

CONCEPT TEAM

All Aboard.

Usability Test Results

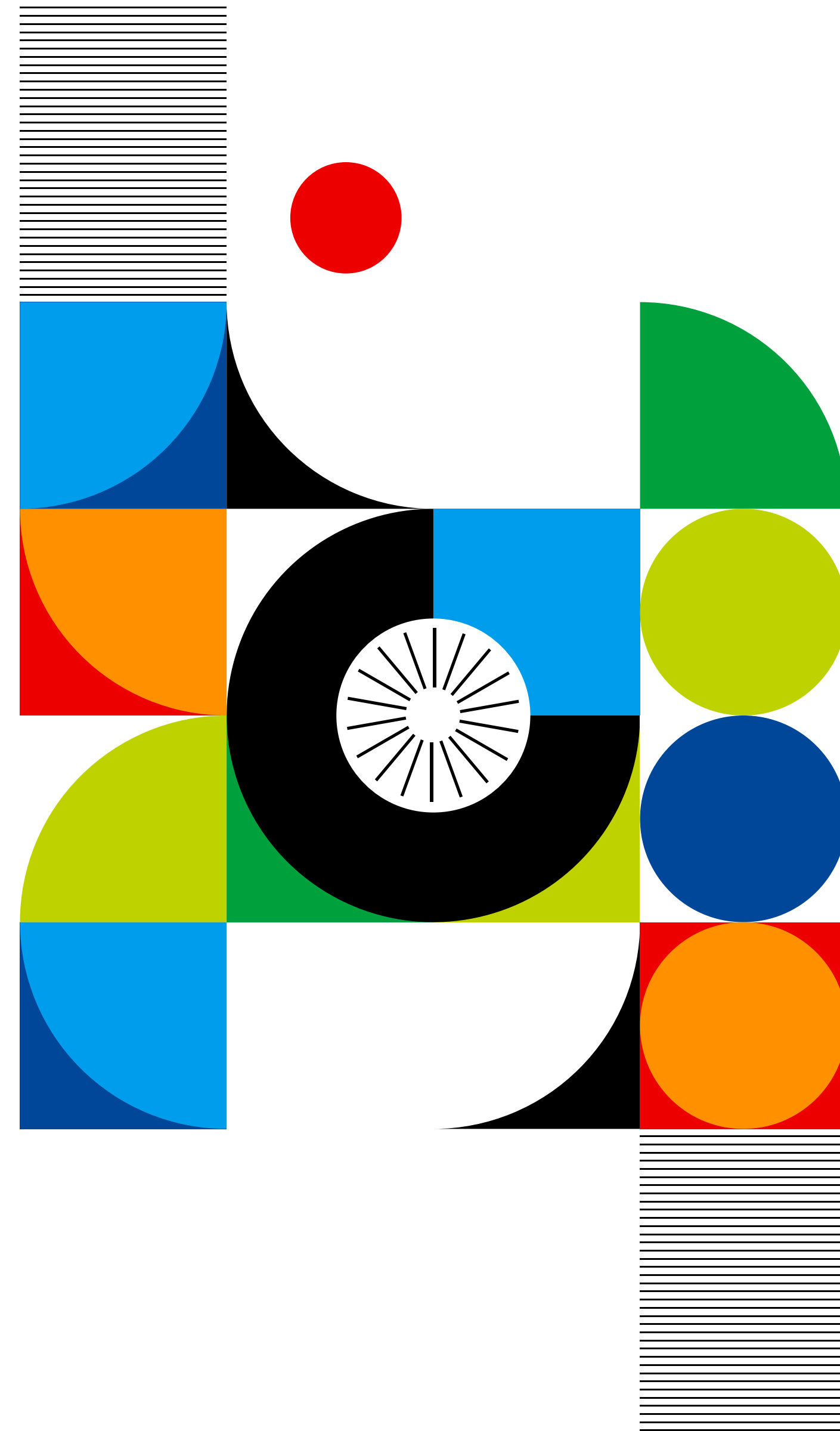


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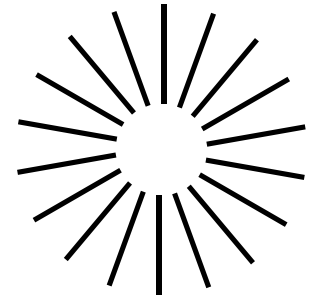
OCT 23 | USABILITY TEST REPORT





STRUCTURE

Anatomy of this report .



Study overview

What we did and why

Goal & objectives

Approach and participants



Usability test Findings

What we learned

Personas

Criteria and success rate

Key insights and summary



Next steps

Where we go next

Recommendations

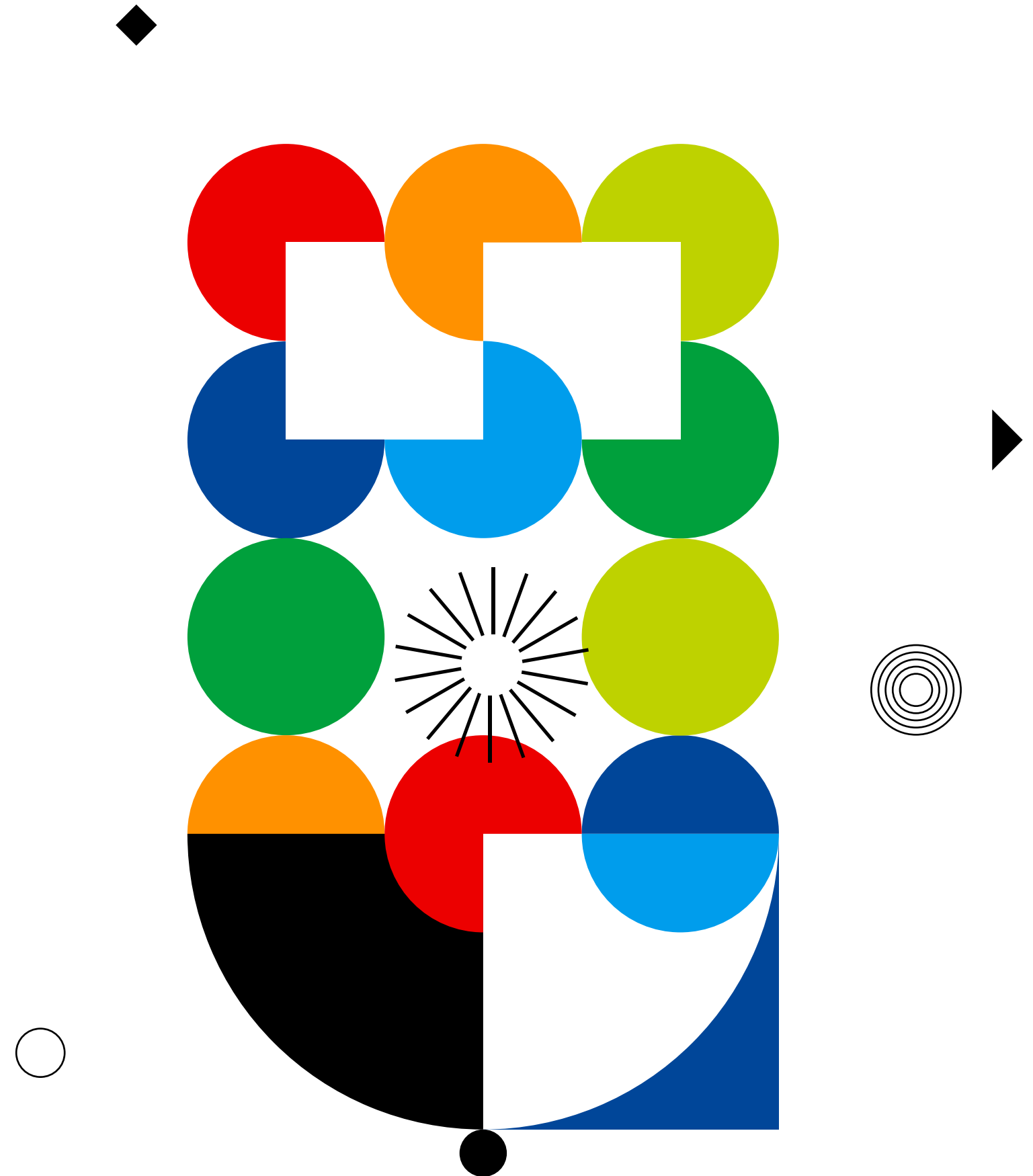


GOAL

Research questions.

We wanted to experience first-hand how the users use the 'All Aboard' app and identify the barriers they come across. We tested the latest version implemented as of the date of this usability test (September 2023).

- 1 Does 'All aboard; help solving the broken elevator problem?
- 2 Do the app functionalities meet the participants needs?
- 3 Is the app accessible for blind and low vision users?
- 4 Which are possible improvements?





SCOPE

Research approach.



Usability tests

Usability testing is a method of testing the functionality of a website, app or other digital product by observing real users as they attempt to complete tasks on it.

6 participants

- 2 Low-vision
- 3 Wheelchair users
- 1 Low-vision wheelchair user

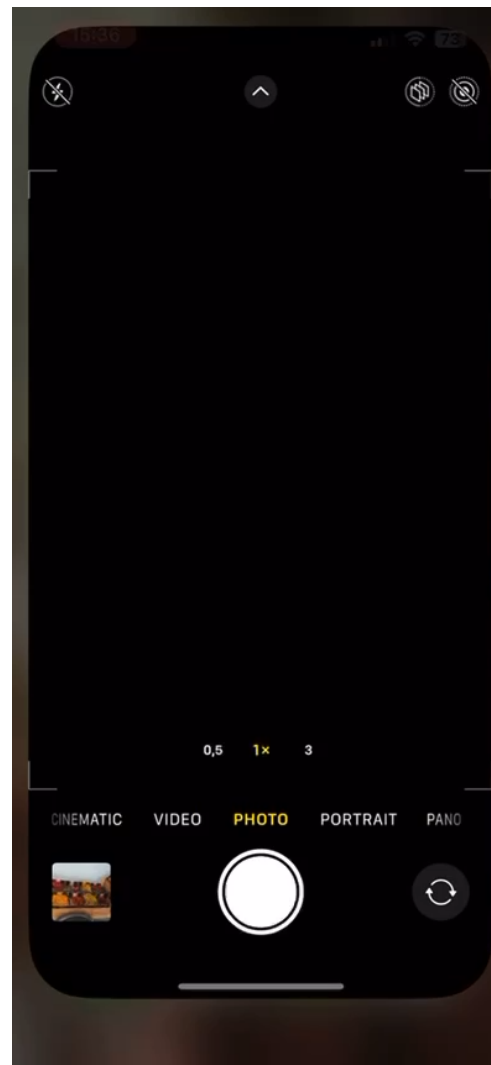
2 remote sessions

4 live sessions



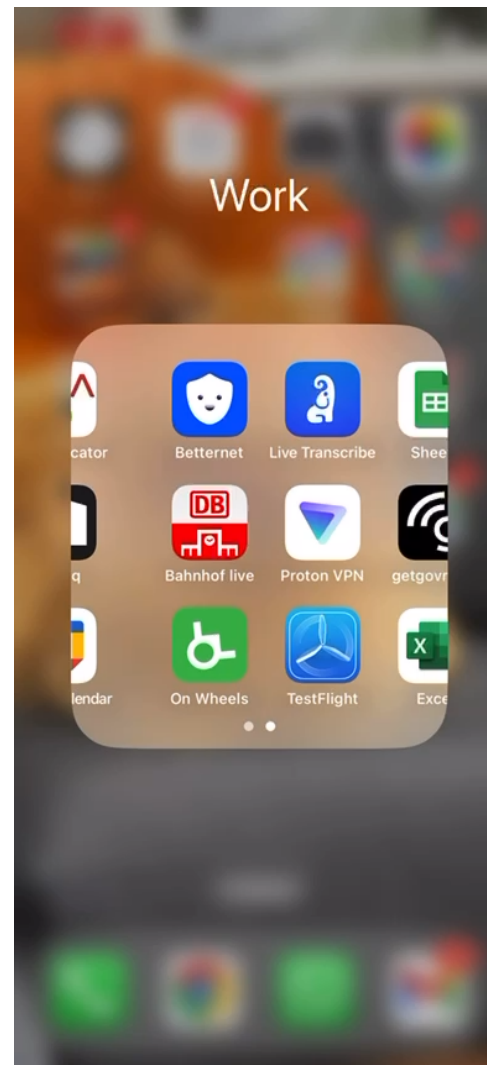
SCOPE

Usability test scenario's.



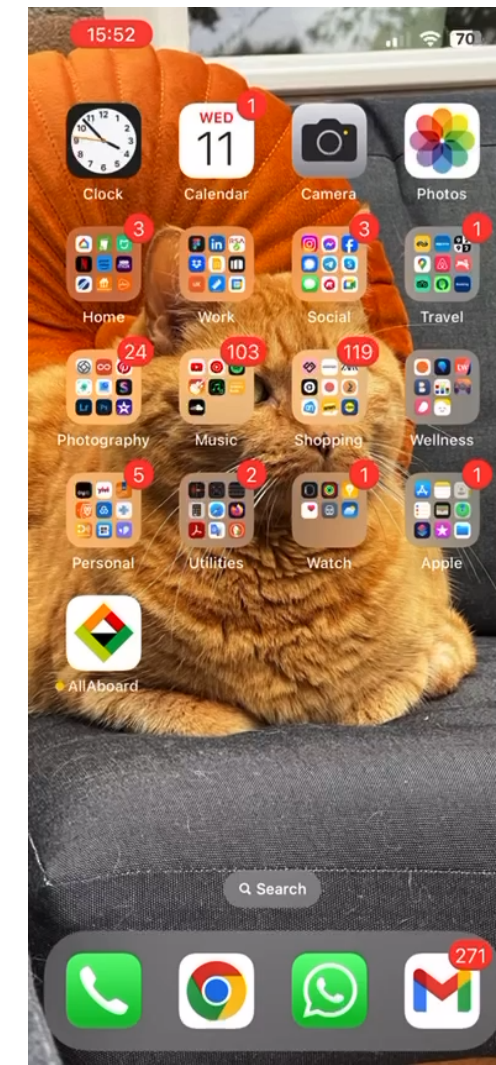
Scenario 1

You are travelling by public transport and find on your way a broken elevator with a QR code next to it. You would like to report that the elevator is broken and ask for assistance.



Scenario 2

You learned about the “All Aboard” app from a friend. You want to download it and add your frequently used elevators to get notified when there is a status change.



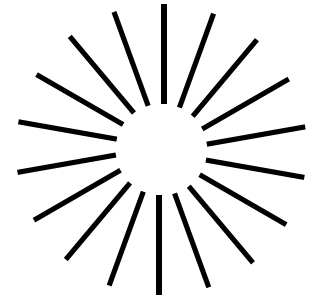
Scenario 3

You are at a platform and come across a broken elevator. You already have the “All aboard” app downloaded and want to report the elevator, but you can't find the QR code to scan.



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Anatomy of this report .



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PERSONAS | WHO ARE THE USERS?

Hetty



Bio: Traveling with public transport is something they do often. They know the city very well and know how to move around by heart. Often they make use of the elevators, but they can take the escalators sometimes.

Apps:



Google Maps



GVB App

Personality

Openness to use new apps

Frustration level

Technology use

City knowlegde

Core needs:

- Needs to get to their destination within the same time and effort as anyone else.

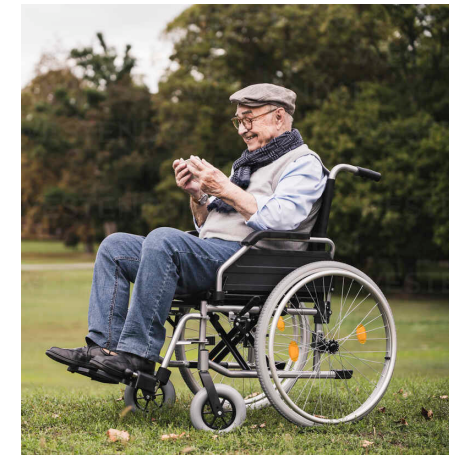
Wishes:

- Set up the favourite elevators once.
- Receive notifications without actively using the app
- Helping others to not get stuck on platforms
- Not having to actively use an app to be alerted

Frustrations:

- Getting stuck on platforms and not having any other options then to go back

Paul



Bio: Paul knows the city and is not worried about time setbacks. They will find their own solution when there is a broken elevator.

Apps:



Google Maps

Personality

Openness to use new apps

Frustration level

Technology use

City knowlegde

Core needs:

- Needs to get to their destination within the same time and effort as anyone else.

Wishes:

- Just wants elevators to work
- Helping other to net get stuck on platforms

Frustrations:

- Getting stuck and needing to take the escalators or other workarounds to get to their destination



PERSONAS | WHO ARE THE USERS?

Yasmin



Bio:

Knowing how and if they will reach their destination is the most important thing for Yasmin. They plan their journey before going out with their favourite PT apps, so they will know what to do.

Apps:



Core needs:

- Needs to know which public transport to take to get to their destination
- Needs to get to their destination within the same time and effort as anyone else.

Wishes:

- Wants to be alerted of the status of elevators
- Helping other to not get stuck on platforms

Frustrations:

- Getting stuck on platforms and not having any other options then to go back
- When a planned route doesnt go as planned

Personality

Openness to use new apps

Frustration level

Technology use

City knowlegde

Barbara



Bio:

Barbara feels like thats is the responsibility of the service provider that their needs are satisfied. They dont want any obstacles. They are fed up with getting stuck due to broken elevators and wants a solution.

Apps:



Core needs:

- Needs to get to their destination within the same time and effort as anyone else.

Wishes:

- Wants to be alerted of the status of elevators
- Wants service providers to report broken elevators

Frustrations:

- Getting stuck and needing to take the escalators or other workarounds to get to their destination
- It is not their responsibility to report broken elevators. The service providers need to do that.

Personality

Openness to use new apps

Frustration level

Technology use

City knowlegde



PERSONAS | WHO ARE THE USERS?

Amber



Bio: Sometimes you take the elevator without having reduced mobility. This persona is for all the people who occasionally take the elevators and are willing to report to help others.

Apps:

9292 App

GVB App

NS App

Google Maps

Core needs:

- Needs to use elevators when necessary f.e. with bike or heavy luggage.

Wishes:

- Helping other to not get stuck on platforms

Frustrations:

- Trying to use elevators and the elevators being broken

Personality

Openness to use new apps

Frustration level

Technology use

City knowlegde

Lars



Bio: People who have low vision or are completely blind and are using the public transport in Amsterdam. For them to use the PT apps, the apps need to be accessible.

Apps:

Voice navigation
GPS Maps

Devices:

- OrCam
- Talkback

Personality

Openness to use new apps

Frustration level

Technology use

City knowlegde

Core needs:

- Apps being as accessible as they can be and having a good working talkback function.

Frustrations:

- Apps not being accessible f.e. low contrast in colours, bad talkback and small font sizes.

***Note:**

- This persona could apply to any other persona



We defined the success criteria for each scenario and in the end we analysed quantitatively the results to extract insights ●

	Success Rate
Scenario 1	
Go immediately to camera to scan QR code	3/6
Report broken	5/6
Click on assistance and click on any contact option	3/6
How did you find this task?	4/5
Scenario 2	
Find their most used stations	6/6
Find their most used elevators	3/6
Used scroll down to search	5/6
Used searchbar to find	1/6
Used filter	0/6
Understand the status of the elevator	6/6
Clicked on the star icon to favourite	3/6
Understand that there was a status change	3/6
How did you find this task?	4/5

	Success Rate
Scenario 3	
Find elevator	5/6
Find how to report without QR code	5/6
Add comment	1/6
How did you find this task?	4/5
Post test questions	
Would you use this app?	5/6
How many would use app to report?	5/6
How many would use the app to be notified	2/6
Would you refer this app?	5/6
Future prototype	
Pro 'All aboard' app	3/6
Pro 'Future prototype'	3/6



“ Yeah this is perfect, before I said that I needed to remind myself to check the app. But now I will get actively get notified.

Sherry

“ No fuss. It is very straight forward

Hans

“ It is an improvement for accessibility in public transport. (...) It should be for all cities.”

Erik

“ Voor mij werkt het wel prima, wat ik al zei heel laagdrempelig

Herman

INSIGHTS | SUCCESSES

Let's start with the successes ●

① Finding the stations and reporting elevators was quick

Easy and quick to report. It does not disrupt the journey because it can be done afterwards.

② Usefull notifications functionality

With notifications participants get notified about status changes without actively using the All aboard app.

③ Easy to understand and accessible

We got a lot of compliments about how user friendly the app was:

- App had good contrast so users with low visibility could still use it
- Participants could immediately see the difference in status



Scenario 1

Task: Go immediately to camera to scan QR code

Insight: **QR code is not used**



- What we observed
- Why
- Recommendations

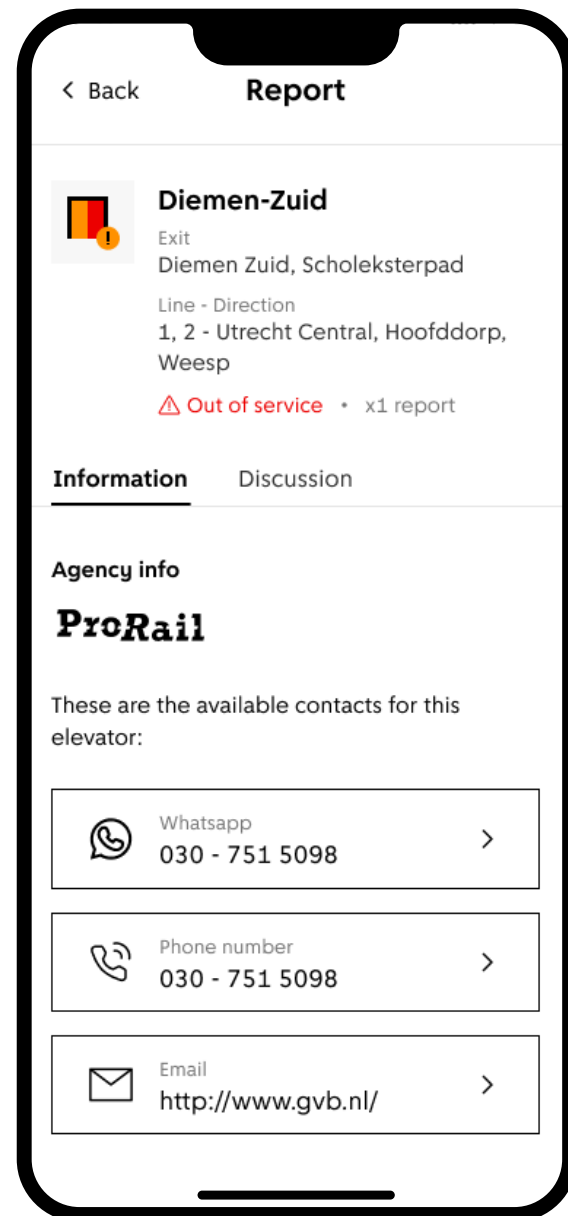
- Don't see QR code:** The participants with low vision could not see locate the QR code and needed help scanning.
- Size and distance:** the sticker is too small and cannot be seen from a distance from low-vision users.
- Opening bank apps to scan QR code:** Some participants didn't recognise the scan QR code with camera pattern. They only had experienced QR code scanning with bank apps.
- Not scanning the QR code:** Some participants did not scan the QR code
- Never used QR codes:** Participants had never scanned QR codes outside of using their bank app.
- Fear of using QR code:** Participants were afraid of false or scam QR codes in public spaces.
- Explain in the sticker on how to use the QR code:** Help the user understand the pattern by explaining the sticker and showing/telling them how to.
- Making it more accessible - eg. Introductory meeting to explain the app (what, how):** Explain to the users what the app does and how the people will get assisted.



Scenario 1

Task: Click on assistance and any contact option

Insight: **Assistance is not used**



- What we observed
- Why
- Recommendations

- Don't see the assistance option or buttons were not working:** Some participants completely overlooked this functionality
- Flawed talkback on browser:** The talkback on the browser view didn't work
- No NS whatsapp**
- Adding better alt text labels:** Better alt text labels on the browser view should be added.
- Review NS contact options**

- Don't understand the meaning of the button:** Some participants had some questions: What will this do? What do i get from this?
- Missing info on browser view:** On the browser view the labels and titles were not in correct dutch
- Introductory meeting to explain the app (what, how):** Explain to the users what the app does and how the people will get assisted.

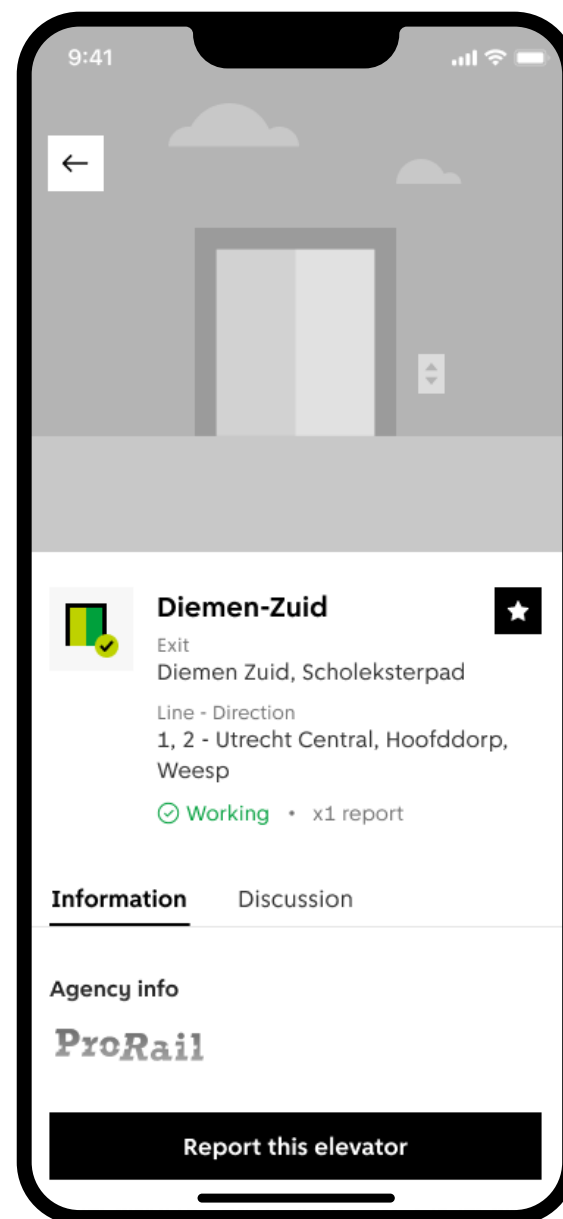
- What does assistance mean?** Will this help me to get of the platform or give me another solution?
- What do i get from this?:** Participants are used to getting 'worthless' assistance, so they are not expecting a lot of help.
- Calling service providers should mean human assistance and alternatives:** Users need service providers to feel responsible.



Scenario 2

Task: Find their most used elevators






Insight: **Picked random elevator from a station**



 What we observed

 Why

 Recommendations

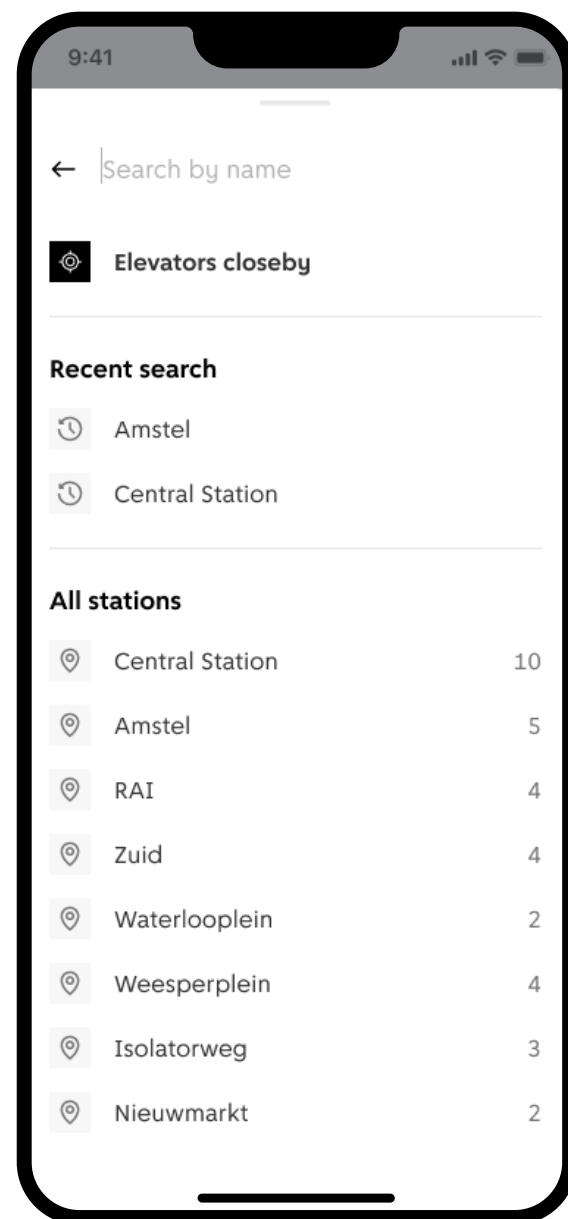
-  **Finding stations, but not elevators:** Participants were not recognising their elevators and just randomly choosing elevators based on the station name.
-  **Participants struggle to find specific elevators:** Participants were not choosing elevators based on exits or directions, but only based on the station name.
-  **No real difference between the elevators of a specific station:** There was no noticeable difference between elevators other than the exit. Also not all the elevators had pictures to make a difference.
-  **Cluster the data of elevators in a way they are linked or easier to find:** Elevators should be clustered in a group (the station), so its clear the user needs to make a decision about which elevator he searches.
-  **Add the right pictures to the elevators:** All elevators should have the right pictures added to their details page.



Scenario 2

Task: Use search bar to find elevators







Insight: **Didn't use search bar, but scrolling instead**



 What we observed

 Why

 Recommendations

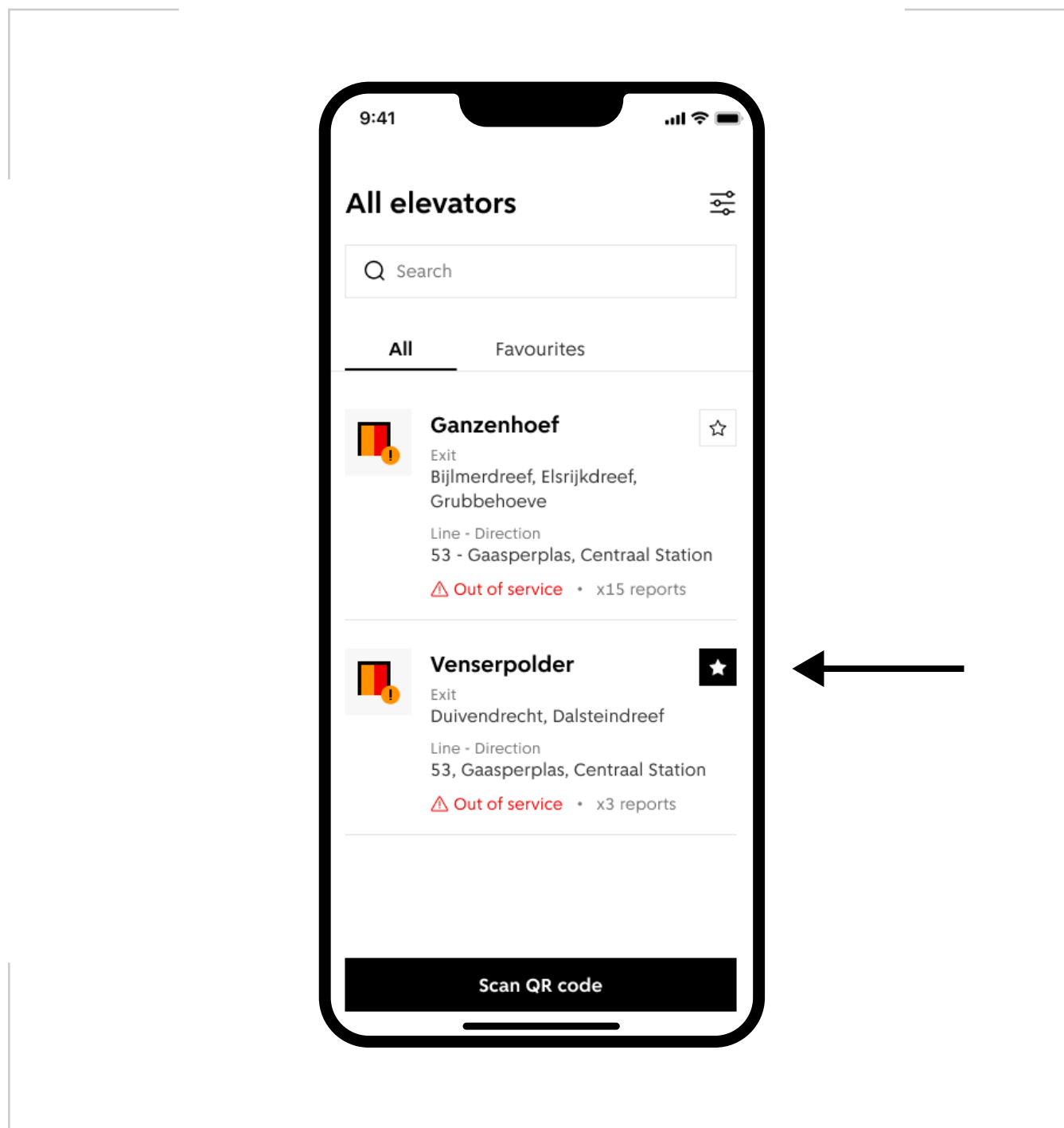
-  **Participants were using scroll to search:** Participants were scrolling down till they found the elevator they searched
-  **Searchbar was only used once:** Only one participant used the searchbar to search for elevators
-  **Invisible searchbar:** The searchbar was not visible enough in the UI of the app.
-  **Invisible searchbar (talkback):** The searchbar did not have correct talkback
-  **Talkback was working well for scrolling:** Participants liked scrolling because the talkback was working very well while scrolling.
-  **Make the search bar component more visible:** The search bar should be changed so its more visible in the UI of the app. Also the talkback should be made to work correct.



Scenario 2

Task: Clicked on star icon to favourite elevators





Insight: **Some could not find the favourite button**



 What we observed

 Why

 Recommendations

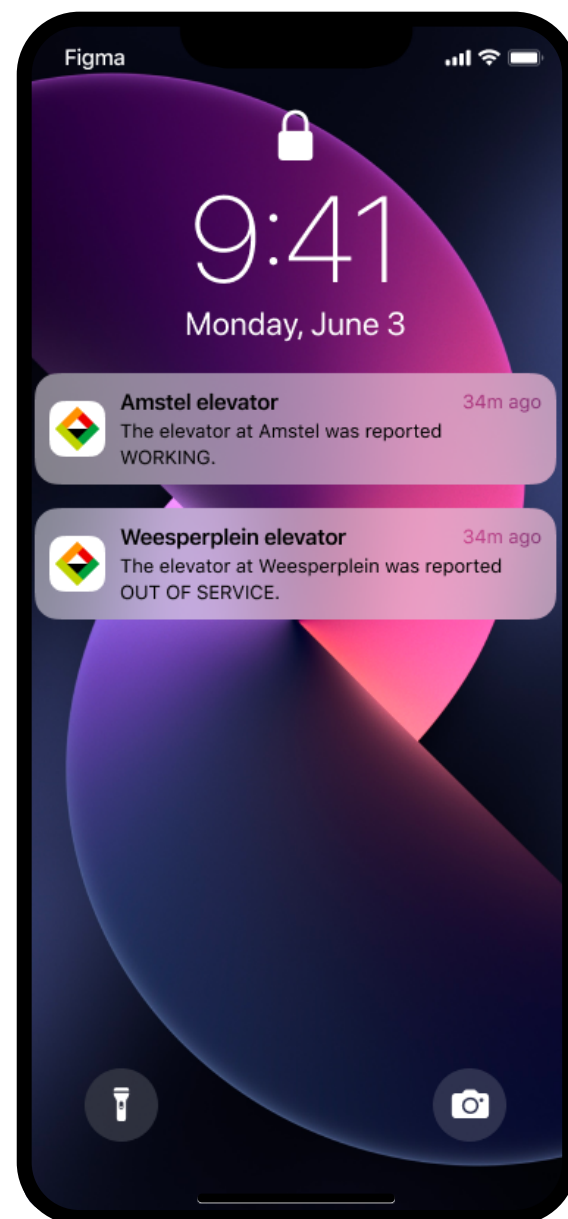
-  **Participants with low vision didn't see/hear the star icon:** Participants with low vision were not seeing or hearing the favourite icon to add to favourites.
-  **Adding to favourites is done via reporting:** Participants would report an elevator and then add to favourites through the popup.
-  **Missing favourite button and tab while using talkback:** Talkback was not working correctly for the button and favourite tab.
-  **Adding better alt text labels to favourite button and tab**



Scenario 2

Task: Understands that there was a status change

Insight: **Does not understand there is a change**



🎯 What we observed

? Why

👉 Recommendations

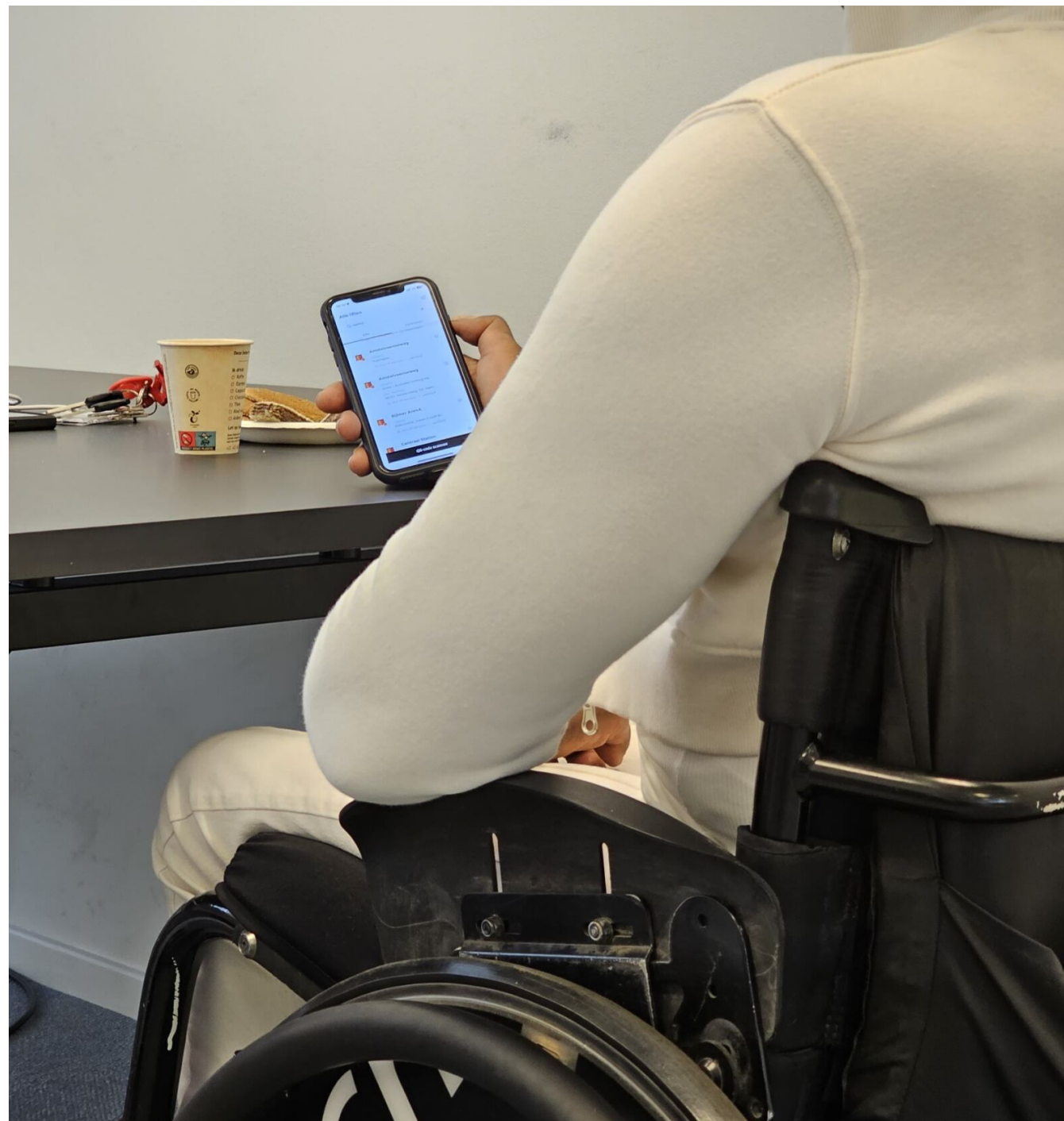
- 🎯 **Some participants did not get notified and therefore didnt understand that there was a status change:** During the test we tried to send notifications to the user to show the status change. Unfortunately this didnt work all the time.
- ? **Status did not change and participants were not notified for some elevators:** During the test there was a bug that the notifications were not working for some elevators.
- 👉 **Make sure all elevators change status when reported and users get notified:** Need to find a solution that all elevators will send notifications while changing status.



INSIGHTS

Post Test

Question: Would you use the app?



What we heard

? Why

Recommendations

- Participants were willing to use the app, but not reporting: they expect the service providers to be in charge of this.
 - ? Status source should come from service provider: They don't see it as their role to be the source of this data.
 - ? Getting a solution over reporting (assistance): The elevator will still be broken and they need rather an alternative/solution
-
- What does this mean for me, there is still no solution for the broken elevator: Why should i report if the elevator will still be broken? When will it be repaired?
 - Participants consider the status reliable: they don't use comments or explore any other data, they assume the status is correct
 - ? High expectations on the accuracy of the data and connection with GVB (service provider): They expect the city to have up to date data about the status of the elevators.
-
- Data should be up-to-date and trustworthy
 - Have 2 status (one from citizens, one from service provider) or make it more clear what is a verified status: With this way the status is extra up-to-date and trustworthy.
 - Our reports are also sent to GVB and GVB can give back estimated time to fix the elevator: Service providers could give back estimated time to fix for the broken elevators.






INSIGHTS

Standalone app vs new functionalities in existing apps



-  What we heard
-  Why
-  Recommendations


 Half of the participants preferred the stand alone app. The other half preferred the implementation in apps such as GVB, NS and 9292

PRO ALL ABOARD

-  **The all aboard app is very user friendly:** The app is very easy to use and has a low threshold.
-  **The notifications functionality is liked:** Getting notified when my favourite elevators are broken or working again will help me plan my routes.
-  **Not too much clutter, the main focus is on the elevators:** I can quickly see if my elevators are working, there is not too much fuss and it doesnt cost me too much work.

CONS ALL ABOARD

-  **Getting a solution over reporting (assistance):** The future prototype provides a solution for me. I can still plan my route and know which alternatives i can take. That way i can still continue my journey.
-  **What does assistance mean?** I dont think the assistance of the all aboard app will really help me.

 **Keeping both options (all aboard and future prototype) available in the future:** By keeping both options there is a solution for everyone. Due to the different persona's there is not one easy solution.



INSIGHTS

Stand alone insights



What we observed

What we heard

Why

Recommendations

Only solves the problem for trips within Amsterdam

Only focuses on Amsterdam Elevators

Do a pilot in Amsterdam for a couple of months and if it works, using the same solution in another city (and so on)

App could function as a tool to help others

Everyone can report even if they do not use a wheelchair

Assistants could use the app to help others

Rethink the way assistance is provided

Participants had trouble reading/understanding the dutch onboarding

Dutch text was not well written

Check and re-write Dutch content

Some participants had trouble getting the 'right' experience of the app

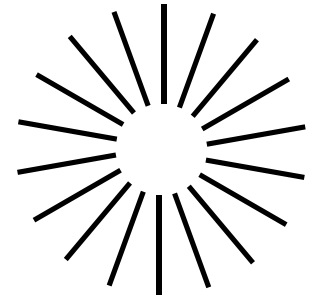
Some bugs in the overall experience of the app

Fixing referred bugs to improve user experience



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The recommendations are prioritised based on their impact for the successful completion of the scenarios ●





Recommendation	Priority	Progress status	Recommendation	Priority	Progress status
Data should be up-to-date and trustworthy	High	In Progress data+graph future ideas in presentation	Explain in the sticker on how to use the QR code	Low	QR code not ideal
Design a search result page where the user can see stations and exits	High	future ideas in presentation	Do a pilot in Amsterdam for a couple of months and if it works, using the same solution in another city (and so on)	Low	Reccomendation
Cluster the data of elevators in a way they are linked or easier to find	High	In Progress future ideas in presentation	Assistants at the platforms can also use the app to tell people if in their destination they will find a broken elevator	Low	Reccomendation service level
Adding better alt text labels	High	In Progress	Check and re-write Dutch content	Low	DONE
Add the right pictures to the elevators	High	In Progress	Check and re-write onboarding to make it simpler	Low	skip
Make sure all elevators change status when reported and users get notified	High	In Progress	Adding more realistic visuals in the onboarding	Low	skip
Keeping both options (all aboard and future prototype) available in the future	Medium	Reccomendation	Change the searchbar component (more visible)	Low	TO DO
Don't hide and simplify accessibility/findability of features in existing apps	Medium	Reccomendation	Add option to open in "browser" or "all aboard app"	Low	Reccomendation
Giving more options to report than just QR code (eg. NFC's, phone numbers, backoffice reports on all aboard (through info button); link)	Medium	QR code not ideal			
Making it more accessible - eg. Introductory meeting to explain the app (what, how)	Medium	Reccomendation			
Have 2 status (one from citizens, one from service provider) or make it more what is a verified status	Medium	trustworthy data			
Our reports are also sent to GVB and GVB can give back estimated time to fix the elevator	Medium	Reccomendation			
Calling GVB should not only be to report but also to get (REAL/TRUSTWORTHY) human assistance and alternatives	Medium	Reccomendation service level			
Change primary button color	Medium	orcarn needs an update to read white letters			



RETROSPECTIVE

Points of improvement in the process



-  Request participants to bring their apple store passwords
-  Remote sessions with low vision participants should be longer
-  MS Teams with screen sharing is not ideal. In person sessions were more insightful.
-  Always have a test phone prepared with talkback in case it is needed



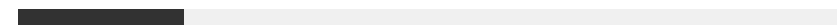
Persona 1

Amsterdam native

- High knowlegde about PT in Amsterdam
- Doesnt use PT apps often
- Knows their favourite elevators

They know their way around Amsterdam. Traveling with public transport is a daily thing for them. They know which station to take to go somewhere. Often they make use of the same elevators. Sometimes they will get stuck on platforms due to broken elevators and need to find another way.

Usage of public transport apps



Level of wanting to be helped



Knowlegde about their favourite elevators



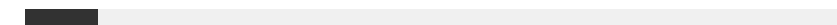
Persona 2

Individual traveler

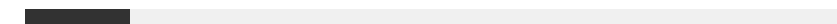
- Doesnt use PT apps often
- Doesnt want help or assistance
- Will find their own solution

The individual traveler also has a high knowlegde of the public transport in Amsterdam. They will go travel to their destination on their own knowlegde and will see how they get their. If they get stuck somewhere they will find their own solution or workaround to get to their destination.

Usage of public transport apps



Level of wanting to be helped



Knowlegde about their favourite elevators



Persona 3

The planner

- Is focussed on getting to their destination
- Wants to be prepared
- Uses PT apps often

The planner really wants to know how and if they will reach their destination. They plan their journey before going out with their favourite PT apps, so they will know what to do. They really dont want to get stuck because of broken elevators.

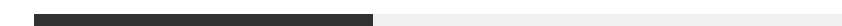
Usage of public transport apps



Level of wanting to be helped



Knowlegde about their favourite elevators





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.

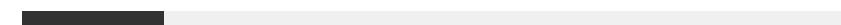
Need for assistance



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

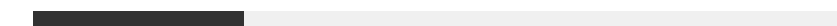
They are usually parents travelling with their babies in strollers.

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.

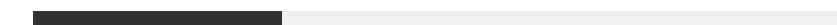
Need for assistance



Effort to assist in stairs



Available alternatives

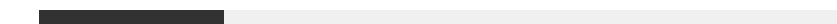


Luggage carrier

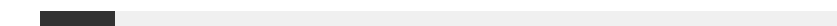
They transport heavy or big-sized objects.

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

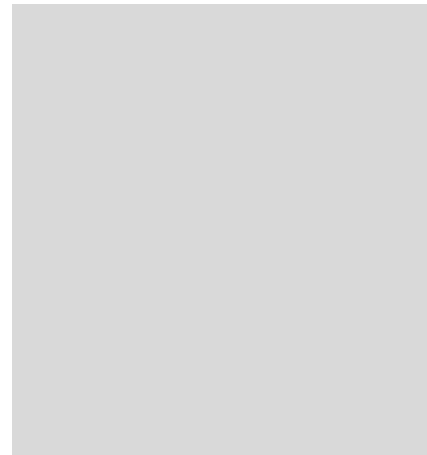


Available alternatives





Persona 1



Bio:

Traveling with public transport is a something they do often. They know the city very well and know how to move around by heart. Often they make use of the elevators, but they can take the escalators sometimes.

Core needs:

- Needs to get to their destination on time

Wishes:

- Wants to be alerted of the status of elevators
- Helping others to not get stuck on platforms
- Not having to actively use an app to be alerted

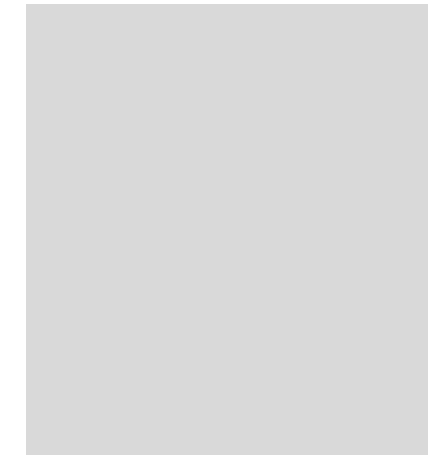
Frustrations:

- Getting stuck on platforms and not having any other options then to go back

Apps:

- GVB (gappie)
- Google Maps

Persona 2



Bio:

The individual traveler also has a high knowlegde of the public transport in Amsterdam. This persona knows the city and is not worried about time setbacks. They will find their own solution when there is a broken elevator.

Core needs:

- Needs to get to their destination

Wishes:

- Just wants elevators to work
- Helping other to net get stuck on platforms

Frustrations:

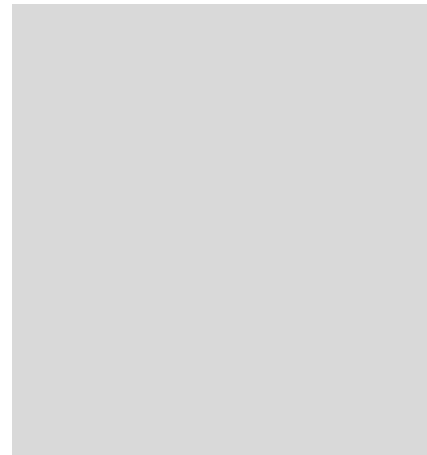
- Getting stuck and needing to take the escalators or other workarounds to get to their destination

Apps:

- Google Maps



Persona 3



Bio:

The planner really wants to know how and if they will reach their destination. They plan their journey before going out with their favourite PT apps, so they will know what to do.

Apps:

- GVB (gappie)
- 9292
- NS app

Core needs:

- Needs to know which public transport to take to get to their destination
- Needs to get to their destination

Wishes:

- Wants to be alerted of the status of elevators
- Helping other to not get stuck on platforms

Frustrations:

- Getting stuck on platforms and not having any other options then to go back
- When a planned route doesnt go as planned

Persona 4



Bio:

This persona feels like thats is the responsibility of the service provider that their needs are satisfied. They dont want any obstacles. They are fed up with getting stuck due to broken elevators and want a solution from the service providers.

Apps:

- GVB (gappie)
- 9292

Core needs:

- Needs to get to their destination
- Just wants elevators to work

Wishes:

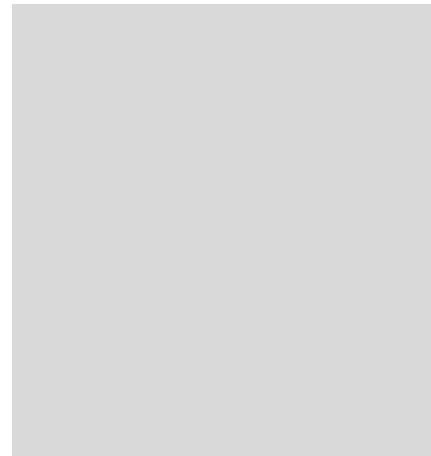
- Wants to be alerted of the status of elevators
- Wants service providers to report broken elevators

Frustrations:

- Getting stuck and needing to take the escalators or other workarounds to get to their destination
- It is not their responsibility to report broken elevators. The service providers need to do that.



Persona 5



Bio:

This persona doesn't have reduced mobility, but sometimes uses elevators when it's needed and is willing to report to help others.

Core needs:

- Needs to use elevators when necessary f.e. with bike or heavy luggage.

Wishes:

- Helping others to not get stuck on platforms

Frustrations:

- Trying to use elevators and the elevators being broken

Apps:

- GVB (gappie)
- Google Maps
- 9292
- NS

Persona 6



Bio:

People who have low vision or are completely blind and are using the public transport in Amsterdam. For them to use the PT apps, the apps need to be accessible.

Core needs:

- Apps being as accessible as they can be and having a good working talkback function.

Frustrations:

- Apps not being accessible f.e. low contrast in colours, bad talkback and small font sizes.

Apps:

- Google Maps

Devices:

- OrCam
- Talkback