A Better City

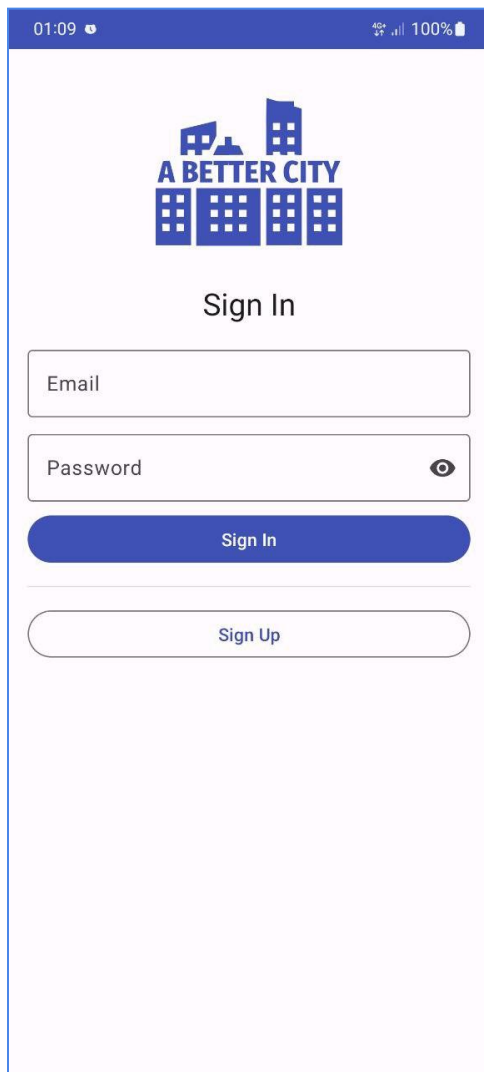PDA Project by Mikita Citarovič and Darina Mingazova

Contents

App's screens

The Material Design 3 Components were used.

1. "Sign In" and "Sign Up" screens

The "Sign In" screen serves as a crucial component in the application's authentication process, enabling registered users to securely access their accounts and utilize the application's functionalities. Without completing the sign-in procedure, users are unable to engage in any interactive activities within the application.
The "Sign Up" screen provides a dedicated interface for new users to establish their presence within the application. By offering a streamlined account creation process, this screen enables individuals to register for a new account and initiates their journey of utilizing the application's features and services.

2. "Issues" screen

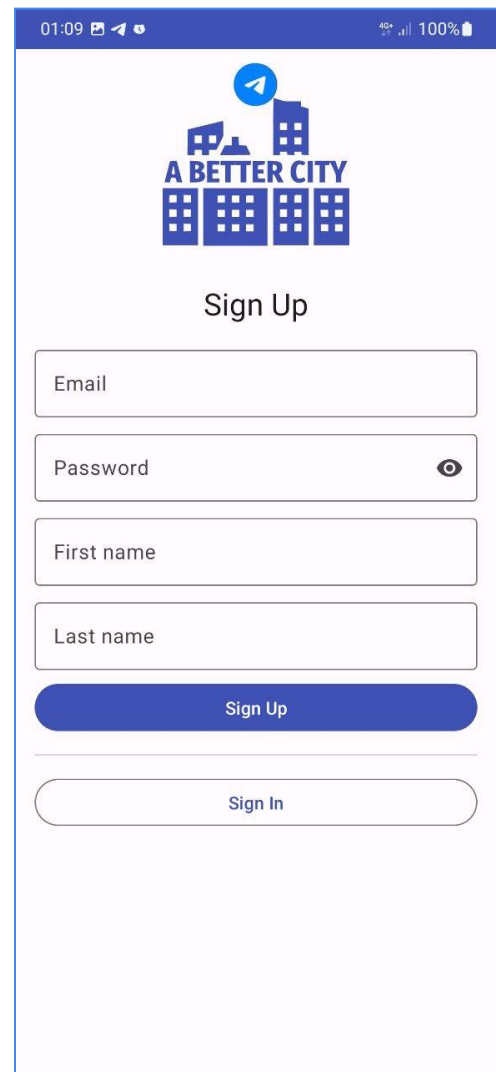The navigation bar in the application consists of several sections, including "Issues," "My Issues," "Notifications," and "My Profile." Within the "Issues" section, users can access a screen that provides an overview of all available issues. This screen offers two distinct display options: a list view and a map view. Users can easily switch between these view options using a simple switcher.

The presence of a "Plus" icon provides users with the ability to add new issues. By selecting this icon, users are directed to another screen (referred to as screen 7) where they can input the necessary information to create a new issue.
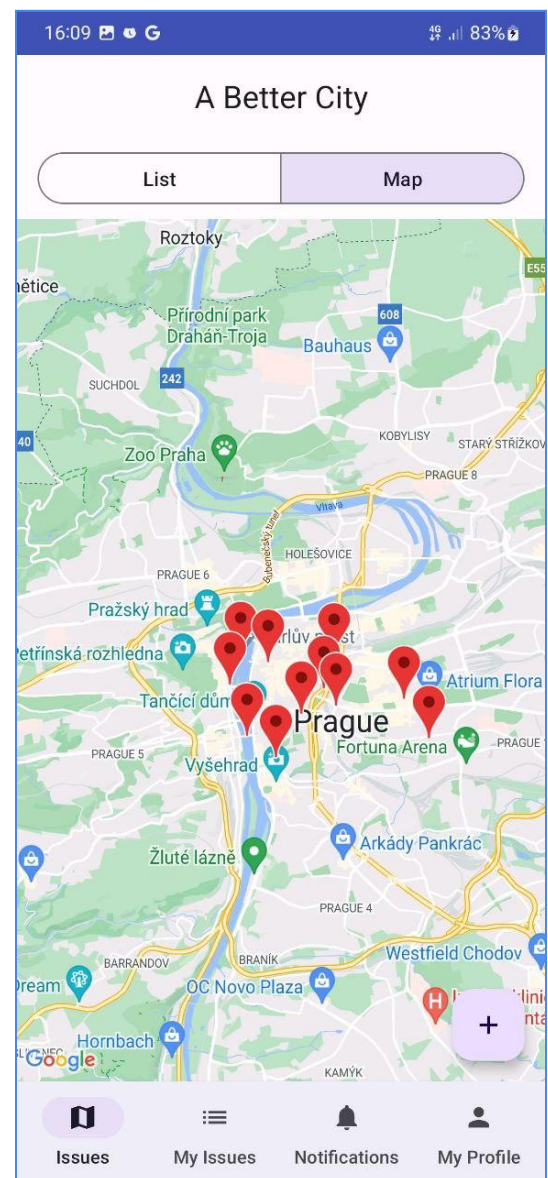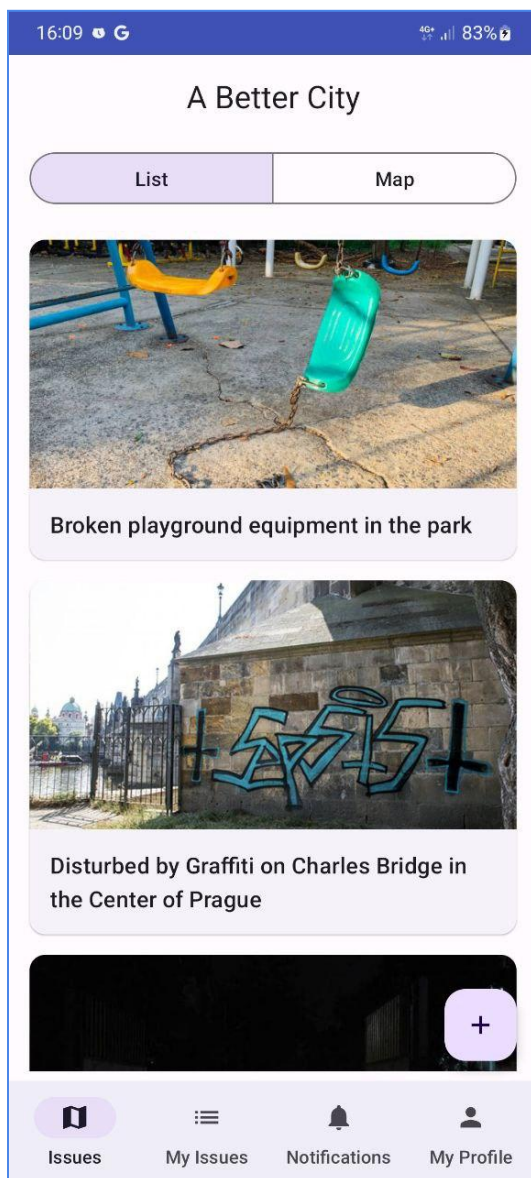
3. "My Issues" screen

The "My Issues" screen, located within the navigation bar, serves as a dedicated section that showcases all of the issues published by the user. This screen incorporates a straightforward filtering mechanism based on the current status of each issue.

Users have the option to display all issues, regardless of their status. Additionally, they can selectively view active (published) issues, solved issues, issues currently being resolved (solving), and issues in moderation. This filtering functionality allows users to efficiently navigate through their published issues based on their specific status categories.
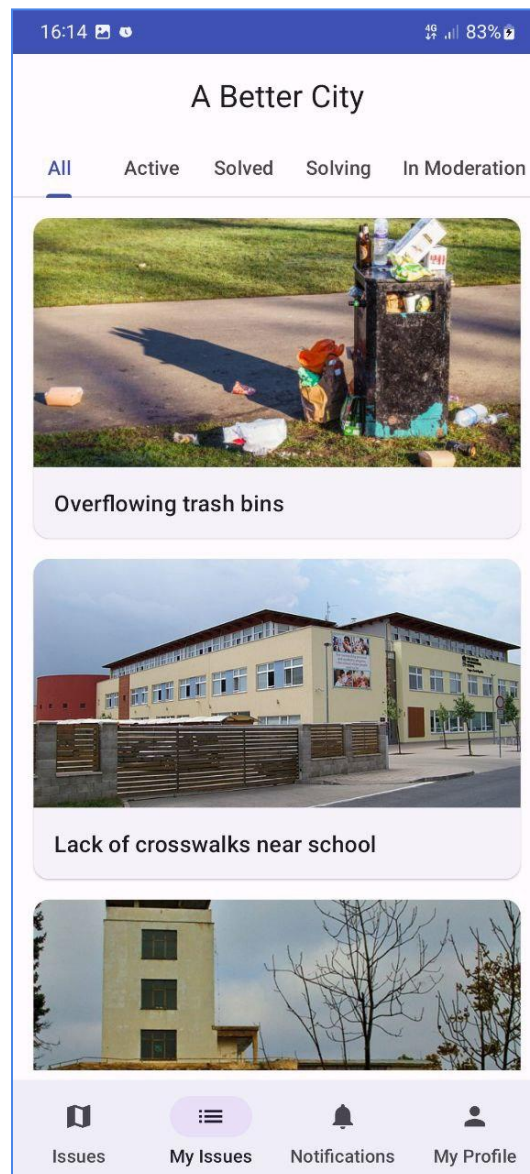
4. "Notifications" screen

The "Notifications" screen is an integral component of the navigation bar, providing users with a dedicated space to access and review all of their notifications. These notifications serve the purpose of keeping users informed about any changes in the status of the issues they are associated with.
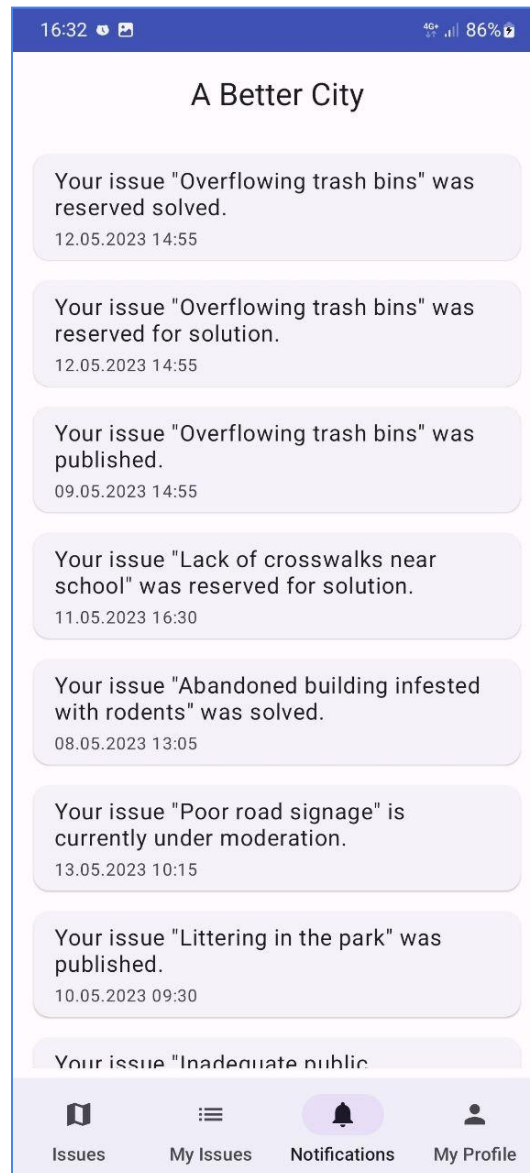
5. "My Profile" screen

The "My Profile" screen, located within the navigation bar, serves as a key element showcasing the user's personal information. This screen provides a view of the user's profile, including their profile photo, name, email address, and the total count of published issues associated with their account.

Additionally, a logout button is featured on the screen, offering users the option to securely log out from their account when desired.
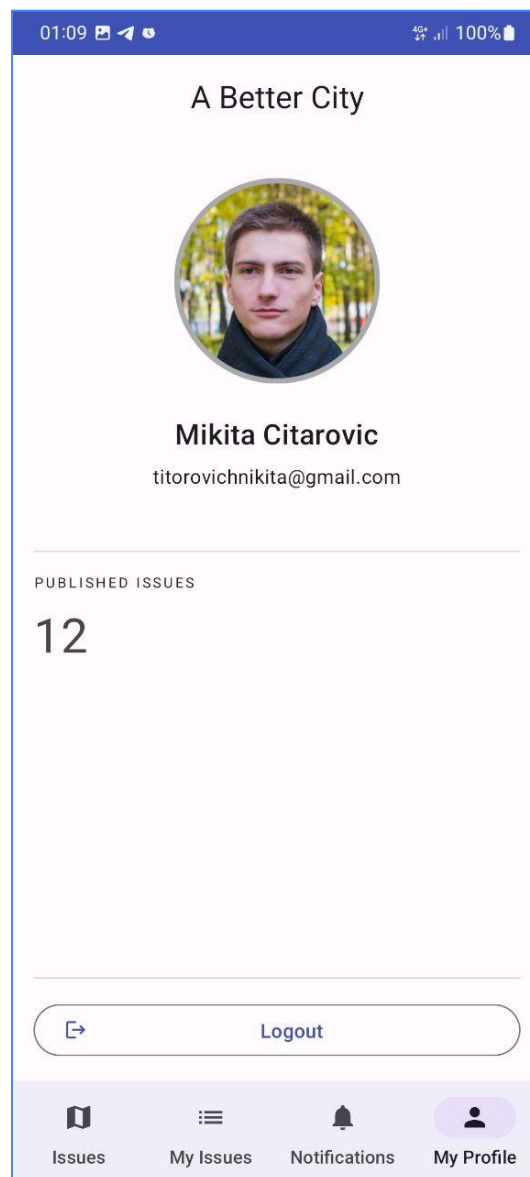
6. "User Profile" screen

The "User Profile" screen serves as a public profile view, providing users with a glimpse into the personal details of a specific user. This screen showcases essential information such as the user's photo, name, and the total count of published issues associated with their profile.

Users can access the "User Profile" screen through the "Issue" screen, specifically by navigating to screen 9.
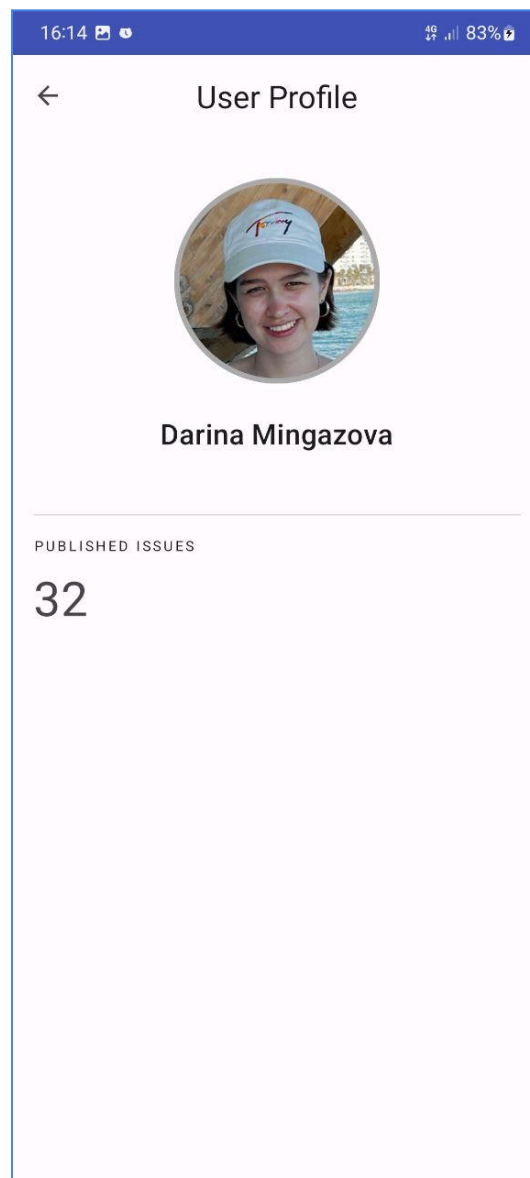
7. "New Issue" screens (adding a new issue flow)

The process of adding a new issue comprises a sequential flow consisting of five steps.

1. Setting the issue's location: Users are prompted to specify the precise location of the issue they are reporting.

2. Adding the issue's photo: Users have two options available to include a photo - either by capturing an image in real-time or by selecting an existing photo from their device's gallery.

3. Setting the issue's category: Users are required to choose a single category that best represents the nature of the issue being reported.

4. Adding the issue's name and brief description: Users must provide a concise yet informative title and description that describes the issue.

5. Reviewing entered information: Users are presented with a summary of all the entered details, including the location, photo, category, name, and description of the issue. This step allows users to double-check and ensure the accuracy and completeness of the provided information.

The final screen serves as a confirmation, indicating the successful addition of the issue. This notification assures users that their issue has been successfully submitted and is now part of the system.

Step 1 - Setting the location.
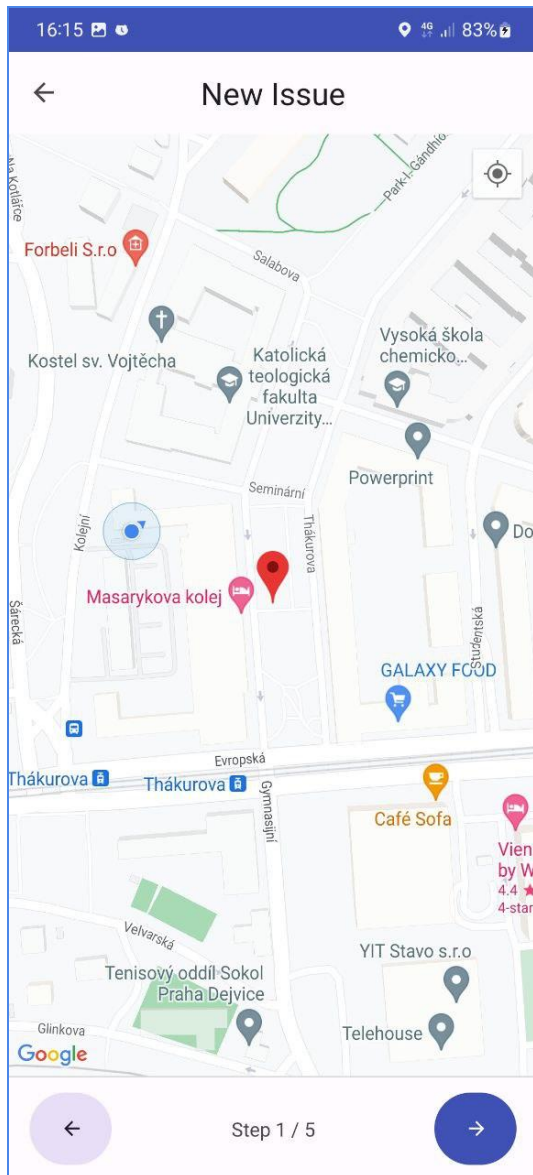
Step 2 - Adding the photo.
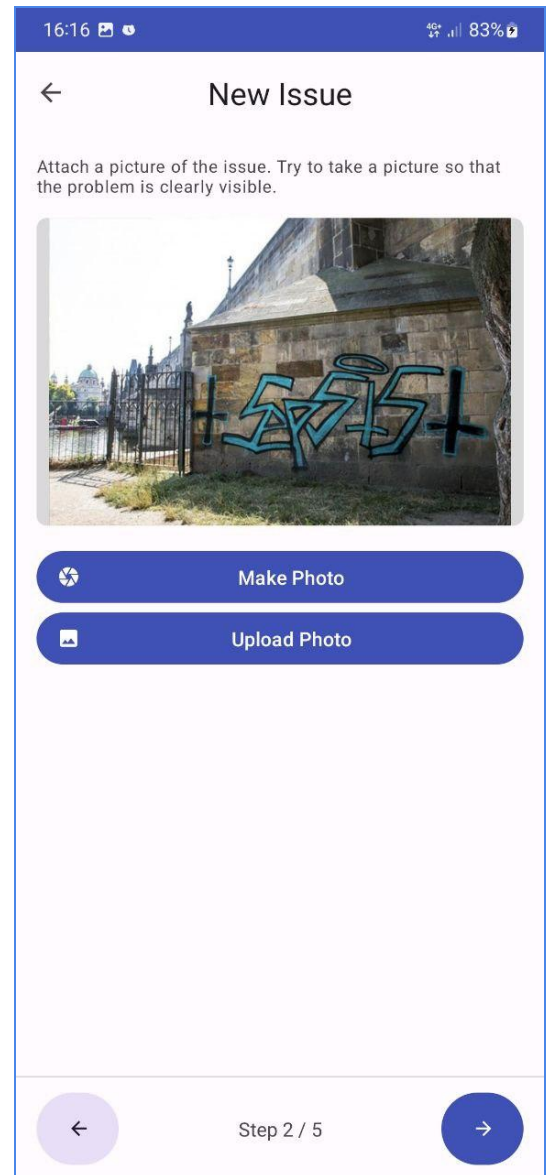
Step 3 - Setting the category.

← **New Issue**

Choose one category that best fits the issue.

Road Traffic

Beautification and sanitation

✓ Buildings and structures

Public safety

Communication

Ecological

Housing

Public places

←   Step 3 / 5   →

Step 4 - Adding name and description.

← **New Issue**

Try to describe the problem briefly. Give a short title for the problem and write a short description of the problem.

┌─ Issue name ─────────────────────────────┐
│ i on Charles Bridge in the Center of Prague │
└───┘

The number of characters must be from 8 to   63/64
64.

┌─ Description ─────────────────────────────┐
│ As a concerned resident of Prague, I am   │
│ deeply troubled by the proliferation of   │
│ graffiti on the historic Charles Bridge.   │
│ This cherished symbol of our city's rich   │
│ heritage and architectural beauty is being │
│ defaced by unauthorized spray paintings,   │
│ tarnishing its grandeur and cultural   │
│ significance. It is disheartening to   │
│ witness such disregard for our shared   │
│ cultural heritage. I implore the authorities │
│ to take swift action to remove the graffiti │
│ and preserve the integrity of this iconic   │
│ landmark. Let us restore the bridge to its   │
│ former glory and ensure its splendor for   │
│ future generations to appreciate.   │
└───┘

The number of characters must be from   606/1000
20 to 1000.

←   Step 4 / 5   →

Step 5 - Reviewing the info. *Step 5 - Reviewing the info.*
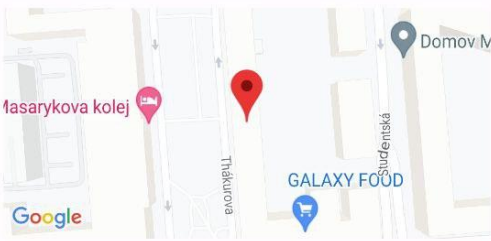
16:19 🔋 84%

← **New Issue**

Check the information you entered and click the Publish button.

PHOTO

LOCATION

Thákurova 533/8, 160 00 Praha 6-Dejvice, Czechia

ISSUE NAME

Disturbed by Graffiti on Charles Bridge in the Center of Prague
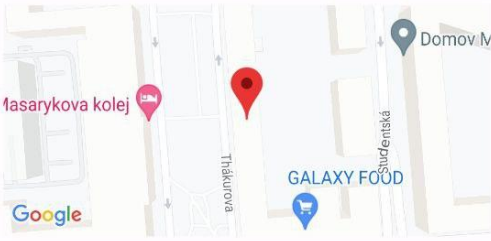
DESCRIPTION

> **Publish**

← **Back**

16:19 🔋 84%

← **New Issue**

LOCATION

Thákurova 533/8, 160 00 Praha 6-Dejvice, Czechia

ISSUE NAME

Disturbed by Graffiti on Charles Bridge in the Center of Prague

DESCRIPTION

As a concerned resident of Prague, I am deeply troubled by the proliferation of graffiti on the historic Charles Bridge. This cherished symbol of our city's rich heritage and architectural beauty is being defaced by unauthorized spray paintings, tarnishing its grandeur and cultural significance. It is disheartening to witness such disregard for our shared cultural heritage. I implore the authorities to take swift action to remove the graffiti and preserve the integrity of this iconic landmark. Let us restore the bridge to its former glory and ensure its splendor for future generations to appreciate.

CATEGORY

Buildings and structures

> **Publish**

← **Back**

Confirmation that the issue has been successfully added.
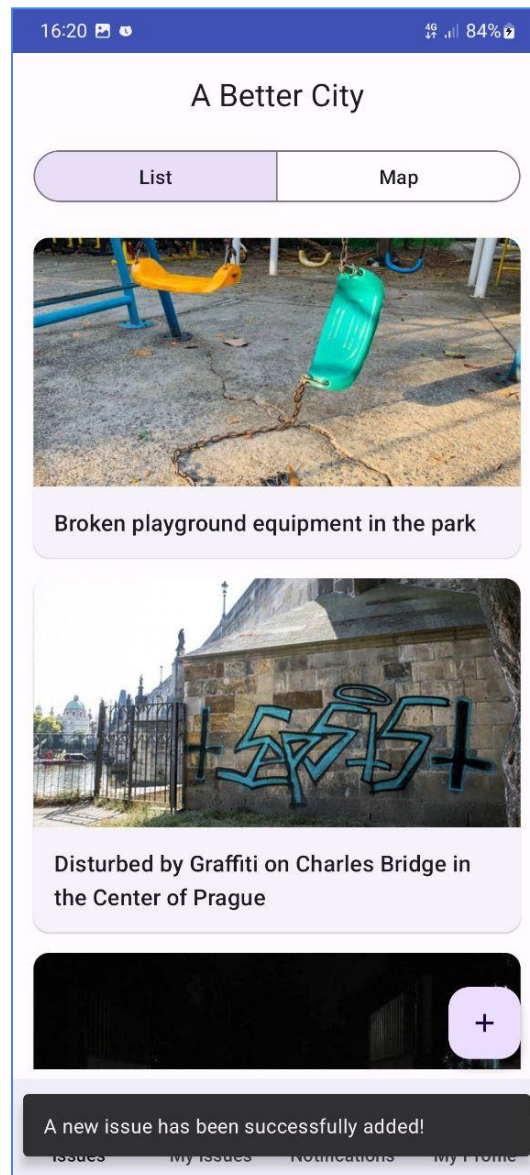
When the new issue has been added, a small notification on the bottom side appears.

8. "Issue Location"

The "Issue Location" screen is specifically designed to showcase the geographical location of the issue on a map. By accessing this screen, users can visually identify the precise location associated with the selected issue.

To navigate to the "Issue Location" screen, users can follow the pathway through the "Issue" screen, which can be found on screen 9.

9. "Issue" screens

The system encompasses multiple statuses for issues, including "Moderation", "Published", "Solved", and "Solving".
Each screen provides comprehensive details about the issue, such as its photo, name, description, status, publication date, number of likes, address, and category. Additionally, users have the option to interact with the issue by pressing a "like" button and accessing a map view to visualize its location.
The "Issue" screen offers two variations: one that publicly displays the issue's author and another that showcases it internally from the author's perspective.

Moderation status - public.

Moderation status - author's.

Published status - public.

Published status - author's.

Issue

← Issue

Disturbed by Graffiti on Charles Bridge in the Center of Prague

PUBLISHED

DESCRIPTION

As a concerned resident of Prague, I am deeply troubled by the proliferation of graffiti on the historic Charles Bridge. This cherished symbol of our city's rich heritage and architectural beauty is being defaced by unauthorized spray paintings, tarnishing its grandeur and cultural significance. It is disheartening to witness such disregard for our shared cultural heritage. I implore the authorities to take swift action to remove the graffiti and preserve the integrity of this iconic landmark. Let us restore the bridge to its former glory and ensure its splendor for future generations to appreciate.

DATE OF PUBLICATION
24.05.2022 10:30

LIKES
32

ADDRESS
Karlův most, Karlův most 110 00, 110 00 Praha 1, Czechia

CATEGORY
Buildings and structures

AUTHOR

Darina Mingazova

Issue

Disturbed by Graffiti on Charles Bridge in the Center of Prague

PUBLISHED

DESCRIPTION

As a concerned resident of Prague, I am deeply troubled by the proliferation of graffiti on the historic Charles Bridge. This cherished symbol of our city's rich heritage and architectural beauty is being defaced by unauthorized spray paintings, tarnishing its grandeur and cultural significance. It is disheartening to witness such disregard for our shared cultural heritage. I implore the authorities to take swift action to remove the graffiti and preserve the integrity of this iconic landmark. Let us restore the bridge to its former glory and ensure its splendor for future generations to appreciate.

DATE OF PUBLICATION
24.05.2022 10:30

LIKES
32

ADDRESS
Karlův most, Karlův most 110 00, 110 00 Praha 1, Czechia

CATEGORY
Buildings and structures

Solved status - public.

Solved status - author's.

Solving status - public.

Solving status - author's.

10. "Solved" and "Solving" issues information about the service

Issues classified as "Solved" or "Solving" statuses provide specific information regarding the service involved in their resolution. For issues marked as "Solved", the relevant information pertains to the service that successfully addressed and resolved the issue. For issues categorized as "Solving", the information relates to the service responsible for reserving and actively working towards resolving the issue.
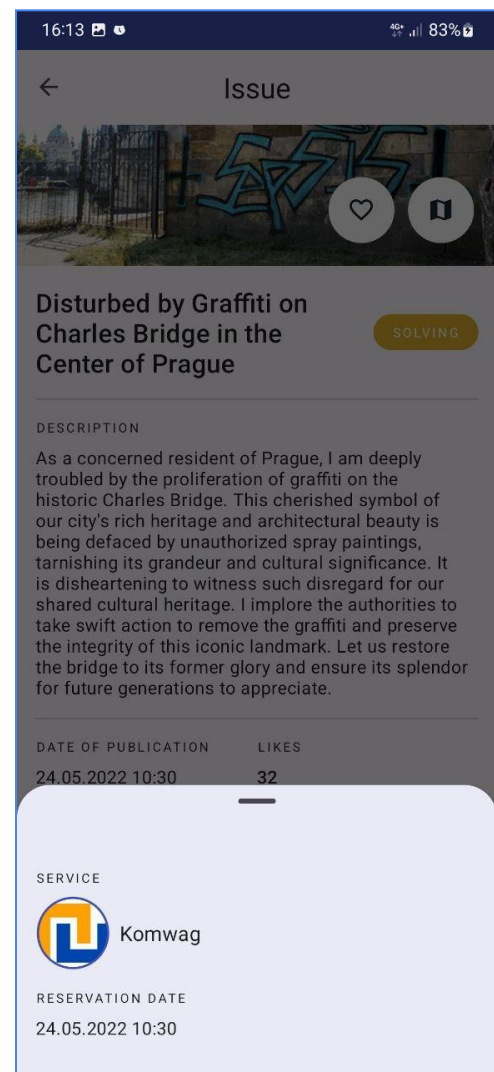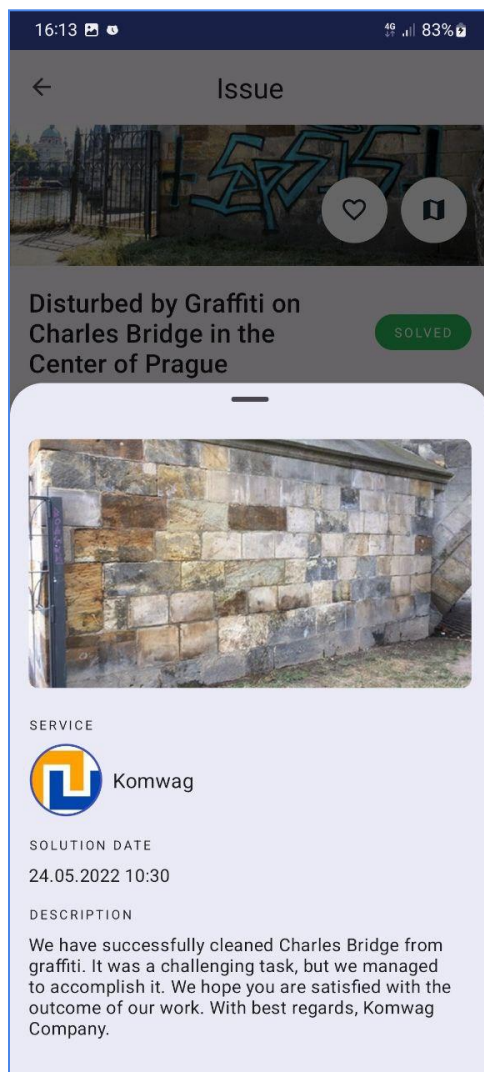
11. "Service Profile" screen

The "Service Profile" screen presents all relevant information pertaining to a particular service. This screen includes essential details such as the service's name, description, number of solved issues, and reserved issues. To access the "Service Profile" screen, users can navigate through screen 10.
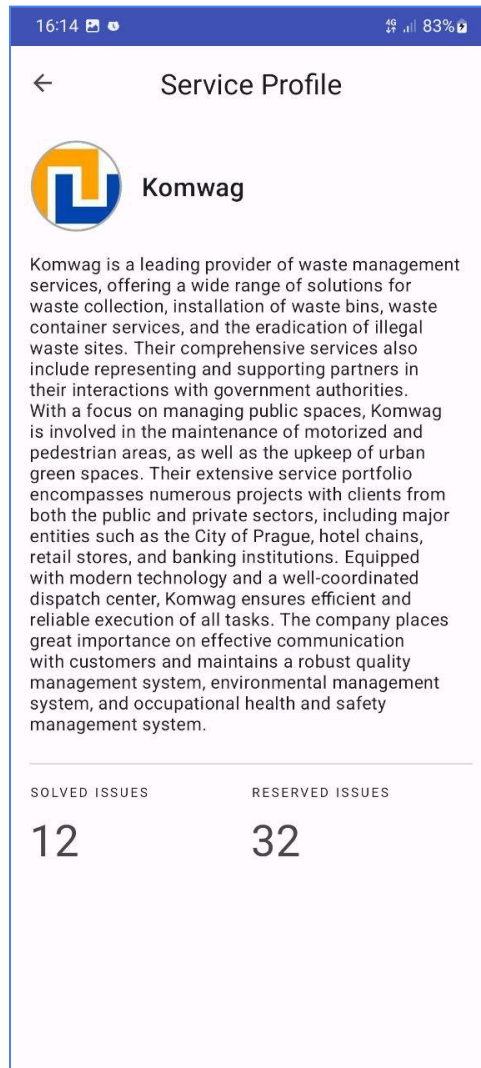
12. "Issue" screen with active "like" button

The screen exhibits an enabled "like" button, allowing users to actively express their interest or concern for the displayed issue.
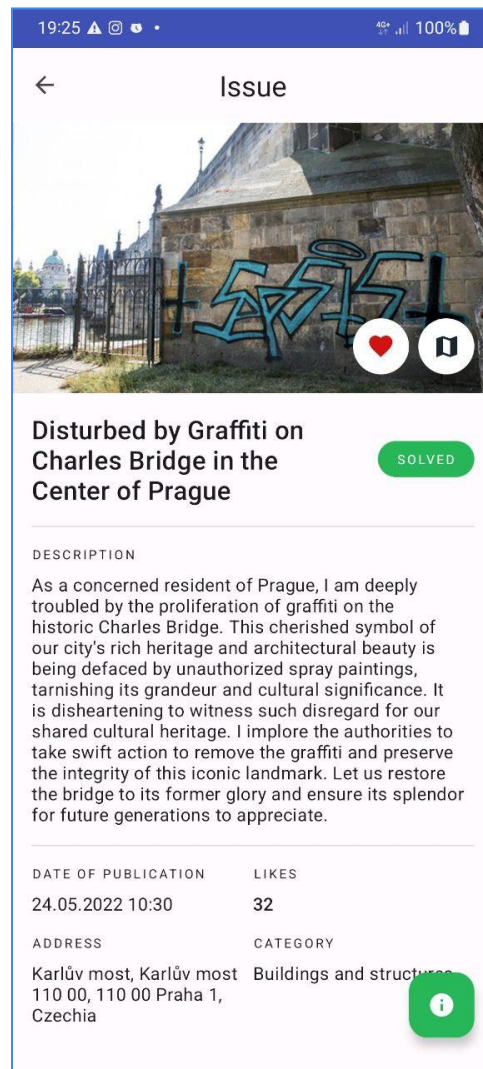
Mobile aspects

Frameworks and libraries

1. Navigation Component
   The Navigation Component allowed us to define and manage the
   connections between various screens or destinations using a
   declarative approach.

2. Hilt
   By integrating Hilt into our application, we simplified the management
   of dependencies throughout the codebase. Hilt automated the
   process of providing and injecting dependencies, reducing the need
   for boilerplate code and manual configuration.

3. Retrofit
   By integrating Retrofit, we simplified the process of communicating
   with APIs and making network requests in our application.
   Using Retrofit, we defined a clear and concise interface that
   represented our API endpoints.

4. NetworkResponseAdapter - for wrapping API responses in a
   NetworkResponse type.

5. Coil
   By integrating Coil, we efficiently handled the loading and displaying
   of images from various sources within our application.

6. Google Play Services - Google Maps API, location services, Google
   Sign-In

7. SwipeRefreshLayout
   By incorporating SwipeRefreshLayout, we added a swipe-to-refresh functionality to our scrollable views, enhancing the user experience and providing a convenient way for users to refresh the content.

8. Firebase - Firebase Storage, Firebase Firestore

HW and SW

The application is running and is being tested on Samsung A41 running the Android 12.

User testing

Dmytro Rastvorov: Signing In, Signing Up, Logging Out, Looking for the issues scenarios.

Signing In

From my point of view, the signing process is executed well. The necessary data required for signing in is clear and visible to the user. The authorization process is successful, and the state is saved even when exiting the application.

Signing Up

The process of registering a new user has been implemented to meet all the requirements. All registration fields are standard, clearly labeled, and visible to the user.

Logging Out

To log out the user has to go to his profile, where the log out button is located. Logging out works as expected, when the application is exited, the state is saved and the user has to sign in again. Small remark to the user's profile - maybe it will be better if there was an opportunity to edit the user's profile.

Looking for the issues

The user can look up for all issues in the Issues tab or look up for his published issues in the My Issues tab.
There is filtering missing in the Issues and when I switch from the map view the scrolled state is not saved - it scrolls to the beginning automatically.
My Issues tab has a good filtering according to the issue status. The same problem with scrolling here - state of scrolling is not saved while switching the status.

Roman Stepa: Adding a new issue scenario.

The process of adding a new problem is pretty convenient. All steps are divided into different screens, it makes a process more organized.
When choosing category, I think it is better to allow user to choose not only one category or to add category "Other".
On the last step, where I have to check all data, it will be better to make a close button not looking as back button.
After the issue is added, I think it will be better to show a published issue immediately after publishing.

References

Project's GitLab: https://gitlab.fel.cvut.cz/mingadar/pda