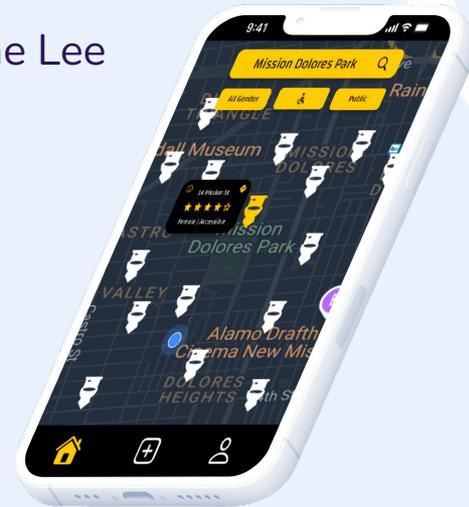# Pission Hi-Fi Prototyping

Andreas Lorgen, Merve Ondogan, Odin Farkas, Darynne Lee

Value Proposition

Pission helps you map out restrooms before you even leave the house, so you can **focus on your journey**, not your next stop.

Team

Darynne Lee
Pretty Tall

Odin Farkas
Complains

Merve Ondogan
Loves Thanksgiving

Andreas Lorgen
Uses Pinterest

Problem

Finding restrooms can be challenging, **especially when visiting unfamiliar places**. Traditional location apps don't offer specific, reliable restroom information to help with pre-planning.

Solution

PISSION enables users to plan ahead by providing detailed, crowd-sourced restroom information, allowing them to map out clean, accessible restroom stops before they set out.

Presentation Outline

① 1 → ② 2 → ③ 3 → ④ 4

Heuristic Evaluation   UI Revisions   Hi-Fi Prototype   Demo

Heuristic Evaluation

The Big Picture

Violation Breakdown

- 50 Total Violations
- Most commonly violated
  - H8: Aesthetic & Minimalist Design (18%)
  - H4: Consistency & Standards (14%)
  - H7: Flexibility & Efficiency of Use (10%)

Severity Breakdown

- 9 Severity #4 Violations
- 9 Severity #3 Violations
- 32 Severity #0-2 Violations

UI Revisions

Severe Violations: Directions

- **H11:** Starting location of directions appears to be random. (*Severity 3*)

- **H6:** Lack of ETA in directions page. (*Severity 3*)

- **H11:** Only navigation option is walking. (*Severity 3*)

- **H3:** No option to exit a route once navigation has begun. (*Severity 4*)

Our Solution: Navigation Updates
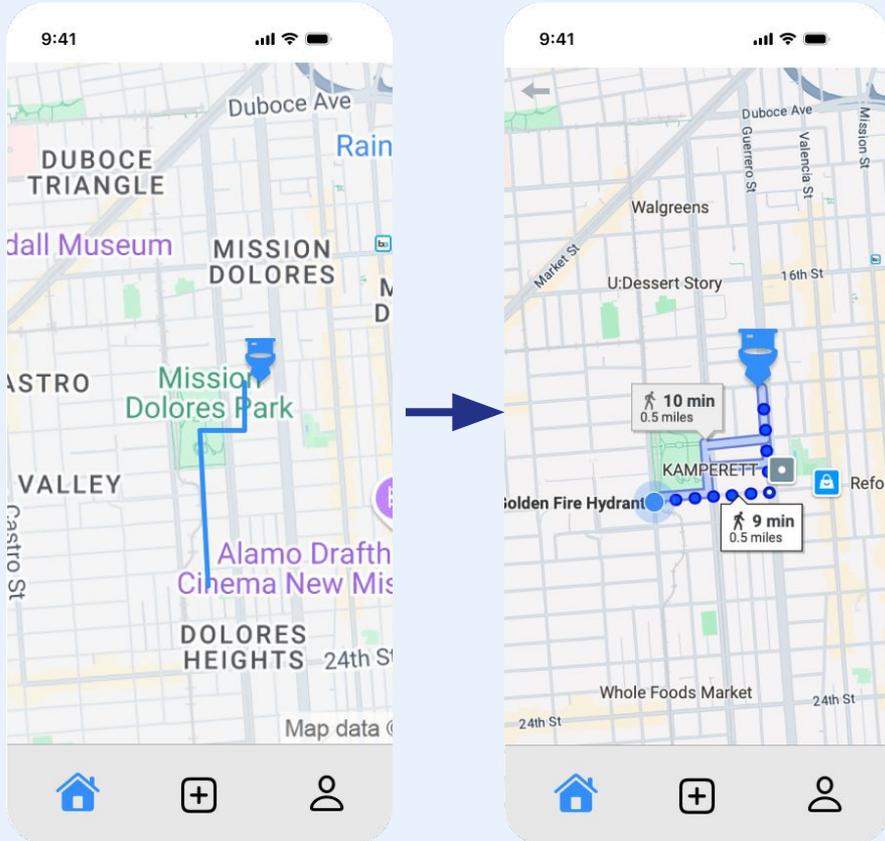
Changes and Progress Towards Usability Goals

1) **Google Places API Integration:** Med-Fi prototype now mirrors Hi-Fi implementation, utilizing the Google Places API to handle navigation nuances.
   a) **Efficient:** Users can locate restrooms more quickly with accurate ETAs and adjustable start points.
   b) **Intuitive:** Multiple navigation modes with clearer ETAs ensure users understand how to reach their
2) **Back arrow for navigation exit**
   a) **Efficient:** Reduces time spent on unintended navigation, allowing users to return to browsing quickly
   b) **Intuitive:** Users intuitively know how to exit a feature if needed, avoiding accidental errors.

Severe Violations: Reviews

- **H1:** Review button is extremely hard to read. (*Severity 4*)

- **H7:** Rating restrooms can only be done from the profile. (*Severity 4*)

- **H7:** No way to rate restroom or add restroom to profile on the "more info" restroom page. (*Severity 4*)

Our Solution: Profile and Rating Updates

Changes and Progress Towards Usability Goals

1) The profile page now shows saved and added restrooms, with notably higher contrast text.
2) Rating restrooms is now tied to the info page, making it accessible from the profile or map.

Intuitive: Higher contrast text and added/saved restroom displays help users navigate the profile and manage contributions effortlessly.

Efficient: Easier to differentiate between saved vs. added. Restroom ratings visible before clicking on them.
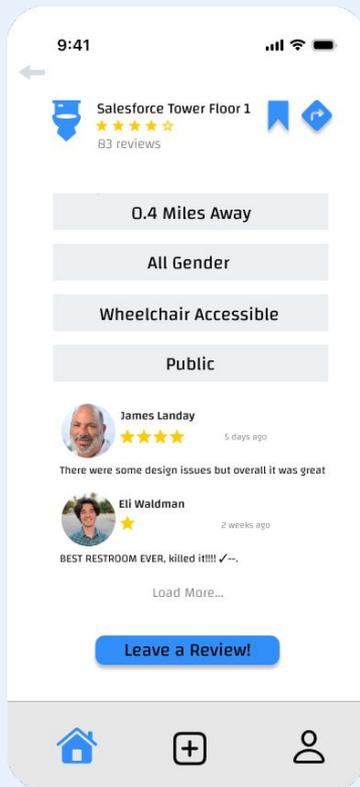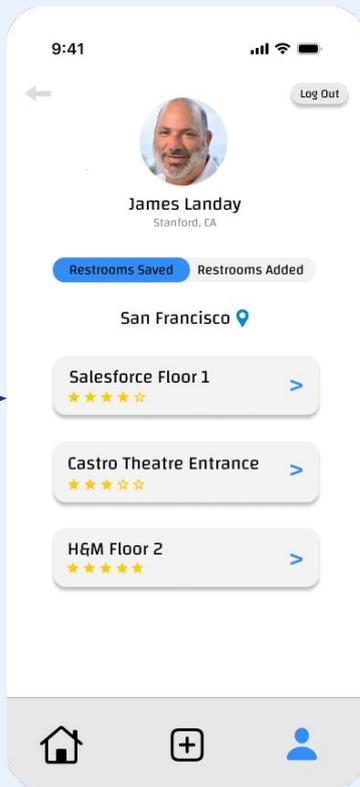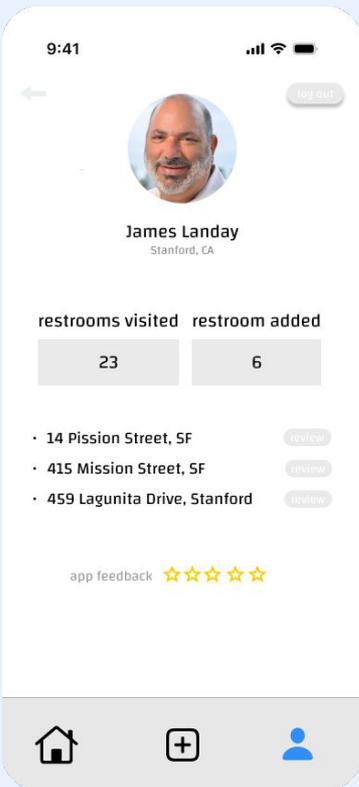
Quick Fix: Inconsistent Filters

H4: The system displays inconsistent filters across the app's search and "more info" screens. For example, there's ambiguity between terms like "no code required" and "public" filters, which may represent the same concept but use different terminology. (*Severity 3*)
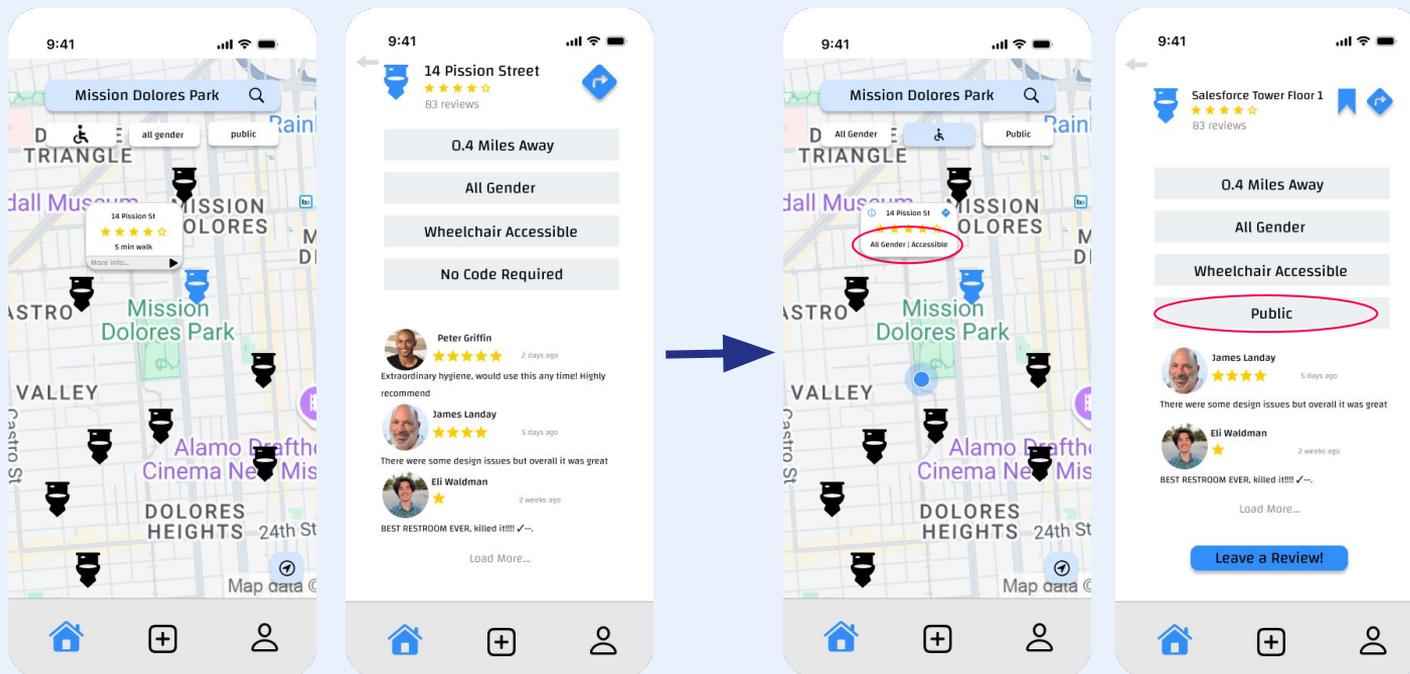
Usability Goals Progress

Efficient: Simplifies searching for restrooms by removing ambiguity, making the process faster.

Intuitive: Reduces cognitive load by unifying terminology.

User-Centric: Aligns terminology with user expectations.

Quick Fix: Bathroom Names

H6: The name of the bathroom (ex. Salesforce Floor 1) should be visible when viewing restroom information. (*Severity 3*)
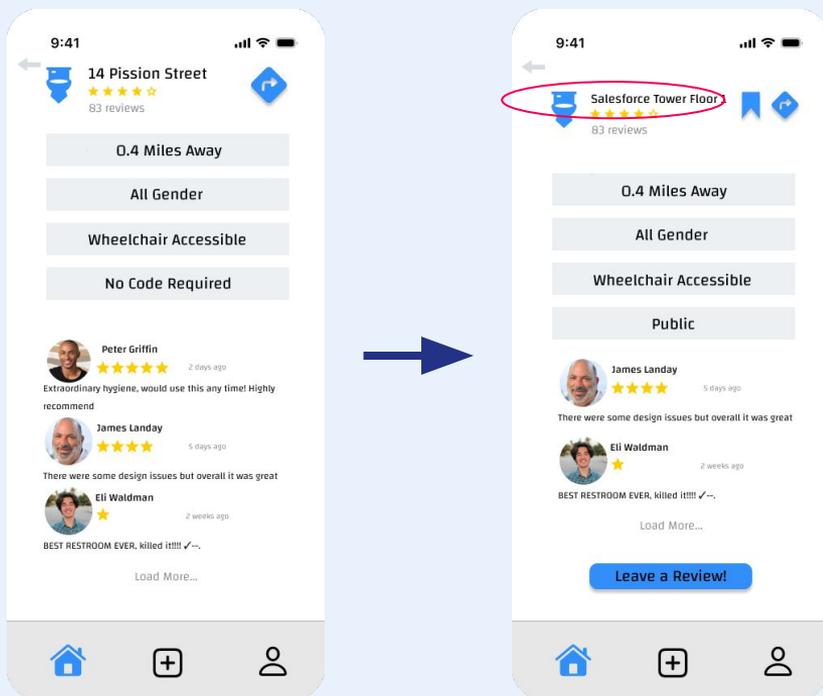
Usability Goals Progress

Efficient: Saves time by providing clear, immediately recognizable restroom names.

User-Centric: Makes it easier for users to feel confident in their choices by displaying essential, contextual information.

Additional Fix: Save button added to restroom profile - easy to save a restroom for revisits.

Quick Fix: More Info? Directions?

H2: The arrow next to "More Info" made me think that pressing it would give me more info instead of directing me to the location. (*Severity 3*)
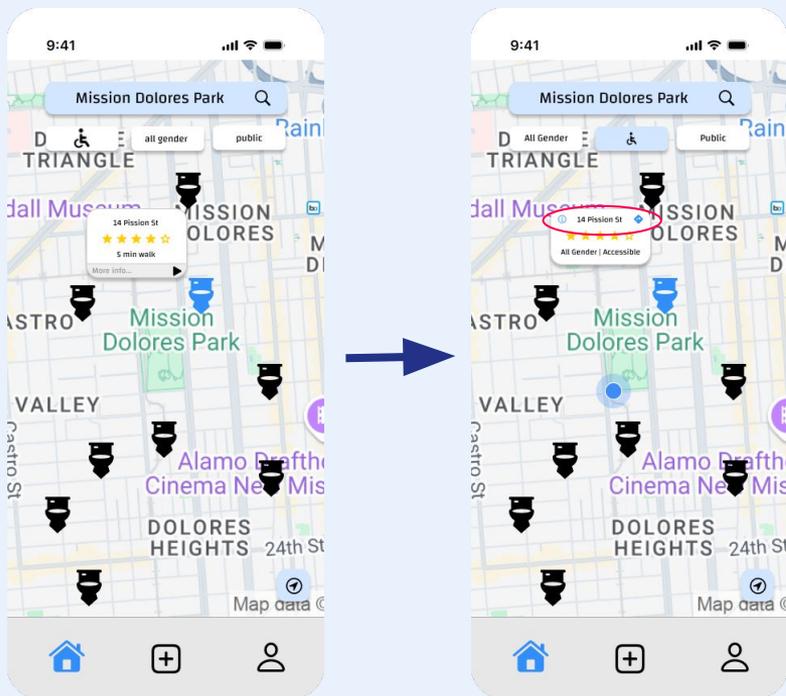
Usability Goals Progress
Intuitive: Avoids misunderstanding of the button's function by clearly distinguishing it as a navigation option.

Changes We Disagree With

- **H12:** Should be able to select multiple genders, not only all-gender. (*Severity 4*)
  - After studio and expert feedback, we feel it makes most sense to solely differentiate based on all-gender or gendered, since gendered restrooms come in pairs.
- **H5:** The system doesn't have visual indicators of existing restroom locations during the restroom adding process. (*Severity 4*)
  - We tested this in our Med-Fi prototype but realized afterward that implementing it clutters the add restroom screen, making it difficult to read street and building names necessary for accurate pin placement.

Out of Scope Violations

While we understand how these features could be useful in a real-world platform, we think they're out of the scope of this prototype.

- **H12:** User should be able to modify bathroom details if entered incorrectly by someone else. (*Severity 3*)
- **H7:** Users cannot sort reviews by relevance, rating, or other potentially useful metrics that could help them find the most helpful information quickly. (*Severity 4*)
- **H12:** The review system lacks tags such as "well-lit area" and "single stall", making it difficult for users to quickly sort through locations that meet their requirements. (*Severity 4*)

Violations We're Taking to Hi-Fi

These heuristic violations resulted from hard-coding certain interactions in our MedFi prototype, which we plan to fully implement functionally in the Hi-Fi.

- **H3:** Once you drop a pin to add a restroom, there is no way to edit that pin location. (*Severity 3*)

- **H9:** Cannot unclick the filters I selected on home page. (*Severity 4*)

- **H5:** Should have ability to untap a restroom and select another. (*Severity 4*)

Hi-Fi Prototype

Tools
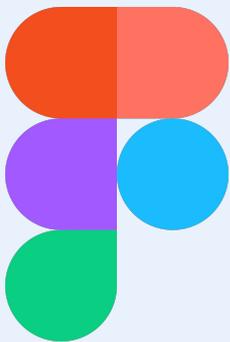
Figma
Design
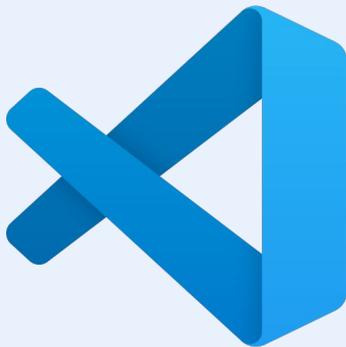
VS Code
IDE

GitHub
Collaboration

Expo Go
Simulation
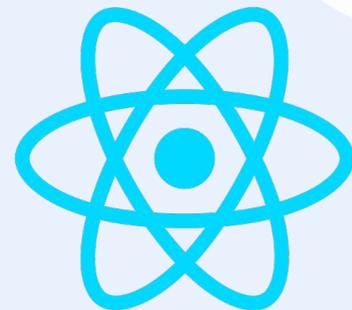
React Native
App Framework

Implemented Features

- Moderate Task: Leaving reviews of restrooms you've saved or added

- Layout of the bathroom information page and the review page.

- Built new flow of Profile -> Saved -> Bathroom Info for reviews into the Hi-Fi based on heuristic evaluation feedback.

Unimplemented Features

- Simple Task: Locating a restroom at your current location or the destination you are heading to

- Complex Task: Adding a new restroom to the map along with descriptions

- Supabase integration to make adding and browsing restrooms not reliant on hard-coded information

- Black and yellow styling to match the app's functionality

Prototype Magic

Wizard of Oz Techniques

- Adding a review for a restroom

Hard-Coded Items

- Existing reviews of the restrooms

- The location-grouped lists for saved restrooms

- Saved restroom information

- Added restroom information

Plans to Finish

- This Weekend
  - **BEAT CAL** 🪓
  - Finish the core screens for the home tab and add restroom tab.
- Next Week
  - Integrate location functionality using Google Places API.
  - Create database to store restroom data.
  - Functionality for searching and adding restroom tasks.
- Next Weekend
  - Adjust styling to ensure consistent and pleasing aesthetics.
  - Record demo video.
- Week of Expo
  - Polish!

Demo!

Appendix

Issues / Questions

- What is the most effective way to collaborate on code? We struggled somewhat to organize branches and divide work.

- If anyone has experience using the Google Places API (or a better alternative), we'd really appreciate it!

- How do we set up a database from scratch? We've used Supabase in 147L, but haven't had to do the bulk of setup work.

Changes From Low-Severity Violations

#	Heuristic	Task		Description	Our Fix (PISSION)
1	H10: Help & Documentation	2. Moderate Task	0	User might not know why they have to review a bathroom	The review button is now tied to the info page next to reviews, which can be accessed from numerous places on the app.
2	H10: Help & Documentation	5. Extra Violations	0	Users might want to a way to make a "favorite" location based on restroom locations they've already been to.	We replaced "visited restrooms" with "saved restrooms" and "added restrooms" to reflect this.
3	H1: Visibility of System Status	2. Moderate Task	1	Review button in personal page might signal that the user is supposed to look over something	The review button is now tied to the info page next to reviews, which can be accessed from numerous places on the app.
4	H4: Consistency & Standards	2. Moderate Task	1	Restrooms visited VS. Restroom added	Phrasing is now consistent in the hi-fi and a priority going forward.
5	H2: Match b/w System & World	3. Complex Task	1	Name of restroom might be a little hard, what if it was second floor of some random building	**Did not implement**. Chose to prioritize another heuristic violation point that argued name was better than address given that's how you interact with these places on-the-ground, and now list name on the info page.
6	H8: Aesthetic & Minimalist Design	3. Complex Task	1	Be consistent with words: Inconsistency across text when filling in info for bathroom. For ex, when you add gender, the text box just reads "male," but when you add accessibility the text box reads	Consistency fixed.

Changes From Low-Severity Violations

#	Heuristic	Task		Description	Our Fix (PISSION)
				...e checkboxes for all of them	
7	H4: Consistency & Standards	1. Simple Task	1	For the three button filters, two are words and one is an icon. This is inconsistent.	**Did not implement**. The accessibility logo is standard, which we chose to keep.
8	H8: Aesthetic & Minimalist Des...	3. Complex Task	1	App feedback on profile page doesn't make sense.	Removed "app rating" from profile page.
9	H8: Aesthetic & Minimalist Des...	3. Complex Task	1	The text container for "Drop a pin to add a restroom" is visually identical to interactive text input fields used on the home page of the app.	Changed style of text box so it wouldn't mimic search bar.
10	H8: Aesthetic & Minimalist Des...	1. Simple Task	1	The review section, while informative, can feel cluttered when multiple reviews are shown in a narrow space.	Made the review section scrollable to avoid clutter, with hopes of adding an AI summary for all reviews in the final prototype
11	H1: Visibility of System Status	1. Simple Task	1	The interface provides basic details but lacks a clear indication if all reviews are displayed or if there are more available beyond "Load More…".	Made reviews infinitely scrollable for the checkpoint prototype to remove "Load More" confusion.
12	H4: Consistency & Standards	1. Simple Task	1	The profile page styling (including text size, spacing, and button design) lacks consistency with the rest of the app, which may confuse users who expect a uniform experience.	Fixed consistency across screens using grid principles.

Changes From Low-Severity Violations

#	Heuristic	Task		Description	Our Fix (PISSION)
13	H8: Aesthetic & Minimalist Design	1. Simple Task	2	Duplicate meaning of both "Where are you headed?" and search button, repetitive	**Did not implement**: Want to make sure users know what to put in the box, and felt it added clarity.
14	H7: Flexibility & Efficiency of Use	3. Complex Task	2	After adding a bathroom, it does not go back to the original adding page but rather a thank you for adding!	Now, after adding a bathroom, you'll be returned to the map with your new bathroom included.
15	H8: Aesthetic & Minimalist Des...	1. Simple Task	2	Blue of the toilets is not bright enough/ does not catch my eye.	For med-fi fixes, did not implement as the blue seemed to stand out. For the hi-fi, decided to change to a black/yellow theme to match the app's pee theme and improve this contrast.
16	H11: Accessible Design	1. Simple Task	2	Dark grey of "more info..." on light grey is low contrast.	Fixed contrast issues here and across med-fi.
17	H8: Aesthetic & Minimalist Des...	1. Simple Task	2	Header of bathroom info page is too crowded.	Shrunk top of page elements to improve spacing.
18	H7: Flexibility & Efficiency of Use	3. Complex Task	2	User can only "drop a pin" vs typing in a specific location (may be a limitation of the prototype).	Did not implement in med-fi since there isn't a visual change, will allow this functionality in the hi-fi.
19	H4: Consistency & Standards	3. Complex Task	2	Header spacing on "add bathroom info page" is inconsistent with "view bathroom info" page.	Fixed consistency across screens using grid principles.
20	H11: Accessible Design	3. Complex Task	2	White on grey text for optional is difficult to read.	Fixed contrast issues here and across med-fi.

Changes From Low-Severity Violations

#	Heuristic	Task		Description	Our Fix (PISSION)
21	H4: Consistency & Standards	5. Extra Violations	2	Inconsist information about bathroom on searchable map vs just added bathroom map. On the searchable map, the metadata is "5 min." On the just added bathroom map, the metadata is "Male	accessible."	Now all bathroom pins and pages display same filter metadata (accessibility/gendered), leaving the navigation to Google Places API in Hi-Fi.
22	H1: Visibility of System Status	3. Complex Task	2	Review button doesn't change from review to reviewed once review is added.	**Did not implement**, review flow changed entirely due to higher priority violations.
23	H8: Aesthetic & Minimalist Des...	4. All Tasks	2	Not really clear to me why the different tasks have to be associated with different colors, e.g., find a bathroom is blue, add a bathroom is green, rate a bathroom is yellow.	Chose to use blue across all tasks for consistent aesthetic.
24	H2: Match b/w System & World	1. Simple Task	2	The search bar's default prompt asks users where they are headed rather than considering their current location needs. This assumes a future destination scenario, which may not align with users' immediate needs for finding a restroom at their current location. The system's language doesn't match real-world scenarios where users need immediate restroom access.	**Did not implement**. The app already opens to the current location and has a button to move back there. For hi-fi, will make sure it continues to do so for this immediate use case.

Changes From Low-Severity Violations

#	Heuristic	Task		Description	Our Fix (PISSION)
25	H4: Consistency & Standards	3. Complex Task	2	While the home page features a current location button in the bottom right for quick location access, this same functionality is absent from the add location page. This inconsistent placement of location tools across different pages breaks platform conventions and user expectations.	Added current location button to add location page for consistency and functionality.
26	H6: Recognition not Recall	2. Moderate Task	2	The submit rating page provides minimal context about the restroom being reviewed, showing only the address. Users must rely on their memory to recall which specific restroom they're reviewing without supporting information such as their last visit date, when they searched for it, or nearby landmarks that could help with identification. This places unnecessary cognitive load on users.	The submit rating page now has the name of the restroom instead of the address, reducing the need for recall. Statistics like when the restroom was used are not things we have.
27	H10: Help & Documentation	2. Moderate Task	2	The profile page's presentation of previously visited restrooms lacks clear organization and temporal context. There's no clear indication of which restroom was most recently visited, and the list lacks headers or markers to help users understand the chronological order of their visits	Completely revamped profile page, which now includes added restrooms, saved restrooms, and location specific folders for each. Users can now access their restrooms in an organized fashion.

Changes From Low-Severity Violations

#	Heuristic	Task		Description	Our Fix (PISSION)
28	H10: Help & Documentation	2. Moderate Task	2	There is no information explaining the review criteria or how star ratings are calculated.	**Did not implement**. Stars are inherently subjective, and we left the description box so users can justify their decisions.
29	H5: Error Prevention	1. Simple Task	2	There's no clear way to report or filter inappropriate reviews	**Did not implement**. Out of scope of prototype.
30	H3: User Control & Freedom	5. Extra Violations	2	There's no option to edit profile information or remove contributions, which could frustrate users who want control over their data.	**Did not implement**. Out of scope of prototype.
31	H8: Aesthetic & Minimalist Des…	1. Simple Task	2	The profile page feels somewhat sparse, with large areas of white space and limited visual engagement.	Profile page has been revamped, now showing saved and added restrooms in a notably more aesthetic manner. These lists are now sorted by location, and fill the space much better than before.
32	H5: Error Prevention	2. Moderate Task	2	There's no feedback indicating required fields or fields that need validation. If a user attempts to submit without filling necessary information, it's unclear if the form will alert them or if they'll see an error message.	We now mark required fields clearly using an asterisk and in the Hi-Fi will provide immediate feedback if a required field is left empty upon clicking "Add Restroom."

Revisions Implemented

- In total, we received **50** total violations / points for improvement.

- We utilized (or will soon utilize) **37** of those violations to drive changes for our hi-fi prototype.