FLUSH FINDER

Background

Our project is a mobile application that helps users find clean and suitable restrooms in their area, with a focus on accessibility, affordability, cleanliness, and selection of user preferences. The background and context of this project lie in the widespread need for clean and safe restroom facilities, an internationally recognized problem. We have identified several issues with existing solutions, such as their limited accessibility to marginalized populations and their failure to address user needs and preferences effectively.

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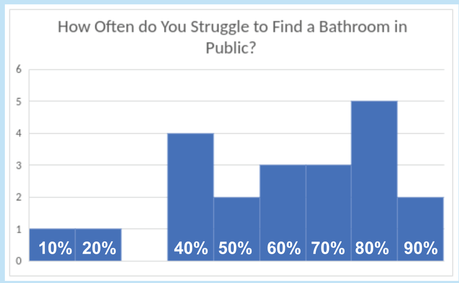
User Research

Surveys

We conducted user research to understand the needs, preferences, and behaviours of our users. Methods such as interviews and surveys helped gather qualitative & quantitative data regarding user's expectations for a toilet navigation application.



We were interested in the user response to finding bathrooms in public. Two-thirds of users reported often or regularly (70% or above) struggling to find a bathroom in public. It's reassuring to have numerical evidence regarding the demand of a toilet-located service.

Personas

Based on the interviews conducted in our user research stage, we created user personas, partitioning the users into key areas based on their demographics and interests. These fictional representations of users allowed us to better understand issues specific to certain groups and design solutions that cater to their needs.

As someone who loves hiking and biking, I'm always on the lookout for new trails and routes to explore. But when you're out in the wilderness, finding a bathroom with a shower can be a real challenge.

Hi there! I'm someone who identifies as non-binary, and finding a comfortable bathroom experience can be a bit of a challenge. Using a gendered bathroom just doesn't feel right, and can be quite uncomfortable.

Ideation

Pain Points

After conducting around 20 user interviews and meeting back with the group, we discovered the genuine pain points of our users. We organized these pain points into two primary contexts - the team member's point of view, and interviewee's point of view. We then further divided these into four clusters:

Technical Issues
- Hates to see lots of updates
- Hates to input lots of data
- Inclusive of all people
- Checks users reliability

Performance
- Slow loading time
- Too many notifications
- Apps with broken links
- Wrong directions

Services
- Hates to pay for extra subscriptions
- Bad customer service
- Out of date Map Data

User Interface
- No personalisation
- Unclear navigation system
- Limited functionality
- Text-to-speech for visually impaired people

Requirements

The team has identified functional requirements , as well as non-functional requirements such as performance and security. These requirements were based on data gathered from user research and will guide the app's development to ensure it meets the needs and expectations of users.

Functional
- User should be able to check ratings and reviews of bathrooms given by previous users
- Users should be able to receive text-to-speech instructions to help users navigate easier
- Users should be able to add shortcuts such as adding their favourite toilet.

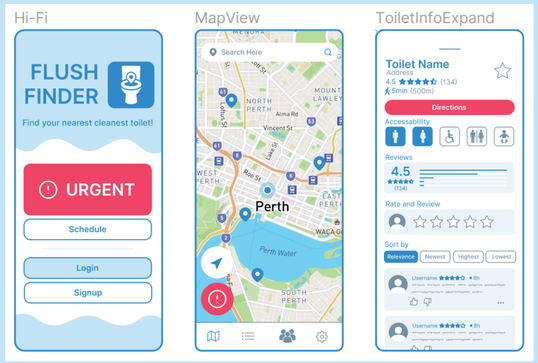
Non-Functional
- The app should be easy to use, quick to navigate
- Display primary use (finding toilets) as the first screen when users open the app
- App should be reliable and available at all times
- App should have security measures to protect user data

Prototyping

Evolution

Low-Fidelity

High-Fidelity



Design Principles and Heuristics

System Visibility: Users receive instant feedback on location, nearby toilets, search status, and errors, following the visibility of system status heuristic.
Flexibility and Efficiency: The app offers customizable search options, filters, and custom lists, reducing cognitive load and enabling efficient toilet finding, aligned with the flexibility and efficiency of use heuristic.
Consistency and Standards: Design elements like color, typography, and layout maintain consistency, providing a clean and modern look. Clear icons, labels, and intuitive navigation patterns adhere to consistency and standard heuristics, enhancing usability and ease of use.

Decisions Considerations

- When creating icons, existing icons have been used to ensure users are familiar with their meaning.

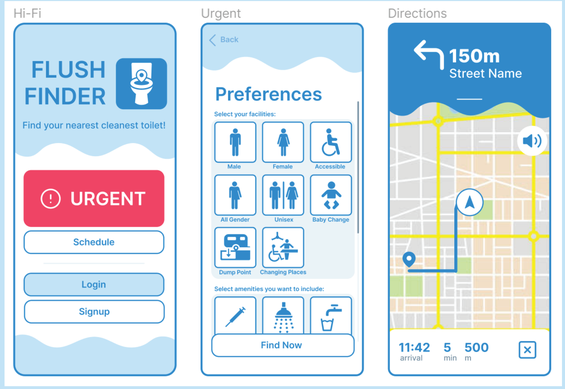
- The wave motif symbolises a clean functioning toilet. This has also become a strong identity to the brand .
- The colour palette for this app strongly utilises different tones of blue to highlight the wave motif. We have also kept it quite light and bright to stronger emphasise the idea of cleanliness.

Expert Reviews

Our expert reviews idenitified how the user may be confused by the urgent button on the map as it a symbol without context. Therefore, we added the symbol to the landing page urgent button for consistency.

Our expert reviews also proposed an idea to include a button which takes the user back to their live location. This idea was accepted and incorporated with the button shown on the left.

User Flow



This user flow demonstrates how the app can be used in an urgent scenario where someone needs to find a toilet quickly.The user will click the urgent button which sends them to click their preferences. Once they have entered their preferences and click find now they will be given directions to the nearest toilet which satisfies their needs.

Acknowledgements

We sincerely thank everyone who contributed to the successful completion of our Toilet Finder App. Our group members deserve the utmost appreciation for their dedicated efforts, hard work, and valuable insights throughout the project. We extend our heartfelt gratitude to Dr. Ivánová for entrusting us with this project and offering invaluable guidance and feedback. Lastly, we acknowledge the invaluable support and wisdom of Dr. Susannah Soon and our tutor, Dr. Shreya Ghosh, without whom we couldn't have accomplished anything.

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