

PeePal .

RESTROOM RESCUE AT YOUR FINGERTIPS .

Group 55:

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Introduction

A go-to app for locating clean and accessible restrooms nearby.

With real-time GPS navigation, user ratings, and the ability to add new locations, PeePal ensures you never have to rush again.

Discover, rate, and share restrooms with ease
– *PeePal* is just a tap away!





Target Audience

Target users for our app are essentially everyone.

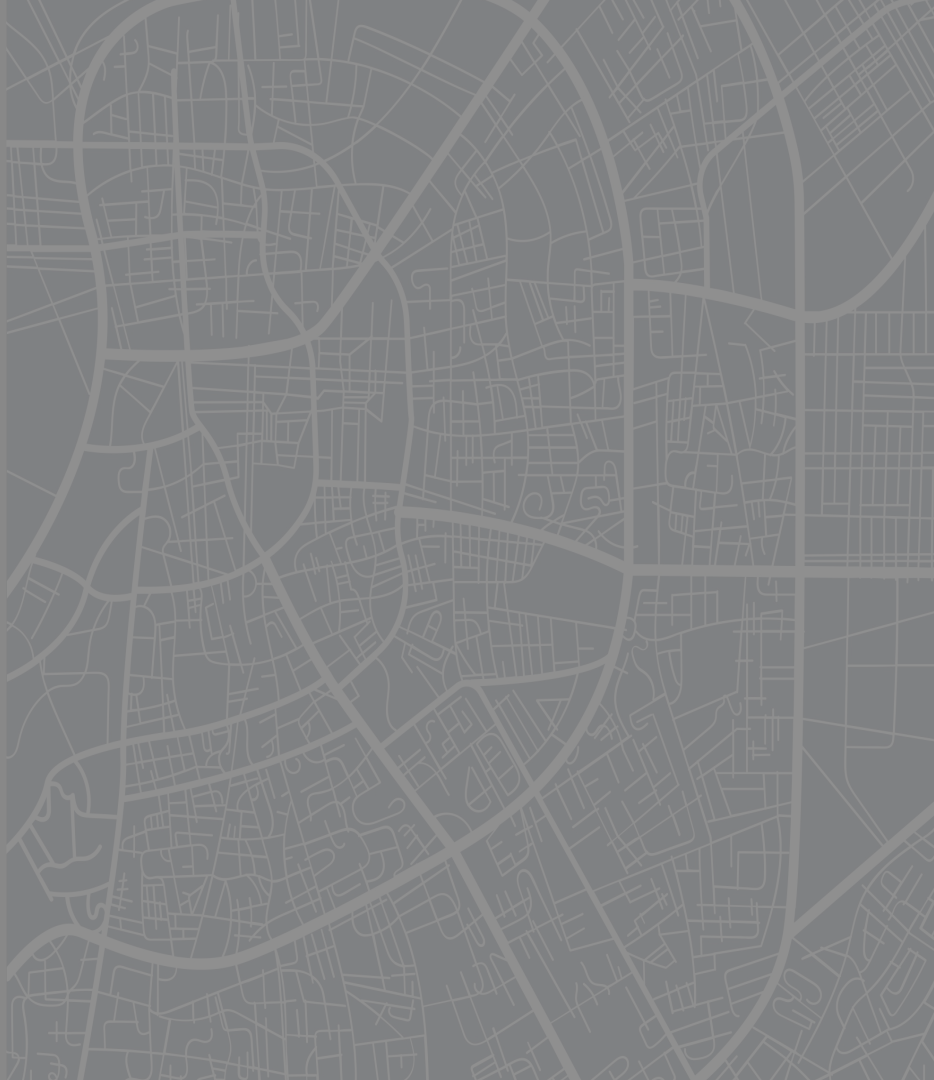
While **travelers and tourists** would benefit greatly, locals can also use it in their everyday lives when they find themselves in need of a restroom in an unfamiliar part of town.



SIGNIFICANCE

— *Remember the last time you rushed to find a restroom but couldn't find one in time?*

PeePal fills a niche by combining functionality, ***user-driven content***, and a ***wide variety of restroom options***, making it invaluable for anyone in need of a nearby, clean, and functional restroom—whether for convenience, urgency, or health reasons.



Main Functions

Restroom Locator

Location-based search to find the nearest restrooms



Detailed Information

Cleanliness, odor, capacity, and whether it's gender-neutral or family-friendly



Reports & Ratings

Insights on restroom quality and the capacity to report



Add Restroom

Empowers users to expand the restroom database, keeping information **up-to-date**

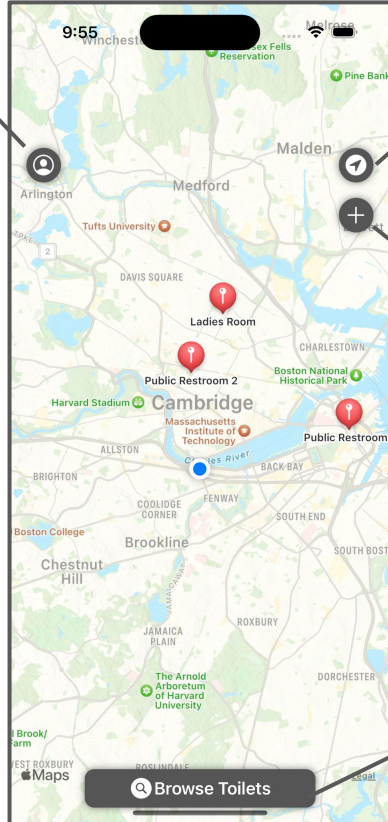




PeePal. User Guide

Main Screen (Map Screen)

Profile Button



Location Button

Add Toilet Button

Toilets Annotation

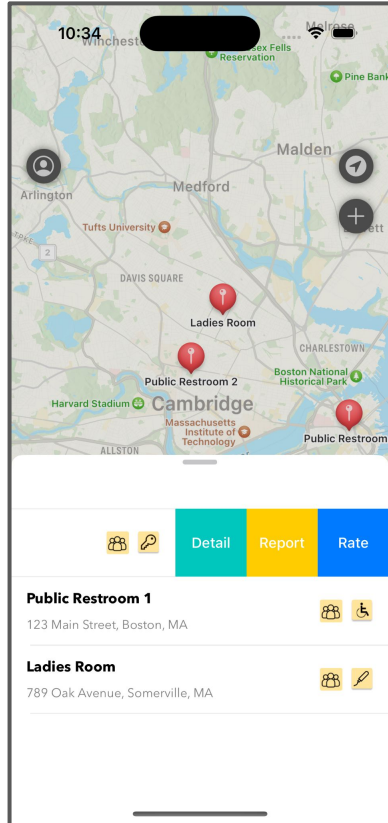
Browse Toilets Bar

Homepage(logged out)

When not logged in, users will see three initial toilet locations displayed on the map. To fully access the app's features and browse all toilets in the database, users are required to create an account and log in.

- The **Profile** button in the top-left corner directs users to the registration & login page.
- The first button in the top-right corner is the **Location** button, which centers the map on the user's current location.
- The second "+" button in the top-right corner is for adding new toilets. This feature is disabled for users who are not logged in.
- **Browse Toilets Bar:** Tapping this will display a list of toilets and provide access to additional features such as **Rating**, **Reporting**, and **Detail**.
(Detailed instructions for these features will be presented on the next page.)
- **Toilet Annotations:** Each specific toilet annotation will display detailed information about the toilet.
(A detailed explanation will be provided on slide 9.)

Main Screen (Map Screen)

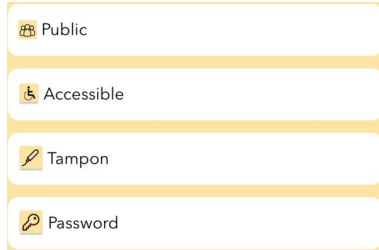
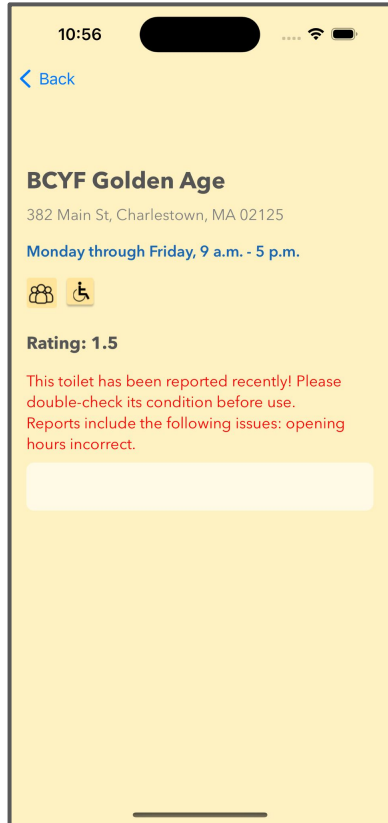


Homepage(Browse Toilets Bar)

Browse Toilets Bar will displays the current list of toilet data. The displayed toilets are arranged in order, starting from the ones closest to the user's current location. Swiping left provides access to additional features such as rating, reporting, and detail. Clicking on a specific toilet row will center the map on the selected toilet's location.

- **Detail Button:** Displays detailed information about the toilet, identical to the information shown in the toilet annotation.
- **Report Button:** Allows users to report a toilet for issues. Reports will be reviewed by the backend team, which will decide whether to remove the toilet. (Users do not have the authority to directly delete toilets.)
- **Rate Button:** Enables users to rate specific toilets. All rating points for a particular toilet will be displayed in the toilet's detailed information. (The rating options and corresponding scores are as follows:
Great Facilities: 5 points
Good: 4 points
Acceptable: 3 points
Unclean/Poor Facilities: 2 points
Unacceptable: 1 point)

Main Screen (Map Screen)

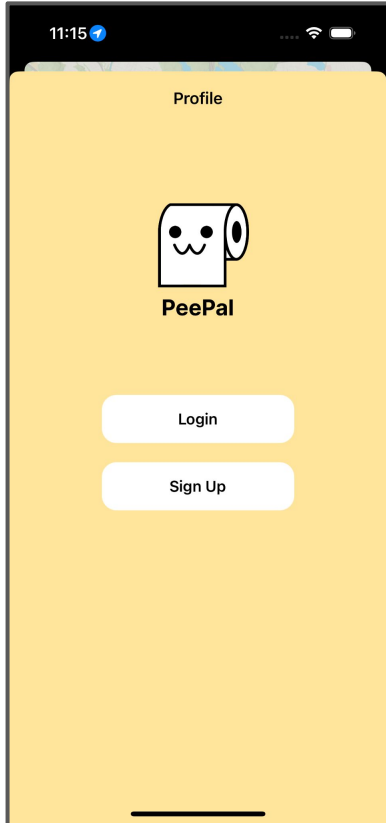


Homepage(Toilet Detailed Information)

When users click on a specific toilet annotation or use the **Detail** feature in the **Browse Toilets Bar**, this page will display the following detailed information:

- **Toilet Name:** A simple description of the location or a user-defined name.
- **Detailed Address:** The specific address of the toilet.
- **Operation Hours:** The hours during which the toilet is available.
- **Toilet Type:** All toilets are categorized into four types, indicated by icons that represent the specific attributes of the toilet (see icon descriptions on the left).
- **Rating:** The average score from all user ratings, reflecting overall user satisfaction with the toilet.
- **Report Detail:** Initially hidden. When a report is submitted for the toilet, this section will display the detailed reasons for the report in red text.

Profile Screen (Logged Out)

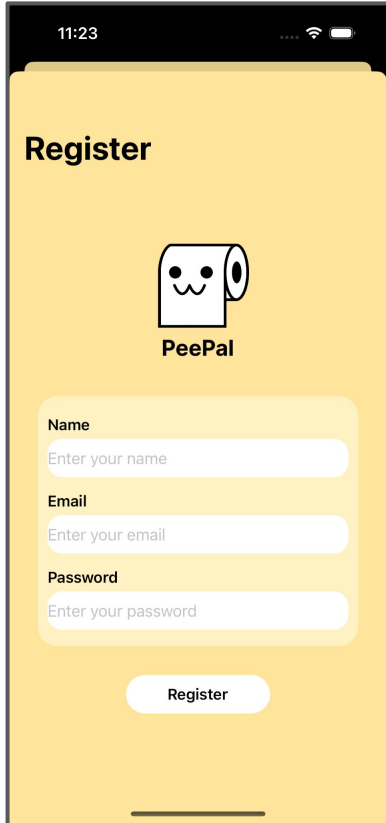


Profile Screen (Initial state)

In the initial state of the **Profile Screen**, when the user is not logged in, two buttons will be displayed: **Login** and **Sign Up**.

- **Login:** Redirects the user to the login page where they can enter their credentials to access the app's full features.
- **Sign Up:** Guides the user to the registration page to create a new account, allowing access to all app functionalities after successful sign-up.


Profile Screen (Logged Out)



The image shows a mobile app registration screen for 'PeePal'. At the top, the status bar displays '11:23' and signal icons. The app title 'PeePal' is at the top left. Below it is a logo of a toilet paper roll with a smiling face. The main content area has a yellow background and contains three text input fields labeled 'Name', 'Email', and 'Password'. Each field has a placeholder text: 'Enter your name', 'Enter your email', and 'Enter your password'. A 'Register' button is at the bottom.

11:23

Register



PeePal

Name
Enter your name

Email
Enter your email

Password
Enter your password

Register

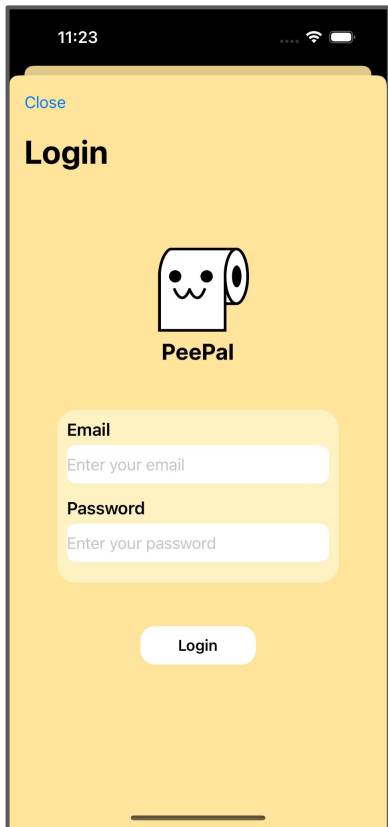
Profile Screen (Register)

The **Sign-Up Page** will include three text fields to allow users to input their registration details:

- **Email:** For the user's account email.
- **Username:** For setting a unique display name.
- **Password:** For securing the account.

After filling in the required fields, users can click the **Register** button to complete the registration process. Upon successful registration, the user will be automatically logged in and granted access to all app features.

Profile Screen (Logged Out)



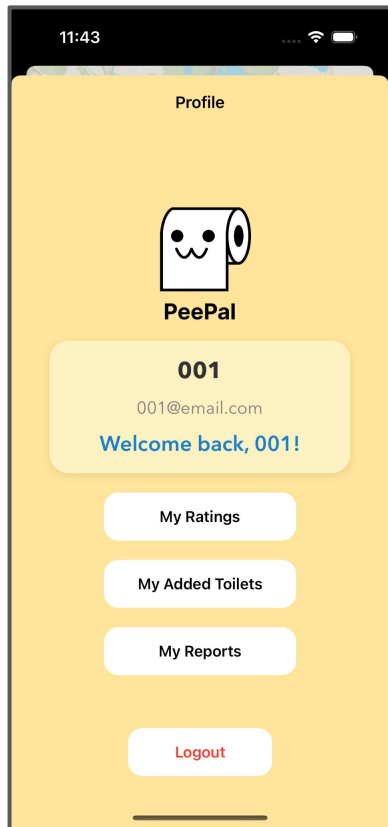
Profile Screen (Login)

The **Login Page** includes two text fields:

- **Email:** To input the registered email address.
- **Password:** To input the account password.

Users can log in directly by providing their email and password.

Profile Screen (Logged In)

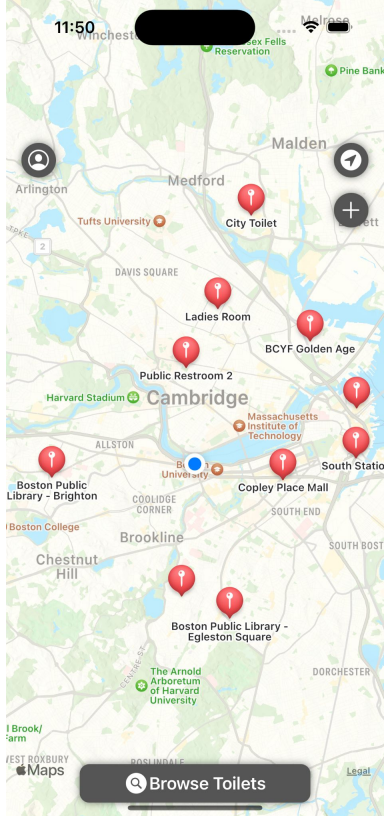


Profile Screen (Logged in state)

Once the user logs in, the **Profile Screen** transitions to the logged-in state and displays:

- **Welcome Text:** Personalized for the logged-in user.
- **Three Buttons** to showcase the user's contributions:
 - **My Ratings:** View toilets the user has rated.
 - **My Added Toilets:** View toilets the user has added.
 - **My Reports:** View toilets the user has reported.(Details of these buttons' functionalities will be explained in subsequent slides.)
- The **Logout Button** will reset both the Profile Screen and Map Screen to the initial logged-out state.

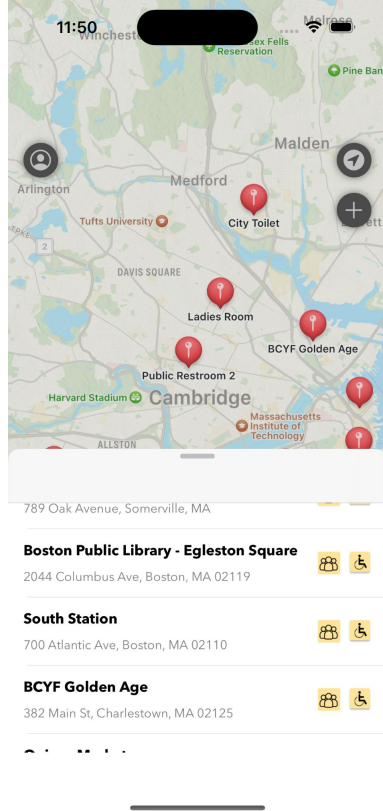
Main Screen (Logged In)



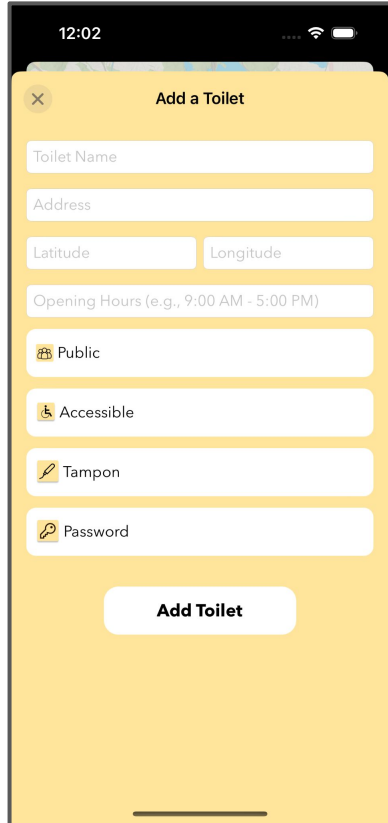
Homepage(After Login)

After successfully logging in, the map screen will display all toilets from the database, including the 16 initial toilets and all user-added toilets. The corresponding toilet list will also showcase all available toilets (as shown in the image on the right).

Logging in will activate the "Add Toilet" feature.



Map Screen (Logged In)



The screenshot shows a mobile app interface for adding a toilet. At the top, the status bar displays the time 12:02, signal strength, Wi-Fi, and battery icons. Below the status bar is a yellow header with a close button (X) and the title "Add a Toilet". The form contains several input fields: "Toilet Name", "Address", "Latitude" and "Longitude" (side-by-side), "Opening Hours (e.g., 9:00 AM - 5:00 PM)", and five checkboxes with labels: "Public" (with a public icon), "Accessible" (with an accessible icon), "Tampon" (with a tampon icon), and "Password" (with a password icon). At the bottom of the form is a white button with the text "Add Toilet".

Map Screen (Add Toilet function)

To add a toilet, users must fill out all the toilet details and confirm the toilet types (as shown in the image on the right).

After clicking the "Add Toilet" button, the toilet will be successfully added to the database, its annotation will appear on the map, and the toilet list will be updated.

Profile Screen (Logged In)

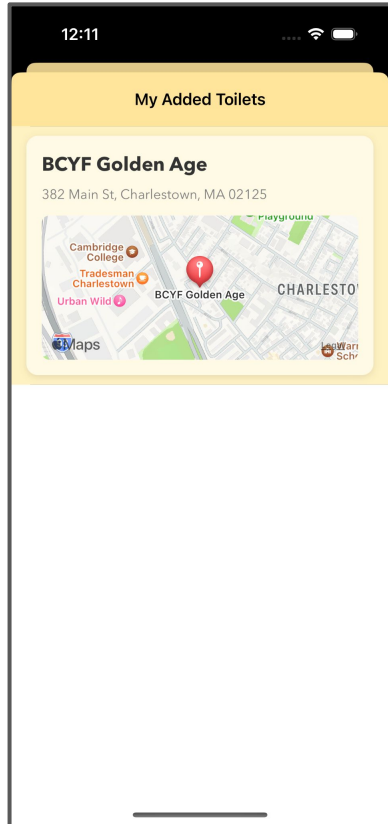


Profile Screen (My Ratings)

The **"My Ratings"** screen displays all the toilets rated by the user, showing the average rating for each toilet as well as the user's specific rating.

Clicking on a specific toilet row will navigate to the map screen and center the map on the selected toilet's location.

Profile Screen (Logged In)

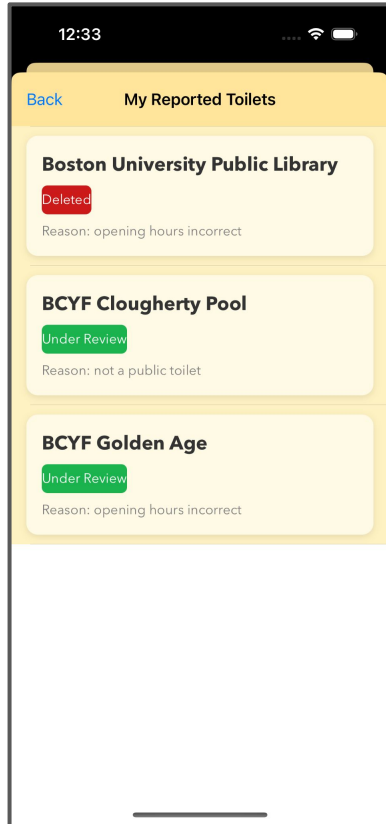


Profile Screen (My Added Toilets)

The **"My Added Toilets"** screen displays all the toilets added by the user, along with a small map that provides an approximate location for each toilet.

Clicking on a specific toilet row will navigate to the map screen and center the map on the selected toilet's location.

Profile Screen (Logged In)



Profile Screen (My Reports)

My Reports Screen displays the toilets reported by the user.

If a toilet is marked as "Under Review," it means the toilet is still in the system, awaiting backend review. If marked as "Deleted," it indicates the toilet had issues and has been removed by the backend.

Each toilet row on this screen are not clickable. To return to the previous page, the user needs to click the **Back** button.



PeePal. Github:

https://github.com/GideonCCC/CS5520_Final.git

[git@github.com:GideonCCC/CS5520_Final.git](https://github.com/GideonCCC/CS5520_Final.git)



BACKEND

Firestore Authentication:

Use Firestore's built-in authentication system for login and sign-up, supporting multiple sign-in methods (e.g., email, Google, Facebook).

Firestore Cloud Firestore:

Store all user and restroom data in Firestore.
This includes:

- Restroom Locations
- User Profiles
- Reviews and Ratings

SENSORS

GPS

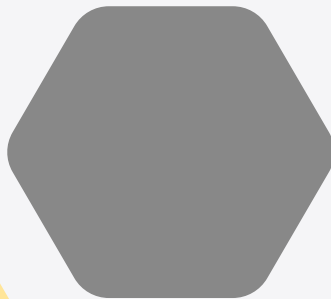
Will be the primary sensor used for the app.

It will allow the app to determine the user's location and show nearby restrooms on the map.



Camera

Through using the camera for users to upload photos of the restrooms.



Bluetooth Beacons

(Optionally) Provide indoor navigation in large buildings like malls or airports.



CONCLUDING REMARKS

