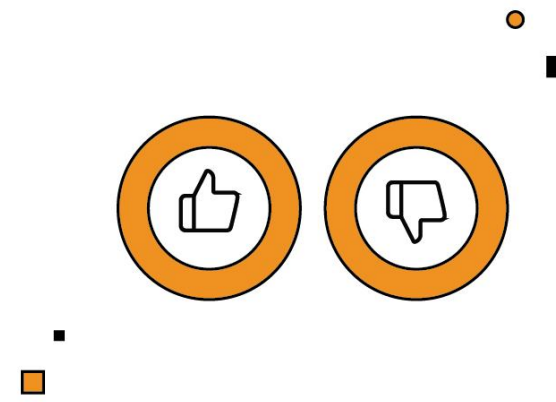
Hosts (ex. turnup and go in England)

Train customer-facing employees to make customers feel welcomed, comfortable and well taken care of, or make it a separate role



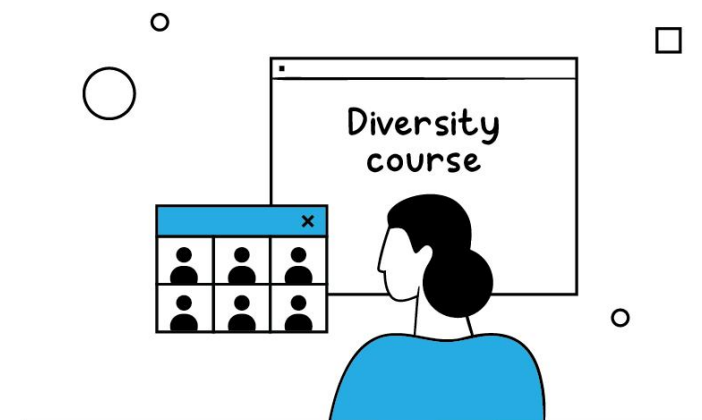
Help app

Ask for help anytime through an app that notifies people around where you are and what you need



Complaint button

Make it easier to share customers' satisfaction and make the results more transparent



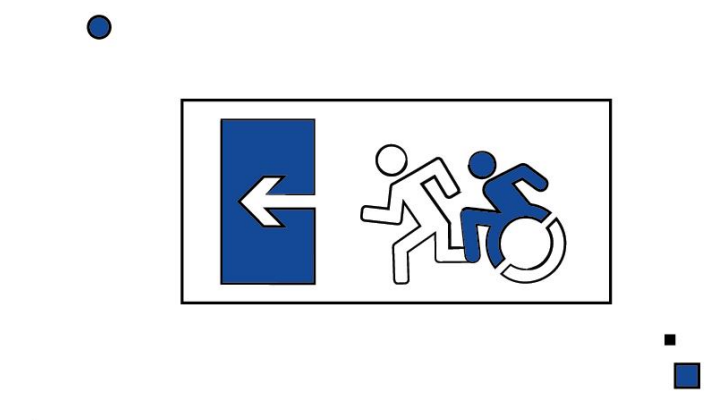
Education program

Educate people on how to approach diversity and when and how to help.



Call Service

Call to get personalised information about broken elevators and alternative routes



Accessible emergency exits

Accessible emergency exits could help assist wheelchair users stuck in platforms



CHOICE

Which alternatives are offered whenever an elevator is not working? ●

Current options

- Call and get a taxi or alternative route indication (ProRail)

Challenges

- Alternative routes are generally longer and less handy (more vehicles to get in and out);
- The majority of current apps do not have information about elevator disruptions so they don't warn users or give alternative routes in advance;
- The GVB app does not offer alternative route to avoid an elevator disruption;
- Going to a station and only there getting to know the elevator is broken and checking for an alternative route costs a lot of time. Consequently, people cannot get in time to their destinations.

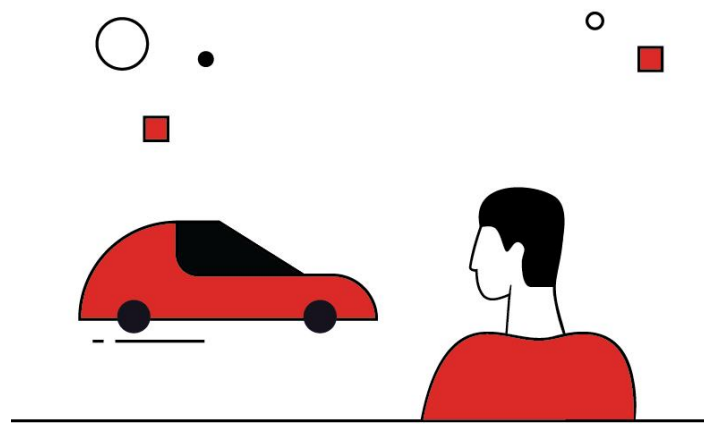
“ With NS, I needed to go to Rotterdam at one point, and there was no assistance. They immediately arranged a taxi bus from Amsterdam central station to Rotterdam central station. So I could be where I needed to be.

Cailin Kuit



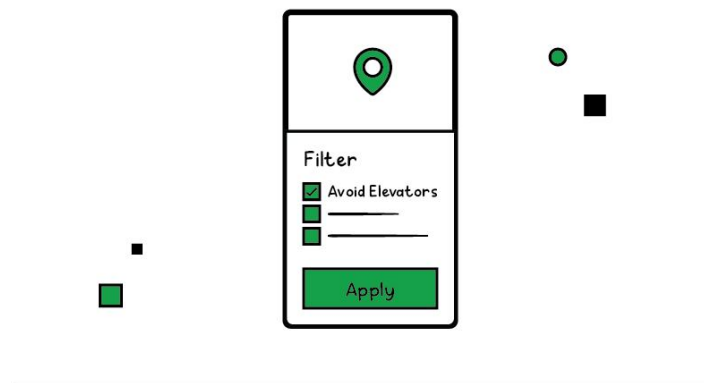
CHOICE

How might we offer faster and more reliable alternatives? ●



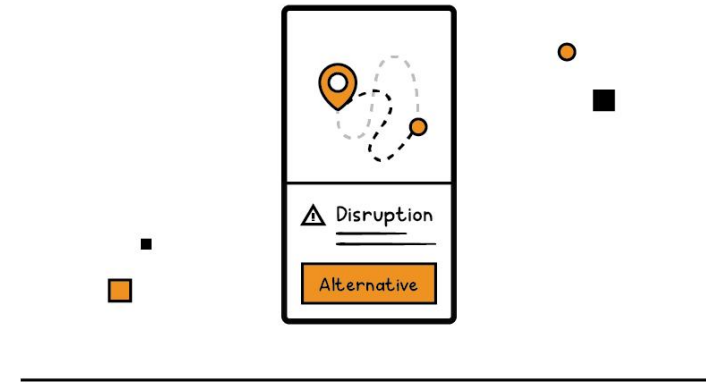
Taxi

Getting a taxi easily as an alternative



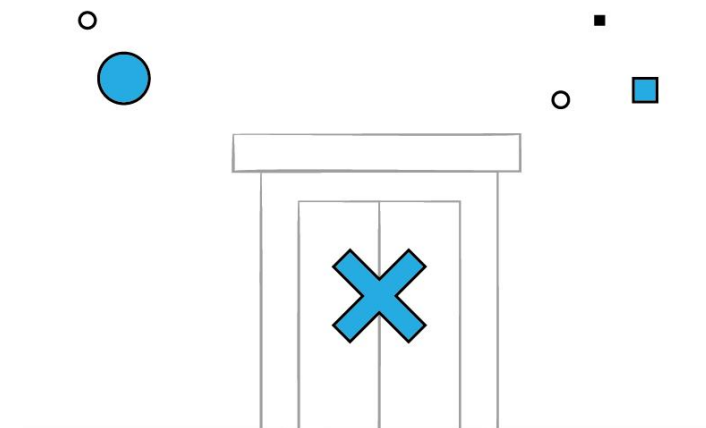
Route avoiding elevators

Route planning apps offer an option to filter out elevators in the route



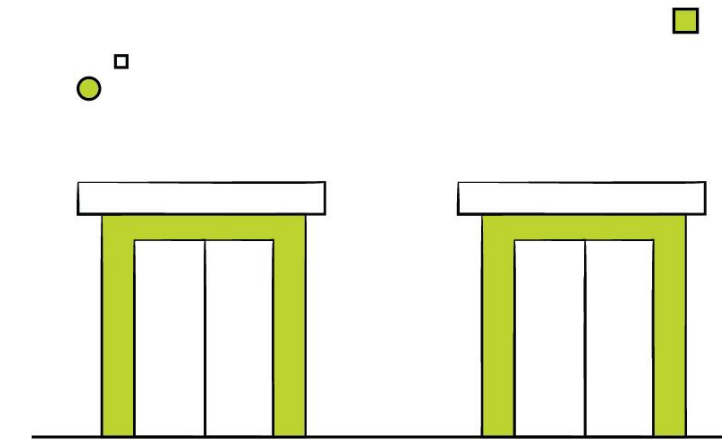
Alternative route

Route planning apps warn of elevator disruption and offer alternative routes in an easy flow



Designing without elevators

Urban designers start designing stations and stops in a way that elevators are not needed



Two elevators always

Add two elevators to all platforms, so if one is not working, the chances are high that the other is

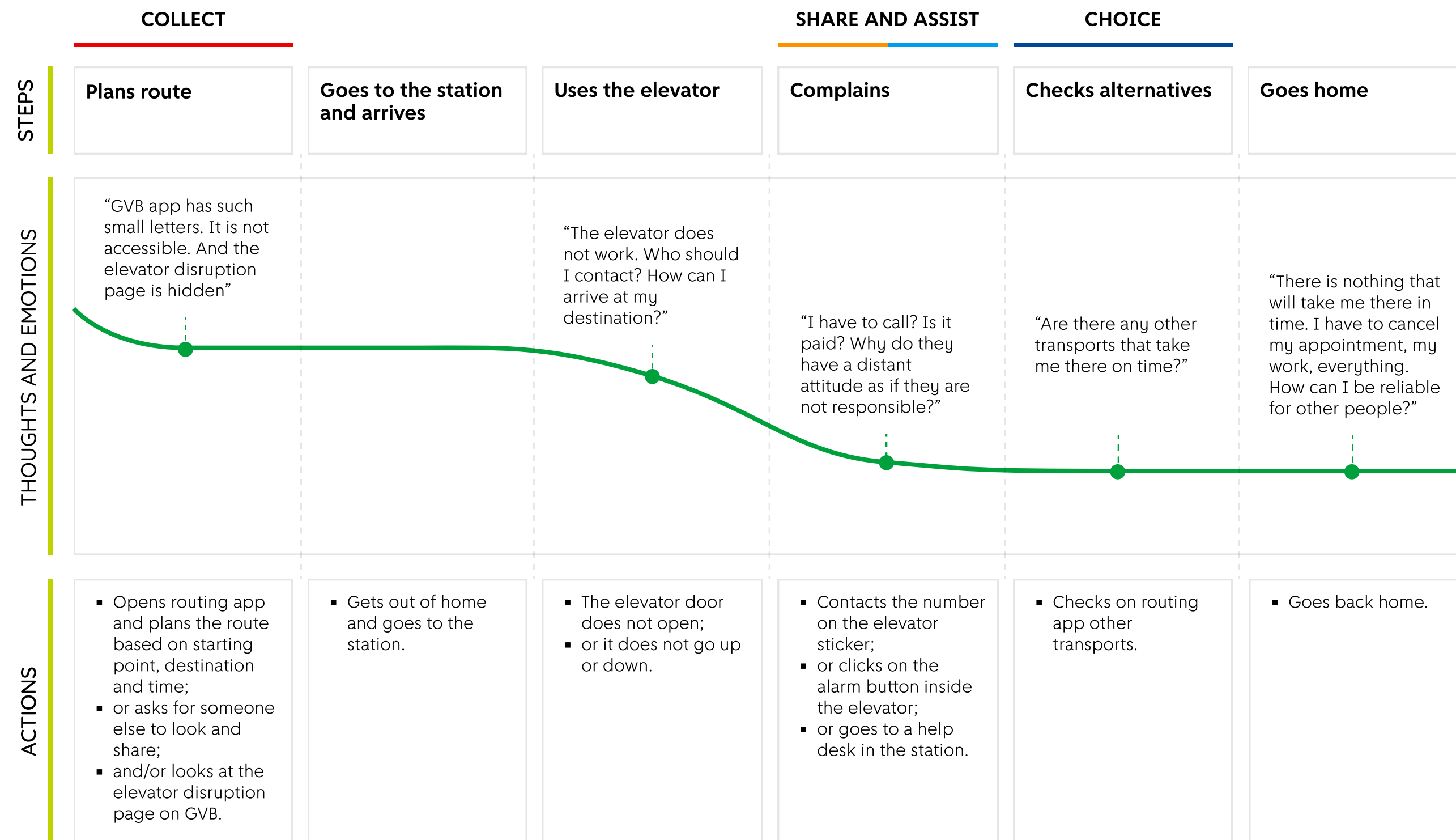


ARTIFACTS

User journey map •

Archetype: Wheelchair user/Techie

Scenario: Traveling by public transport with a broken elevator at the departure station



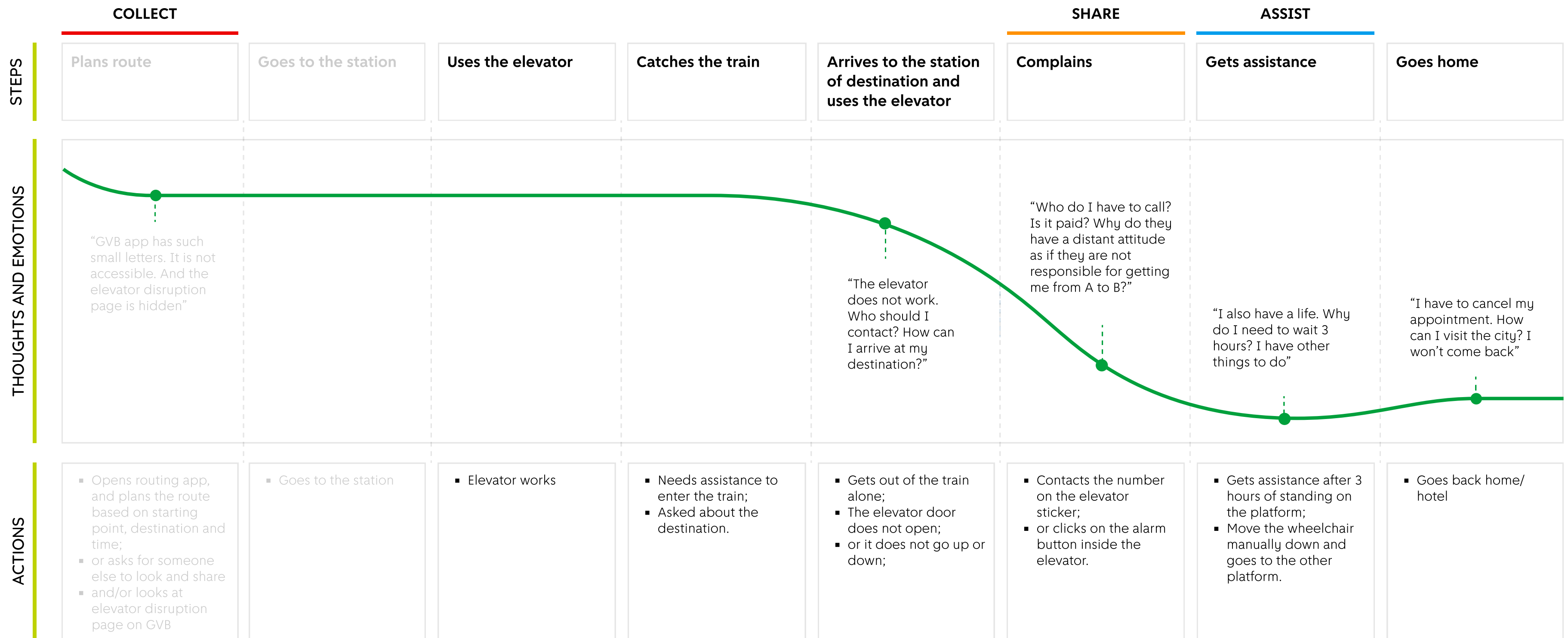


ARTIFACTS

User journey map •

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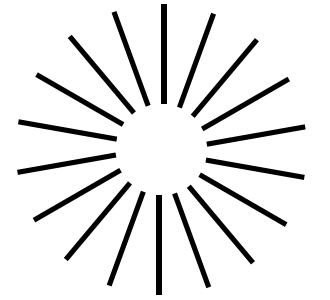
Scenario: Traveling by public transport with a broken elevator in the destination station





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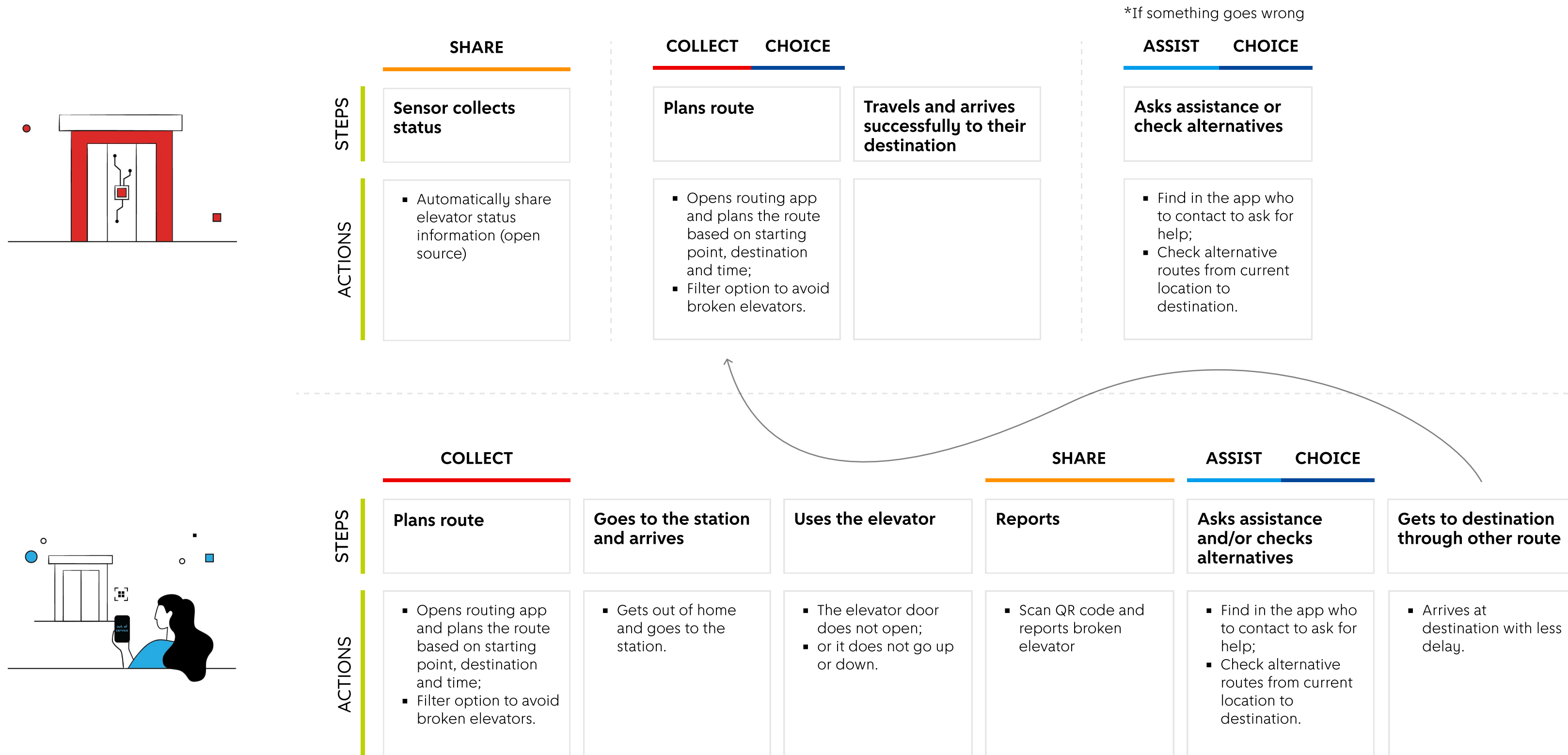


ARTIFACTS

Desirable user journey map


Archetype: Wheelchair user/Techie

Scenario: Traveling by public transport with a broken elevator on their route





Is the elevator broken?




Scan the QR Code and report so it can be quickly fixed and be notified about the status of your frequently used elevators.

Lift number
MAS-LIF-002

9:41 📶 🔋

[< Back](#) **Report**

 **Nieuwmarkt**
Exit: Nieuwe Hoogstraat

What is the status of the elevator?

Out of service

Small damage

Fully working

Submit

SHARE

Sticker



Report

Share in two clicks if an elevator is broken.



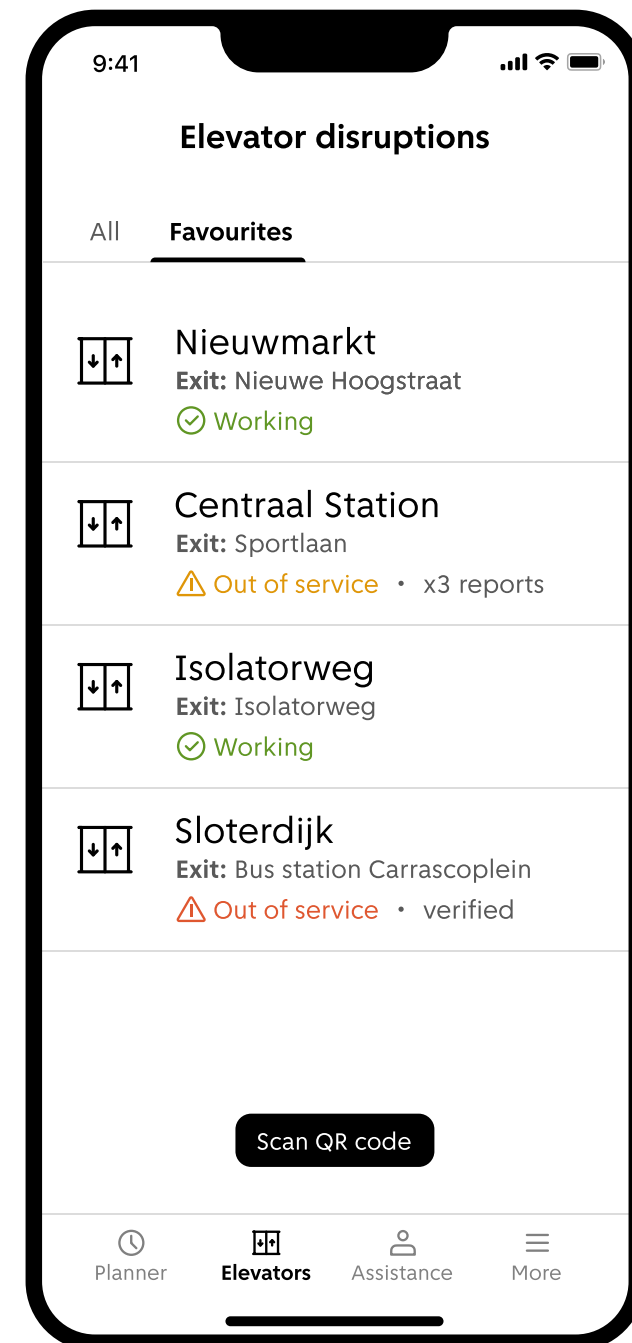
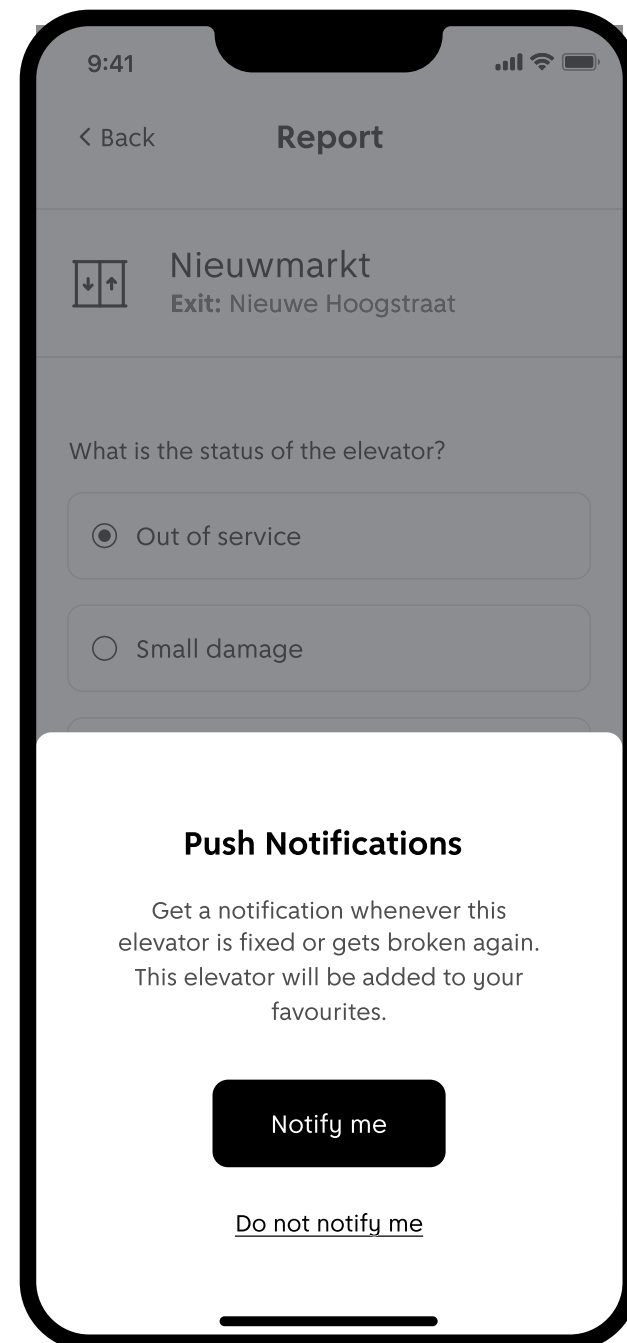
Quicker fix

If we make reporting easier, we might have the information sooner and fix the elevators quicker.



Inform others

In this way, the information is independent of the back office, and the community can be aware if there is a broken elevator as soon as someone reports it.



COLLECT

Notifications



Save the most used elevators

Improve findability by adding a personalised list of favourites/most used elevators.



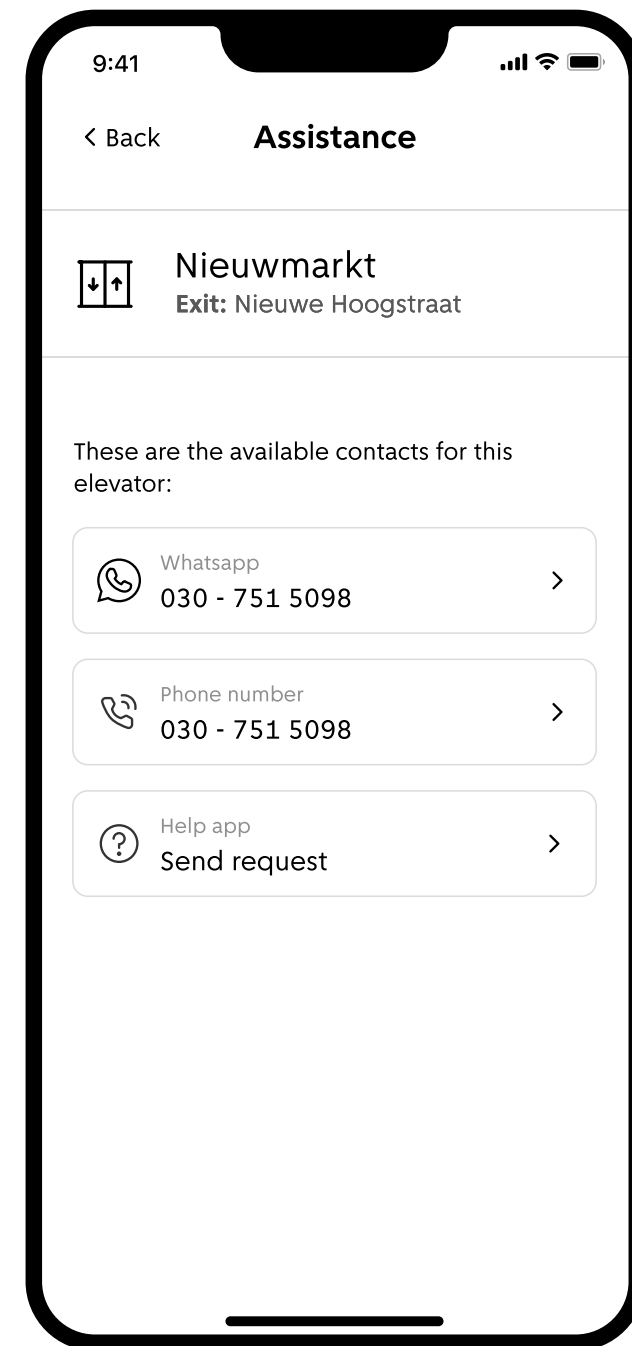
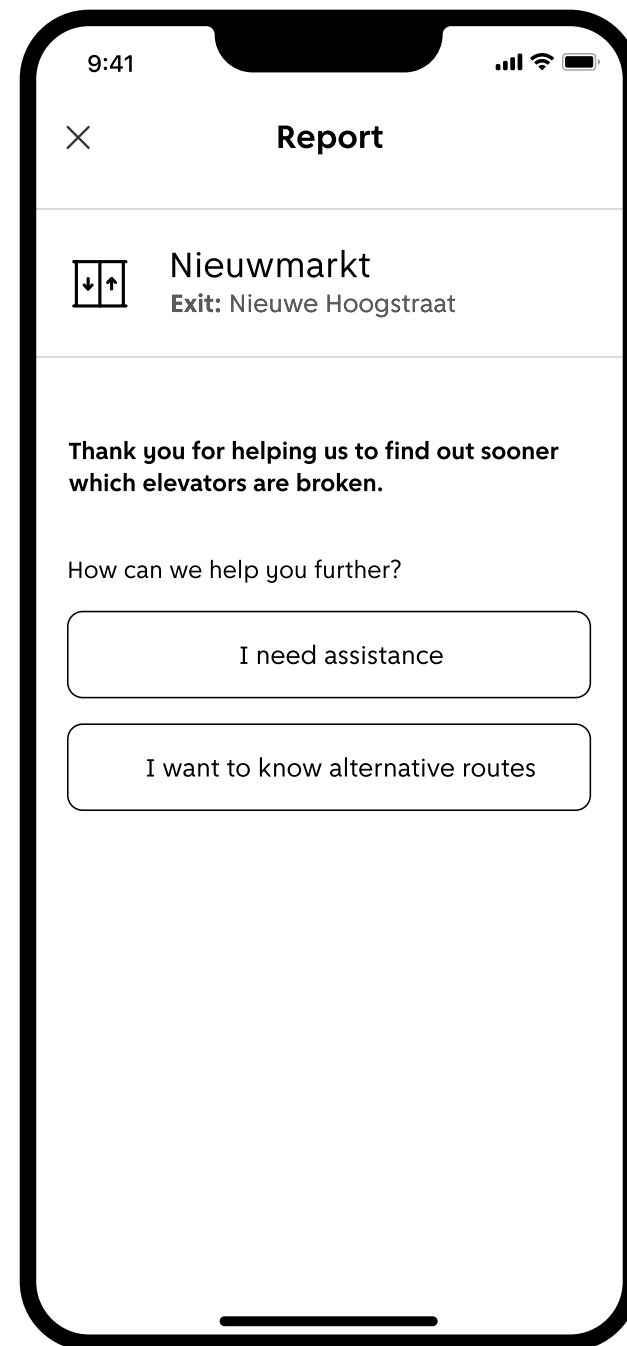
Get notifications of changing status

If the notifications are turned on, the user will receive notifications if the elevator is broken or fixed.



Give reliable information

Be transparent about how many people reported and if an inspector has verified the information. In that way, we can give more reliable data.



ASSIST

Assistance



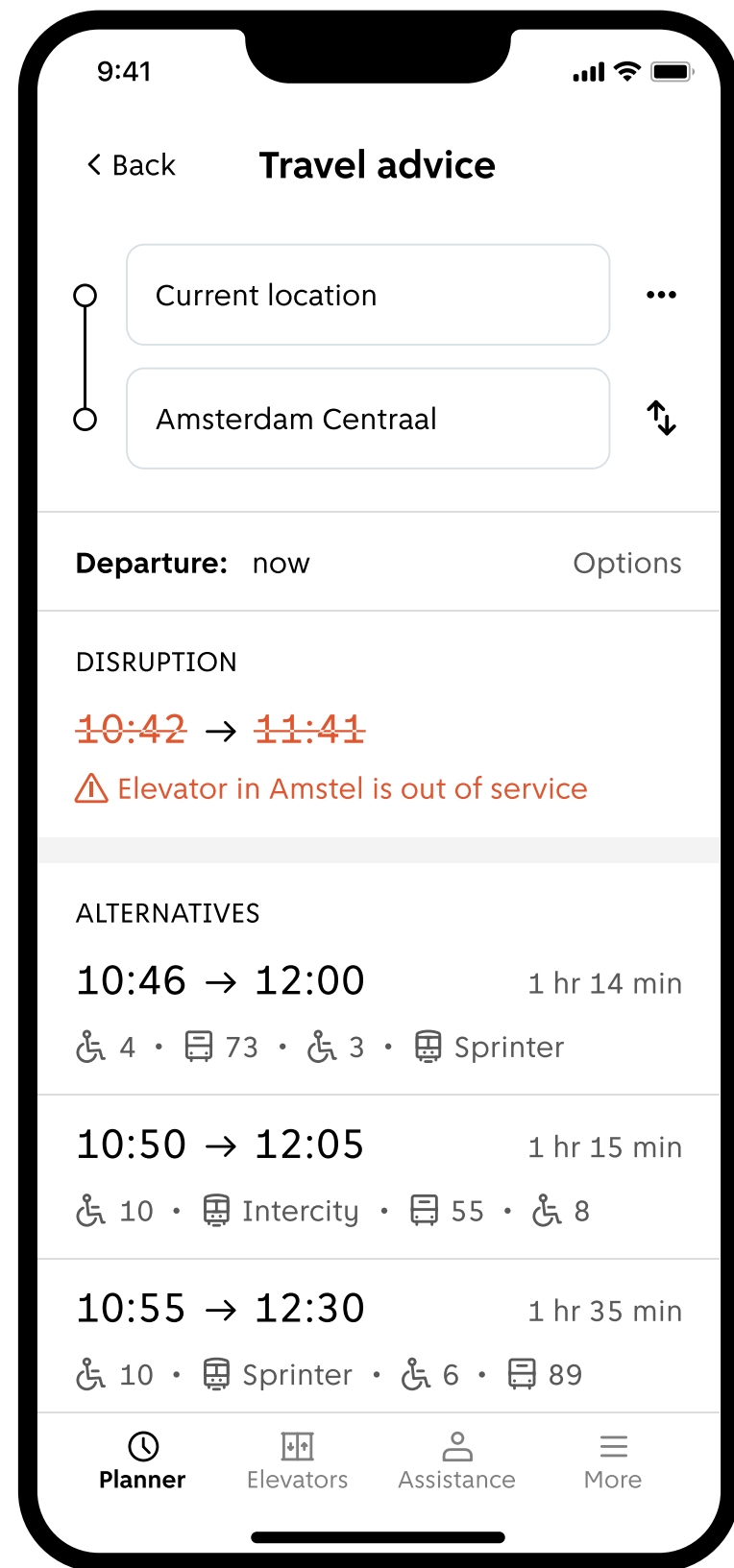
Reveal who to contact

By identifying the elevator; we can offer the contacts to ask for help.



Show alternatives

Users should be able to choose whether they are willing to pay for a call or not or to wait. In any case, we should always assist them.



CHOICE

Alternatives



Be transparent

Show that the fastest route has a disruption so users know they might have a shorter way next time. Share which type of disruption and where.



Show alternatives

Users should be able to choose an alternative route to avoid the disruption immediately.



Personalised search

Users should be able to choose if they want to avoid broken elevators or elevators altogether. Also, they should be able to add that they are wheelchair users, so timings and accessible stops and vehicles are shown.



CONCEPT TEAM

Let's create together .

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