Screen Sketches

Team number: hb4_3
Members: Ethan, Sam, Aditi, Yusef
Name: GeoExplore

Actors and Functionality

1. Normal User (Citizen): Have the privilege to:
    - View current reports and locations
    - Create a report that other users can see
    - Support or contest the validity of other users' reports
    - Create a local community event
    - Save and manage a list of favorite locations for quick access
    - Send friend requests or connect with other users for collaborative activities

2. Moderators (Neighborhood Watch): Have the same privileges as viewers in addition to:
    - Give an elevated endorsement to reports, giving more attention to city staff
    - Add additional comments to an ongoing report
    - Remove a report they believe to be invalid or inappropriate
    - Engage in a private chat with other moderators for better coordination.

3. Administrators (City Staff, Gov's Employees): Have the same privileges as Moderators in addition to being allowed to manipulate aspects of the program itself by:
    - Endorse and create a city event displayed on all users' screens
    - Create special city reports, including upcoming city construction, parade closures, etc.
    - Access advanced analytics tools to analyze trends in reported issues.
    - Send emergency alerts directly to users in specific regions.

4. Corporate entity: Basically a user but with specialized features and a verified status
    - Create/endorse corporation-specific "posts" (any form of activity)
    - Host community events with a different style marker to indicate company sponsored event
    - Track engagement and user interaction with corporate-sponsored content.

Non-functional Requirements

- The application must be able to generate all city reports and place them on the map where the user is zoomed in within 3 seconds
- The application must support a minimum of 5 active users.
- Handle reports being made at the same
- The application must be able to support many more users. Mainly “Citizen” role users.
- The user should not have to wait more than 5 seconds for confirmation that their report is completed and shows on their map.
- The user should not have to wait for longer than 0.5 seconds for any UI element to respond.
- It must handle increased data loads efficiently as the number of reports and users increases.
- Optimize the application for various devices and screen sizes to ensure a consistent user experience.

Table Relationships

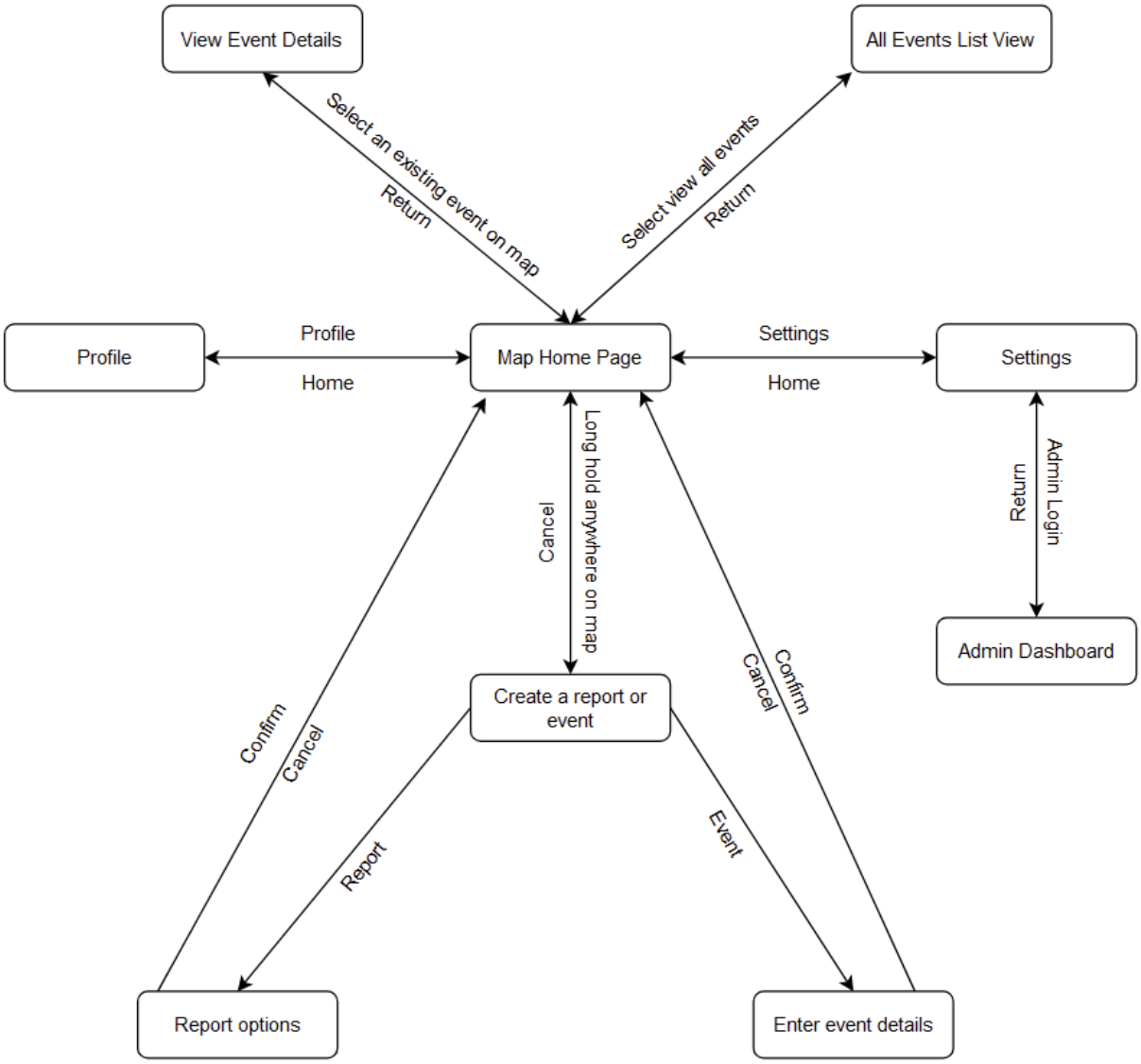
- User: Tracks information related to a user's account
    - User Id –Primary Key
    - User name
    - User Email
    - User Address
    - Hashed password
    - User Privacy Settings
    - Active – Used for soft delete of accounts (Inactive for 12 months then deletion).
    - User's Role - Citizen, Neighborhood Watch, City Staff, Corporate Entity

- Report: Tracks information related to each report made
    - Report Id - Primary key
    - Longitude of report
    - Latitude of report
    - Initial reporting user - Foreign key
    - Time and day of report
    - Amount of users endorsing a report

- Event: Tracks information related to community events
    - Event Id- Primary key
    - Day and time of event
    - Amount of people attending – maybe just convert this to be a list of users?
    - Longitude of event
    - Latitude of event
    - Hosting user - Foreign key

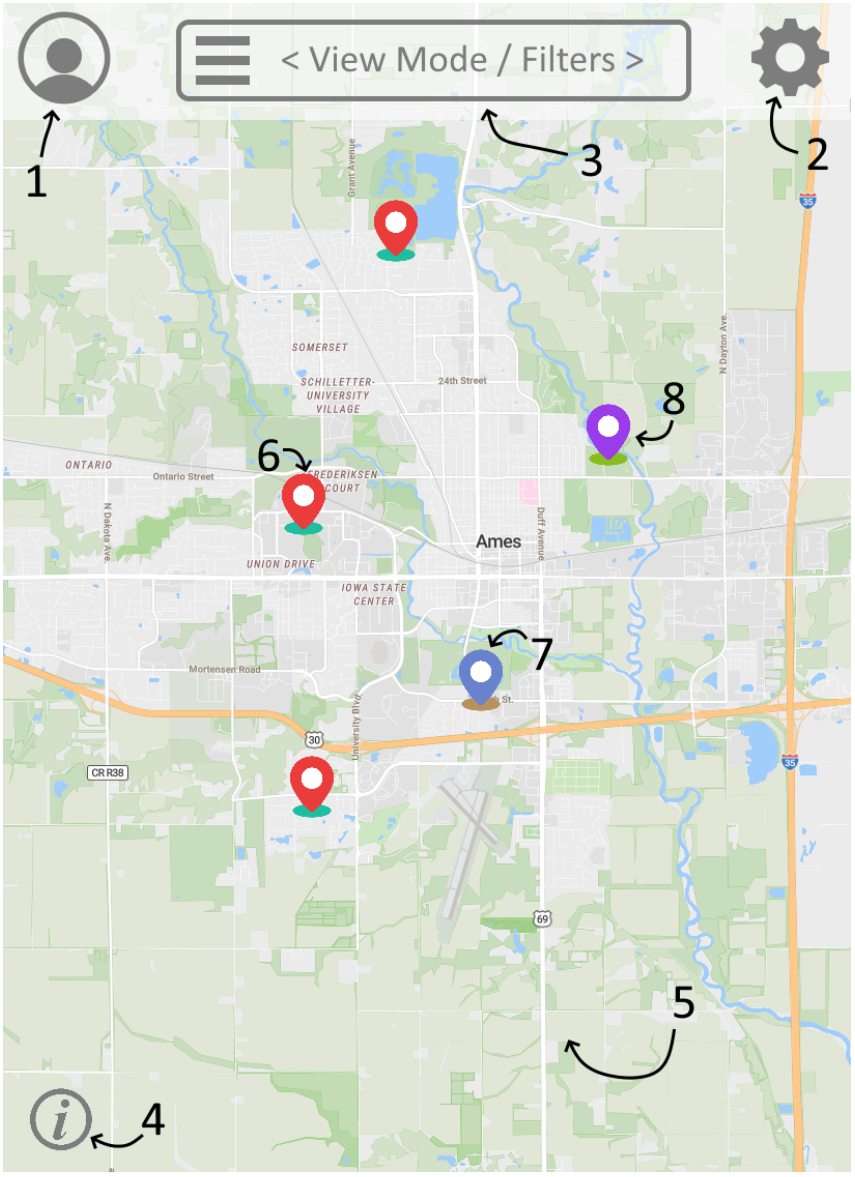
- Observation: Tracks any user-posed observation that for a location
    - Observation Id - Primary key
    - Timestamp
    - Lat/Long geolocation
    - Description
    - Linked media? (photos)
    - User [id] for original post - Foreign Key
    - Related report (if applicable) - Foreign Key

One Page Screen Flow Diagram



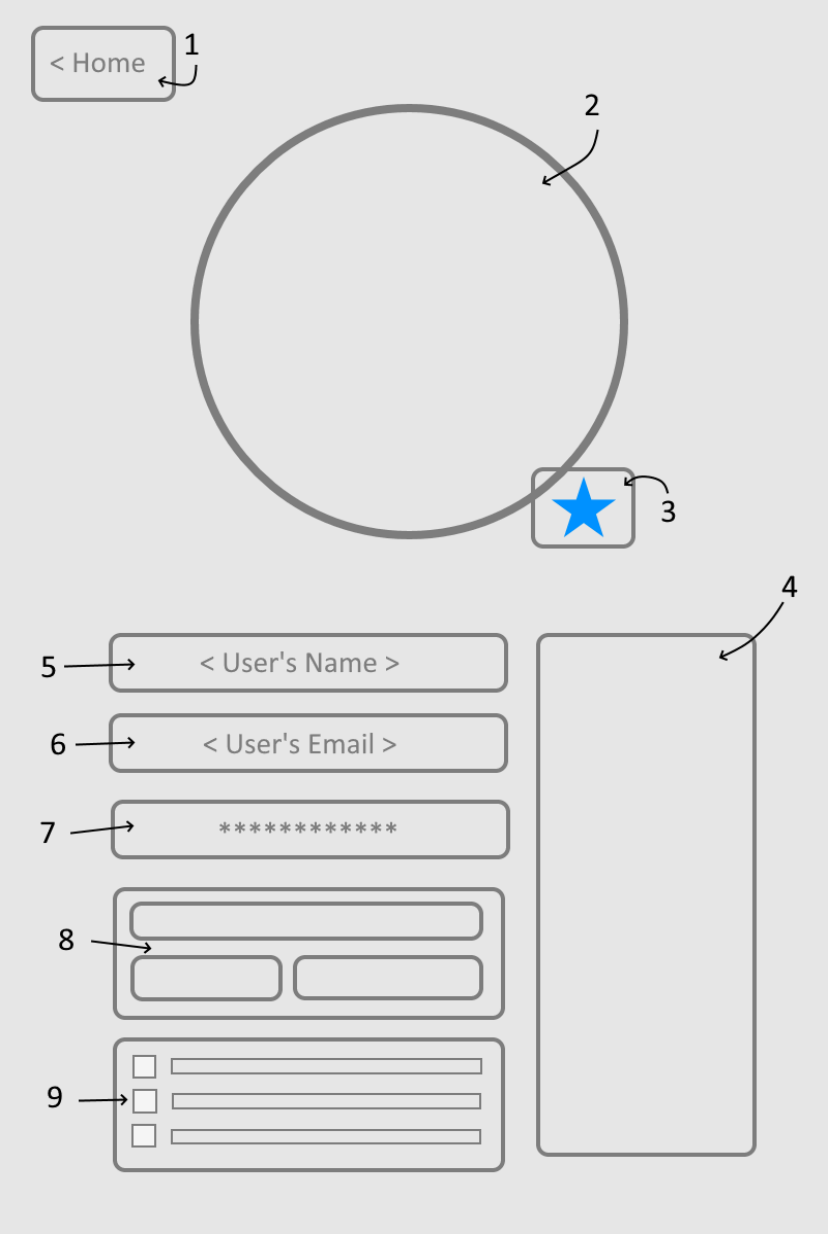
Screen Sketches

Map Homepage – Sam Richter



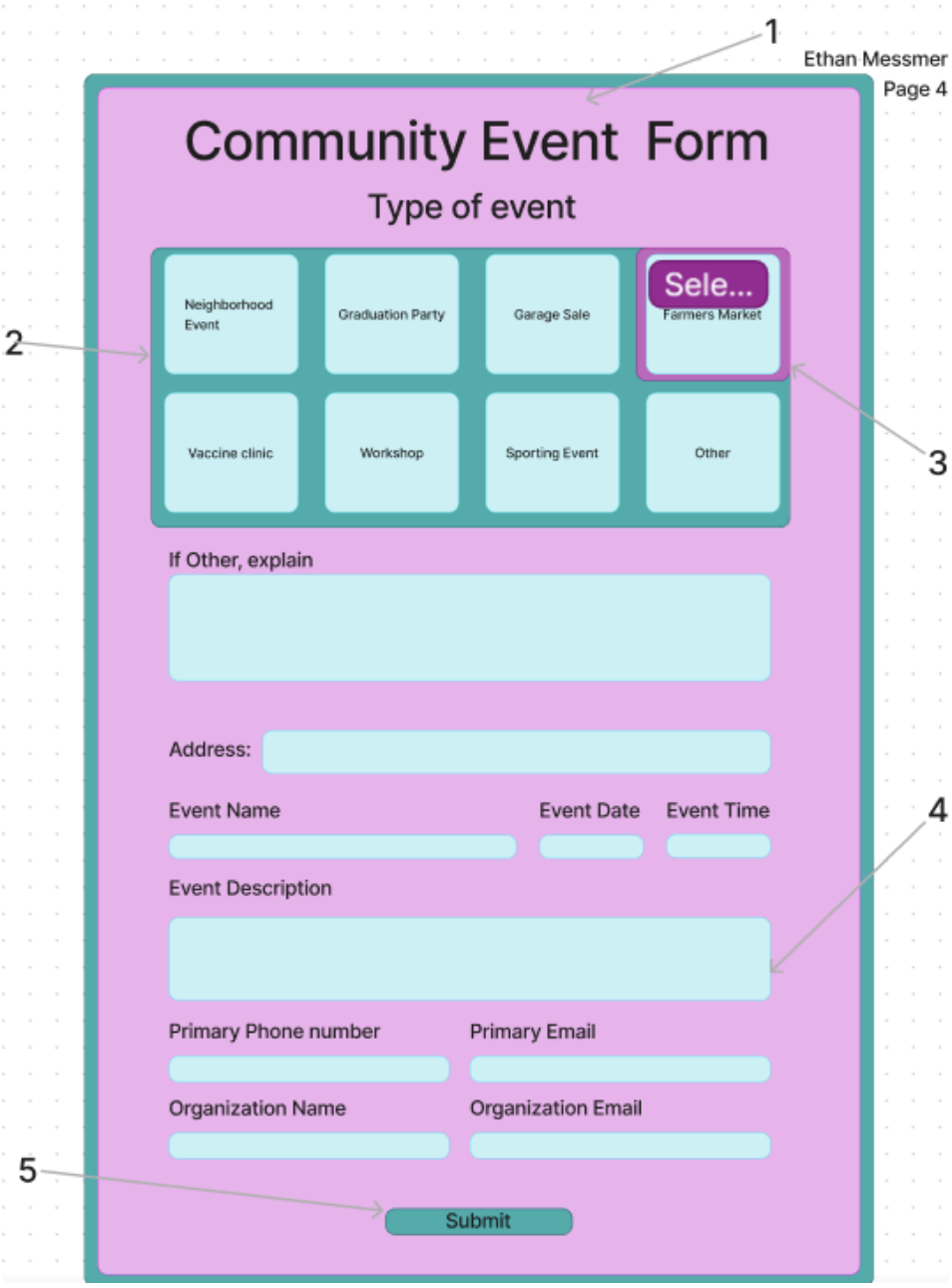
The map homepage serves as the main “hub” for our application, allowing the user to access all other pages (after login) and serving as the main interface for viewing, filtering, and adding new items to the map. Number 1 represents the profile icon, which can be selected to bring the user to their profile (a separate screen). Number 2 links to the settings page, and number 3 is a dropdown menu of filters for which items are displayed on the map. Number 4 is a help screen which lists how to interact with the map to navigate, select items, and add new items. Number 5 represents the map itself, which serves as the backdrop for the majority of the window. Numbers 6, 7, and 8 all represent item markers, the color of which will determine the type of item. For example, red could represent a hazard, blue could represent an event, and purple could represent an observation.

Profile Page – Sam Richter



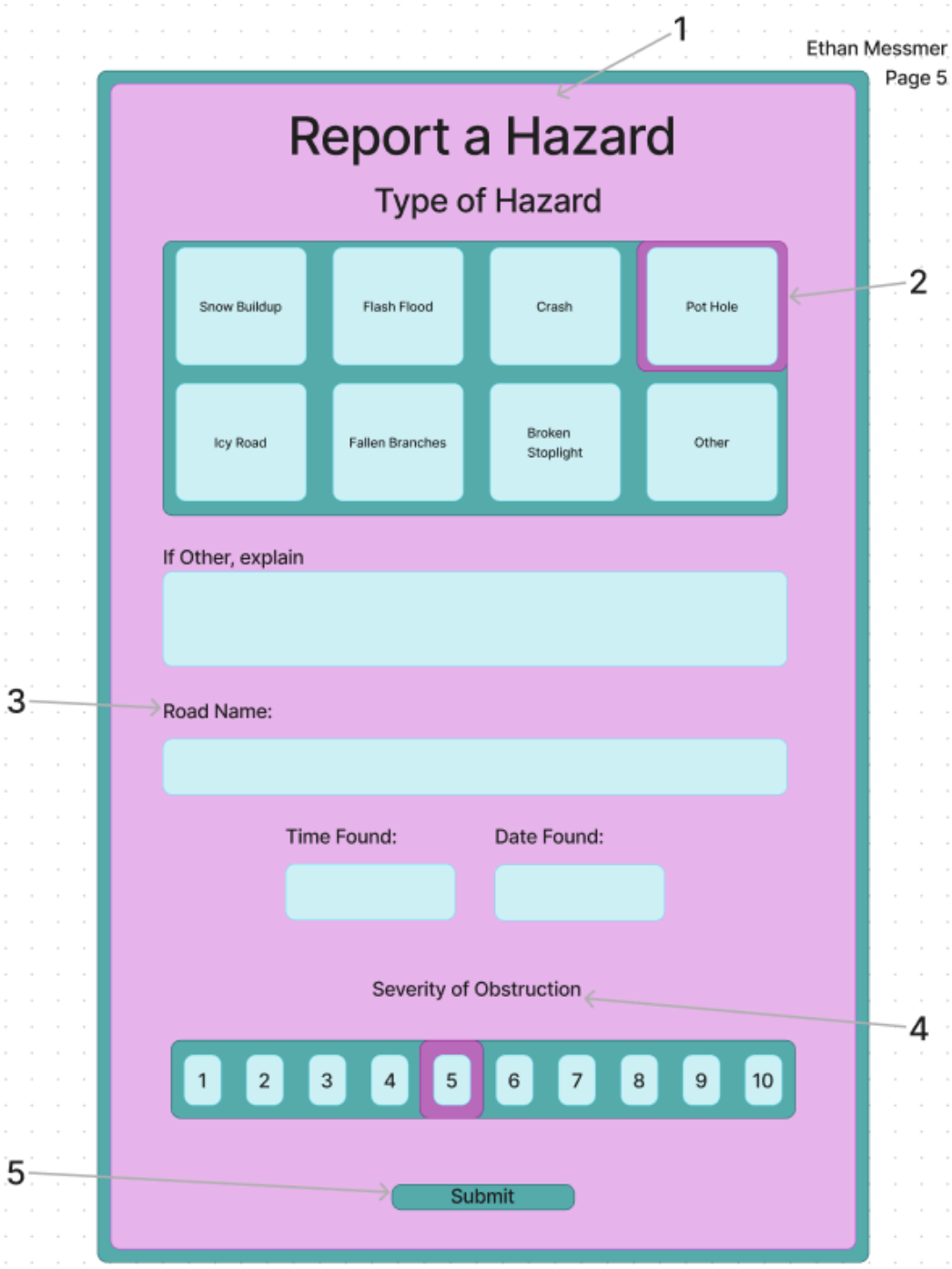
The profile page lets a user edit and view their profile settings. Additionally, the profile page provides usage statistics and a “verification status” that represents the user’s role within the application (see list of actors). Number 1 represents the button which returns to the home page. Number 2 shows the user’s profile image, and acts as a button allowing the user to change their profile image. Number 3 depicts the user’s verification/role status with an icon (specifics to be determined). Number 4 is a pane of various user statistics, for example counters of items added to the map or events types that the user is following. Numbers 5, 6, and 7 display the user’s name, email address, and password (not actually shown). Each will also function as a button allowing the user to edit this information. Number 8 represents the user’s address, if provided. Finally, number 9 represents a list of privacy options (check boxes displayed).

Community Event Request form -

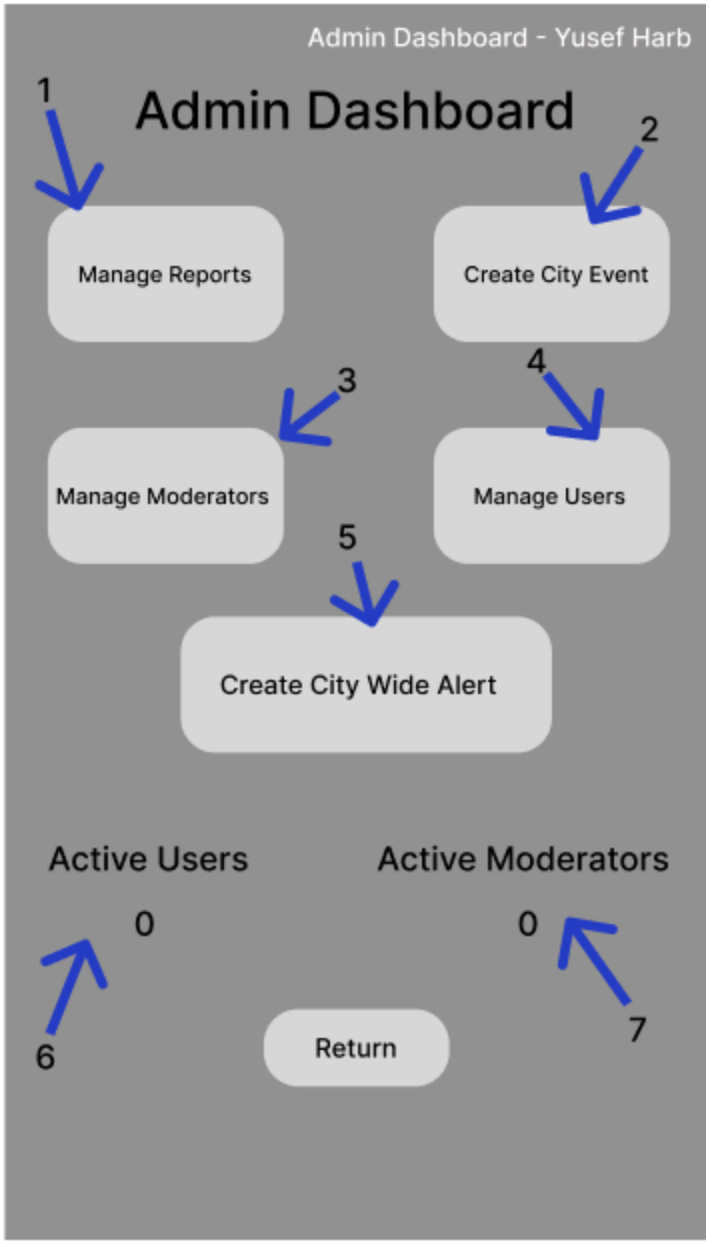


The Community Event request form would allow users to submit when and where an event is happening and store it in the database after the approval process. This is explained with (1) the form in an easy-to-navigate form for them to fill out. They can press a general type of event (2), which gets highlighted when selected(3). They then can offer the other details of the event(4) with Date, time, address, and organizer details and if an organization sponsors the event. Finally, they can submit the form to be reviewed(5), and they will be redirected to a screen to tell them if the event has been approved or denied and the reasoning.

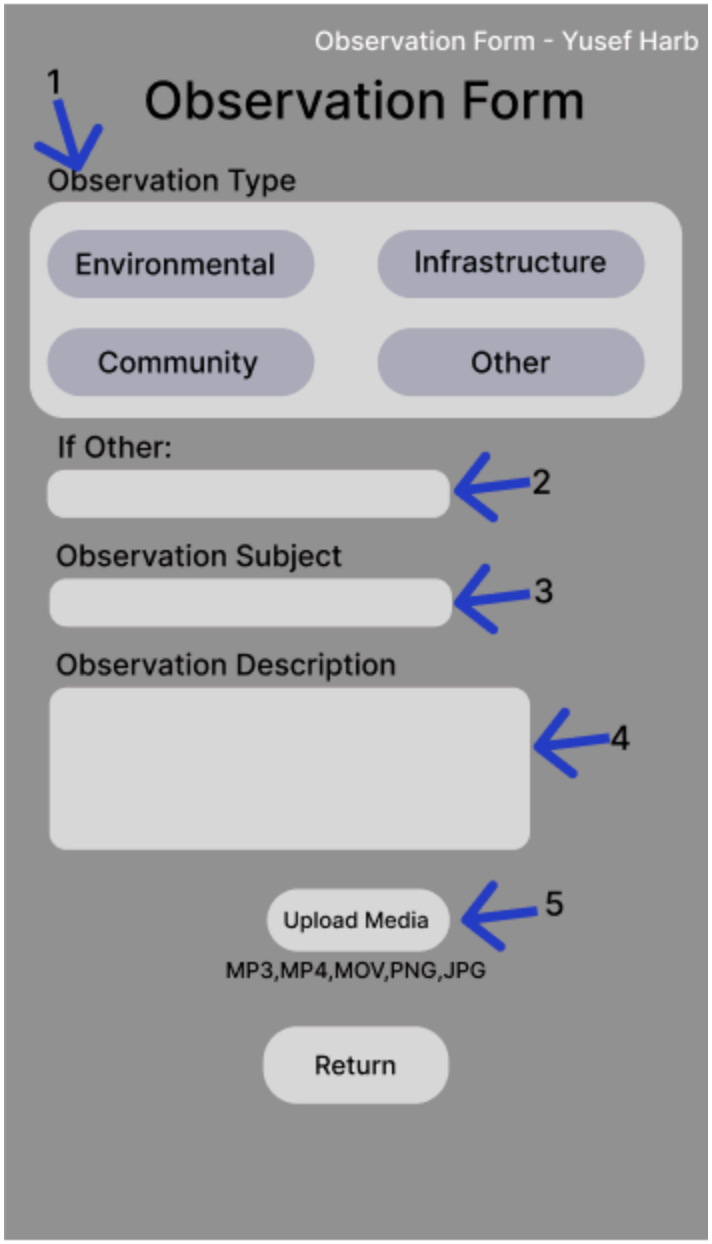
Street Hazard report -



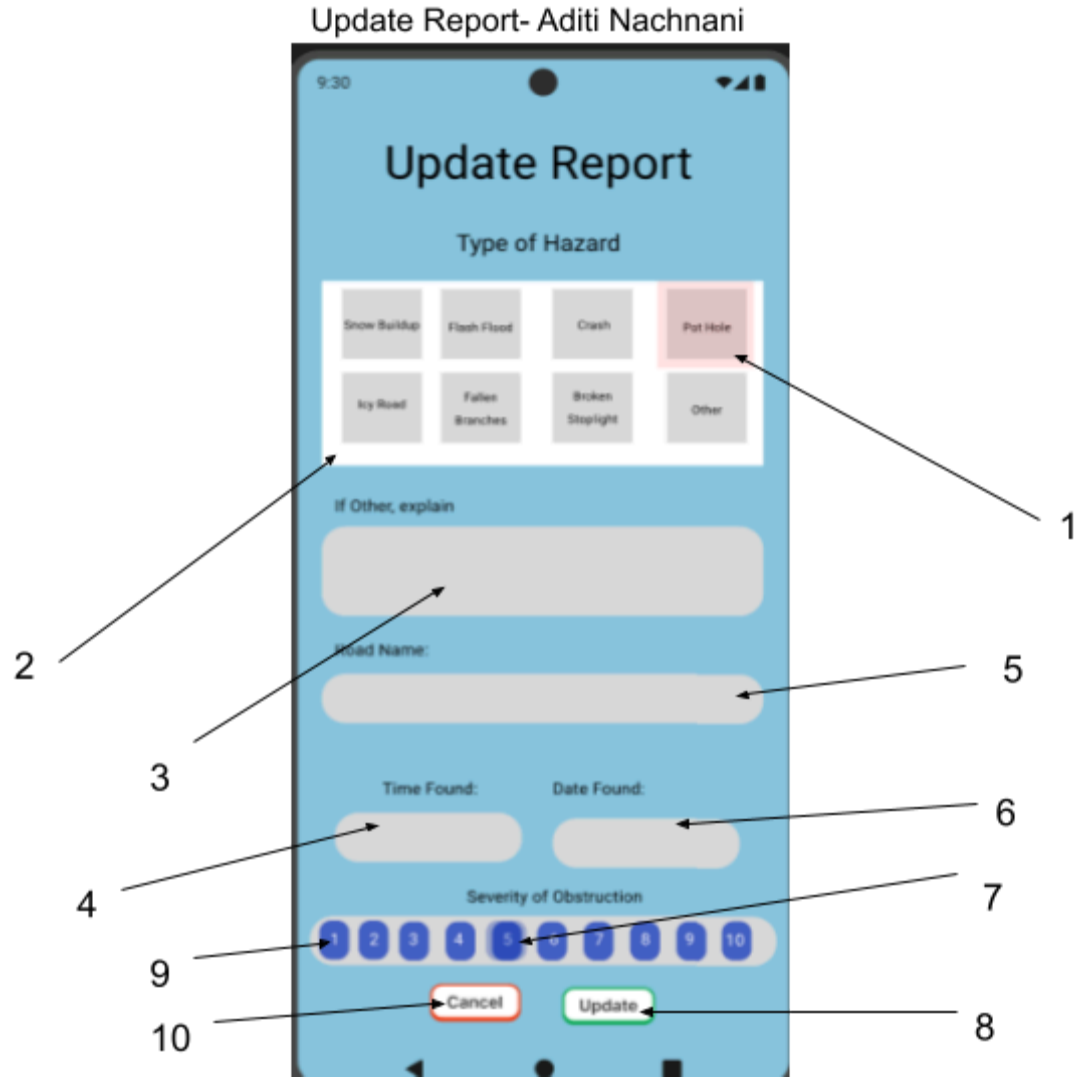
The hazard report is much like the event request form as it is to achieve a similar result. The title (1) clearly explains what this page is for. The Selection (2) is the same format as the event request form, allowing them to choose one of the general hazards to simplify submitting it. The user then needs more information, including the (3) road of the hazard, the date and time of the discovery, and the severity of obstruction(4) so other drivers know how bad the hazard is. The user also can simply submit the form by pressing the submit button (5).



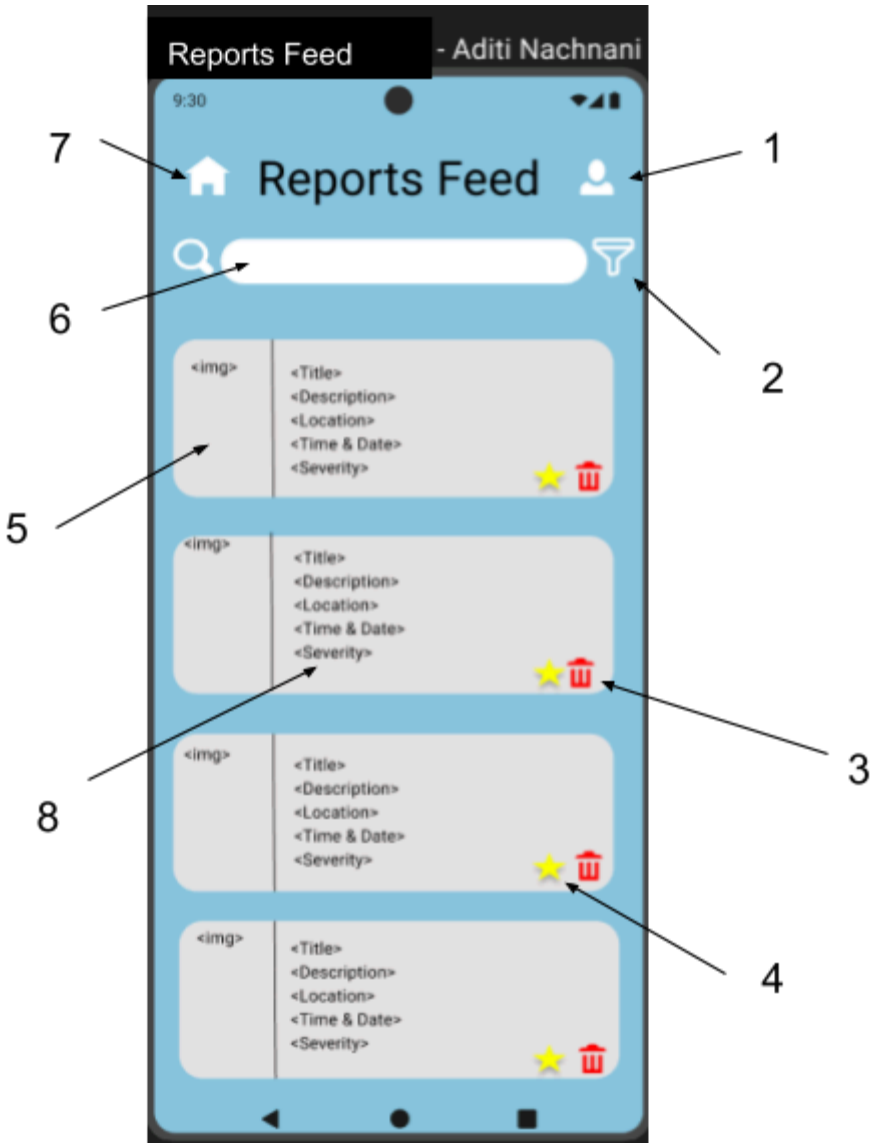
The admin dashboard page is where city officials and government employees will have an overview of things happening in the city. They can click on manage reports (1) and view all reports across the city with the option to see details and delete them if they deem it taken care of or inappropriate. To promote city events like a parade, admins can create a city event (2) that will show in a special marker on the map to users. To manage moderator privilege aka Neighborhood Watch, the admin can use the manage moderators button (3). If any users need to be banned or removed from the platform or if just a list of users is desired, admins can use manage users (4). For emergencies such as amber alerts or tornado warnings, the city can create a city wide alert (5) that shows as a banner to all citizens. Admins can also get a quick glance of all active users (6) and moderators (7).



On this page, users can share an observation that is marked on the map. These observations don't need to be informative and could be something a citizen felt worth sharing with fellow citizens. When going through this menu, you will first pick the type of observation (1), whether environmental, infrastructure, community, or other. And if the user selects other, they can enter the type in the other box (2). The user then will fill the observation subject (3) with a title summary of what the media is about. The user will then describe details or other relevant info they wanted to include in the observation description (4). Finally, the user can upload an acceptable media type, shown below the upload button (5).



This page allows users to update a report. This user can view what they initially selected (1) for the type of hazard and have the ability to reselect a different type of hazard (2). If desired, a user can update the explanation (3), the Road Name (5), the time found (4), and the date found (6). The user can view the severity they chose before (7) and select another number to change the severity (9). The cancel button (10) will cancel the update operation and take the user back to the home page, and the update button (8) will update their report.



This page will allow users to view all the latest reports in their area. Users can see the picture of a report (5) and the title, description, location, time and date, and severity (8). Users can favorite a report (4) for quick access. A user can delete their own reports (not other users' reports), and the moderators and administrators can delete any report they would like (3). Users can search reports (6) and also filter them (2) based on criteria like location, date, and type. The user also has the option to go back to the home page (7) and view their profile (1).