2018

SW Engineering CSC648/848 Section 01 Spring 2018 Team 3

EnviRepair

Milestone 2

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Revised and Frozen	

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1. Data Definitions

a. Environmental Issue – This is an issue an in a user's community that poses some kind of danger or discomfort to the user and those around them, this issue is normally caused by the environment or human negligence. Some possible attributes: Location, type of issue, comments and photos.

b. Flag – Users are allowed to flag content as inappropriate, after a post receives a number of flags, it is a target for moderation.

c. Unregistered User: May post and browse environmental issues

d. Registered User: Same privilege set as Unregistered User, but may also: Flag posts deemed inappropriate, access to personal info, posting history, can edit a post made by them only if the city manager has not changed the status of the post.

e. City Manager: Same Privilege Set as Registered User, plus can edit status of postings from in-progress to complete, may also post relevant information to status changes.

f. Administrator – Same Privilege set as Registered User, also given moderation capabilities, can hide, unhide and delete posts that are inappropriate, may also delete users.

g. User: The users table stores the user information which includes their username, password (hashed), email, and their privilege (the details for this are stored in milestone 1).

h. Category: The category table will be responsible for storing the specific type of environmental issue (ie. pollution, waste, toxicants, etc.).
Issues: The issues table is responsible for storing all of the information related to the issue that a user reports. There is a foreign key pointing to the users table as well as the category table so that we will be able to record which user posted the issue as well as which the category the issue belongs to. The issues table records all of the detailed information about the issue at hand such as the location of the issue (street address, city, state, zip code), the status of the issue (resolved, in progress, not resolved), the number of times the issue has been reported, the severity of the issue ranked from 1 to 5 (a rank 1 issue could be as simple as a fallen tree at a park whereas a rank 5 issue could be a nuclear waste spill in a highly populated area), and a short description of the issue provided by the user that is provided at the time of the report.

2. Functional Requirements

Priority 1

1.1) As an Unregistered User I would like to report an environmental issue
1.2) As an Unregistered user I would like to be prompted with potential duplicate issues as to not report the same issue twice (Not AI search)
2.1) As an Unregistered User I would like to browse current environmental issues based a variety of search parameters (Location, severity, and type)
2.2) As an Unregistered User I would like to browse solved environmental issues based on a variety of search parameters (Location, severity, and type)
3.1) As an Unregistered User I would like to browse environmental issues in the form of a map
15.1) As an Unregistered User I would like to register and become a Registered User
4.1) As a Registered User I would like to have the same access and functionality as an Unregistered User upon logging in.
5.1) As a registered User I would like the search functionality to return results closest to my location which I provided upon registering

Priority 2

6.1) As a registered user I would like to browse issues I have submitted (such as a history page)
6.2) As a registered user when visiting my history page, I would like to see the most relevant content first (Pending issues first, then solved, organized by date)
6.3) As a registered user when visiting my history, I would like to have some filtering options to better view older posts.
6.4) As a registered user I would like my history page to reflect the difference between posted reports and comments.
7.1) As a registered User I would like to edit a post I made with relevant information I thought of later.
8.1) As a registered user, when I submit an issue and prompted with the same issue, I would like to comment on the issue rather than create a duplicate.
8.2) As a registered user, when I submit an issue and prompted with similar issues, I would like to continue submitting my issue because the issue I am submitting is unique.
9.1) As a registered user I would like to flag posts I think are inappropriate.
10) As a registered user I would like to change my account information
16.1) As a city manager, I would like environmental issues to be frozen once I have assigned a workflow (User should not be able to edit posts after city manager freezes the post)
11) As city Manager I would like to view current issues in my assigned district
12) City Manager shall be able to post solution generated by department, marking an issue solved or in progress, with the addition to comments pertaining to the change in status
15.2) As City Manager I would like to mark posts as duplicates making my workflow easier
13.1) As Administrator I would like to be notified once there have been sufficient flags on a post
13.2) As Administrator I would like post to be automatically hidden if they receive a number of flags
14) As Administrator I would like to hide or unhide posts based on the premise of inappropriate content.
14.2) As Administrator I would like to delete users or posts due to inappropriate content
15.1) As Administrator I would like to mark environmental issues as duplicates

Priority 3

17.1) As a registered user I would like to view the status of my posted environmental issues when I log in

17.2) As a registered user I would like there to be a visual difference between the difference progress levels of the environmental issues I have posted

18) As a Registered user I would like to follow certain posts which I find interesting, which will be displayed on my dash.

11.2) As City Manager, when viewing issues in my district I would like them to be grouped by their different stages in workflow

11.3) As City Manager, when viewing issues in my district I would like the option of grouping them by severity or other criteria

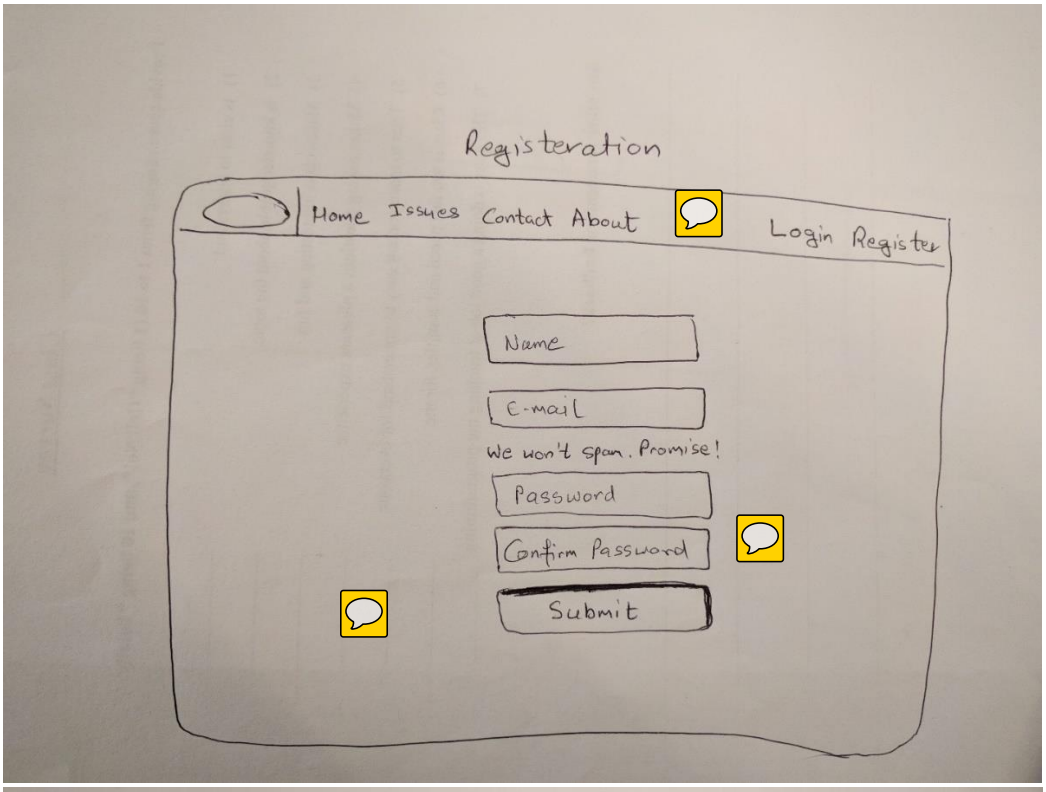
18) As a city manager I want to update severity or priority of an incident.

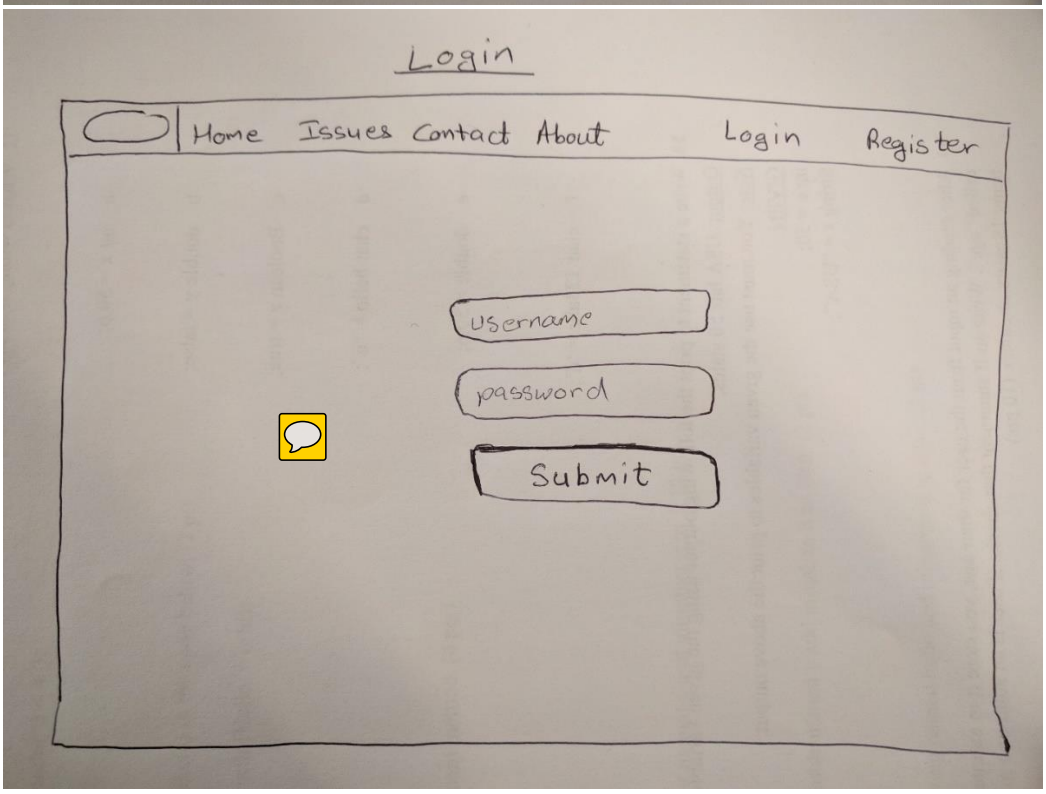
19) As a city manager, I want automatic escalations for incidents that have not been addressed within a time period.

13.3) As administrator I would like my dash to display post most relevant for my attention such as post that have been hidden first then by flag count

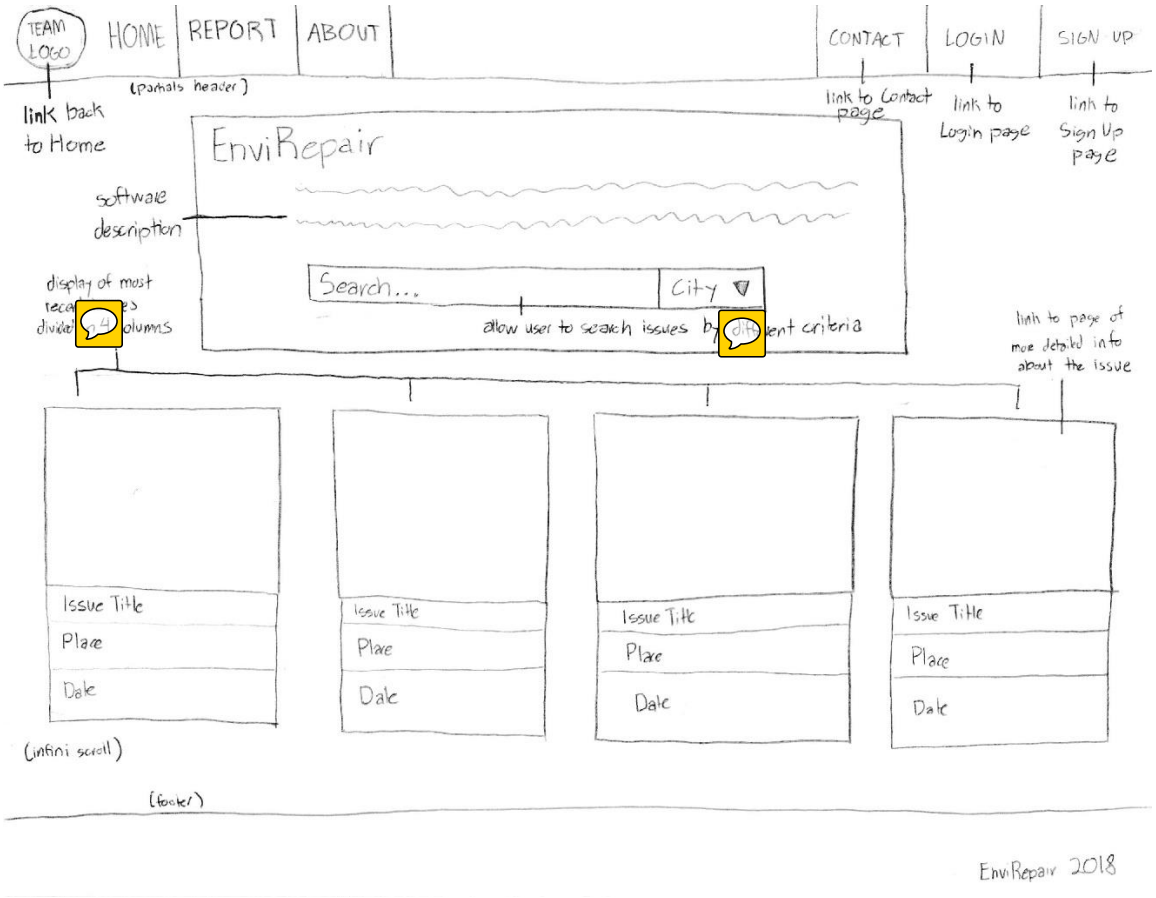
3. UI Mockups

Registration / Login





Home/Dash


TEAM LOGO
HOME
REPORT
ABOUT
CONTACT
LOGIN
SIGN UP
(partials header)
link back to Home
link to Contact page
link to Login page
link to Sign Up page
EnviRepair
software description
Search...
City
allow user to search issues by different criteria
display of most recent issues divided into columns
link to page of more detailed info about the issue
Issue Title
Place
Date
Issue Title
Place
Date
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Date
Issue Title
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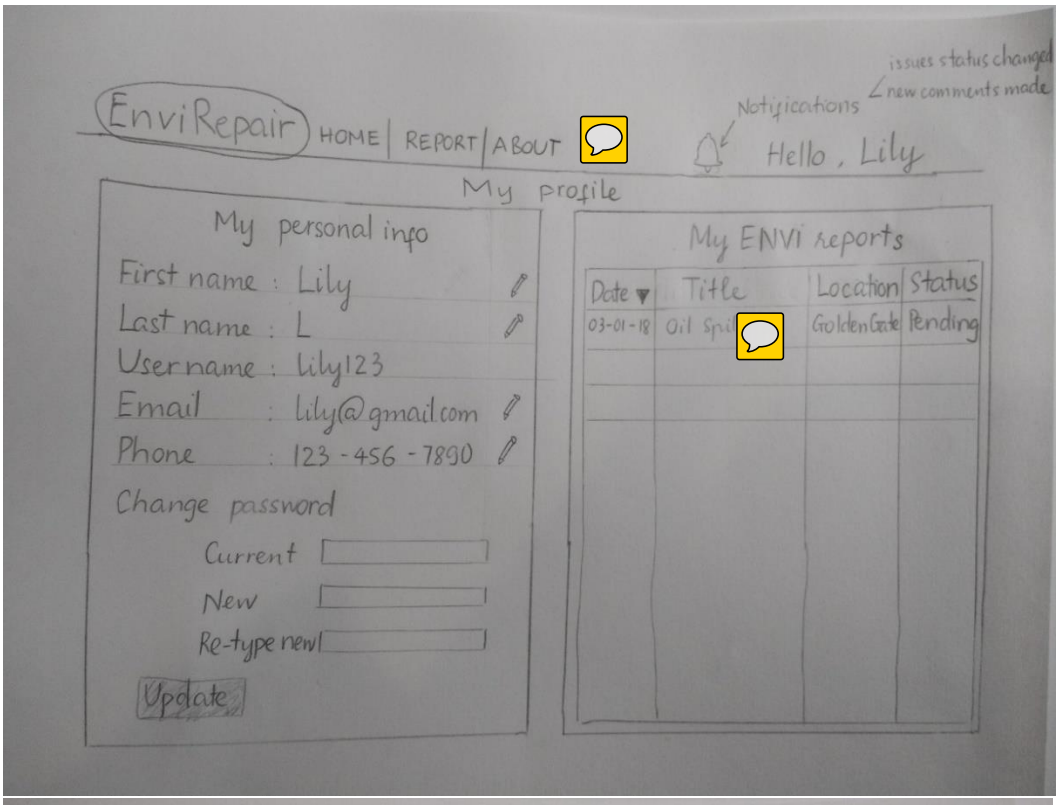
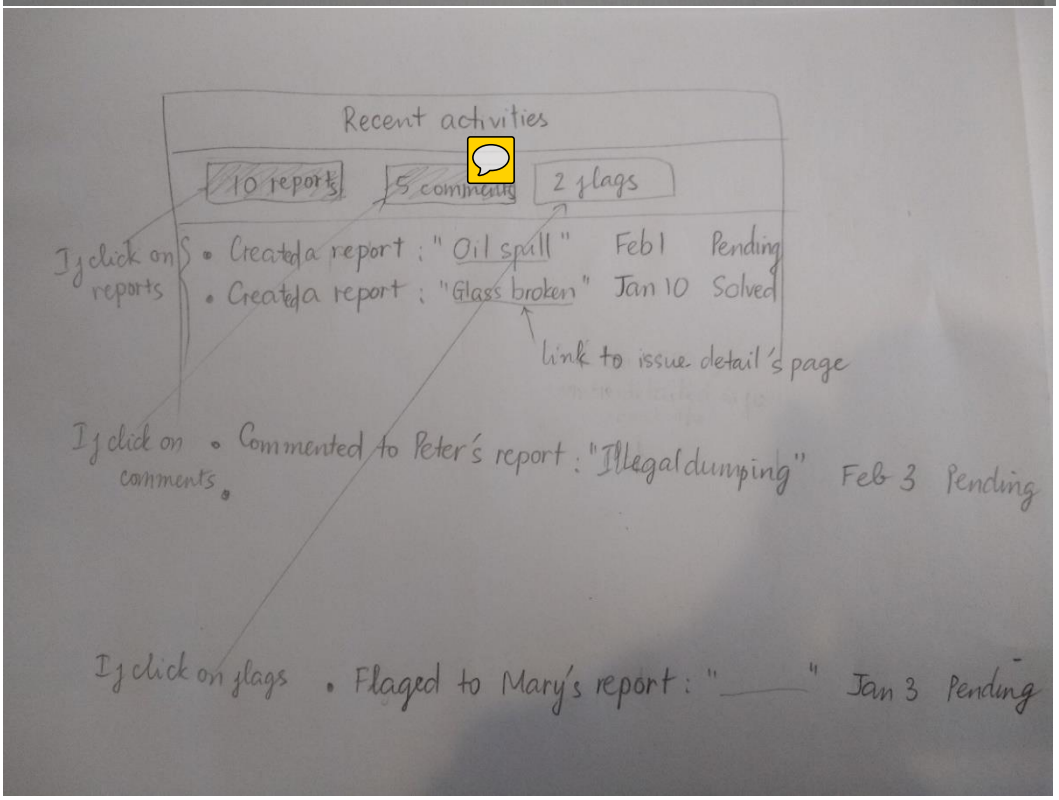
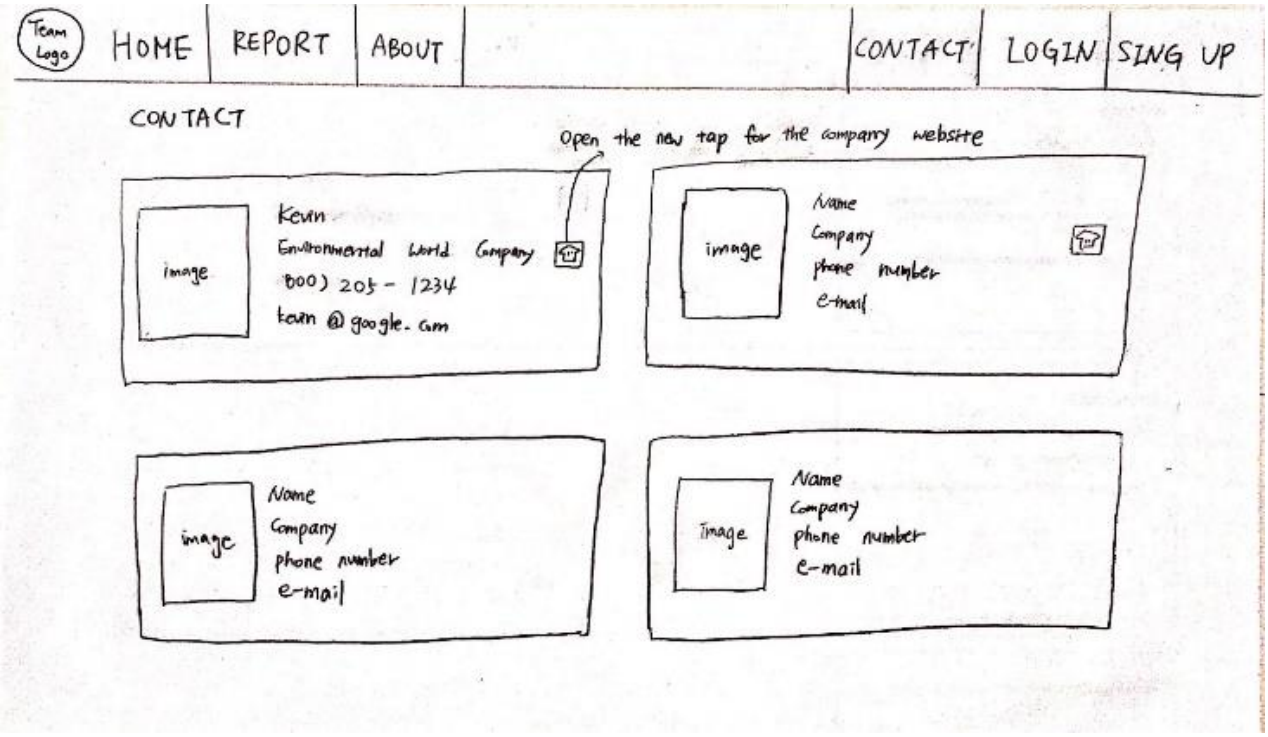
EnviRepair 2018

User Profile / Edit Profile

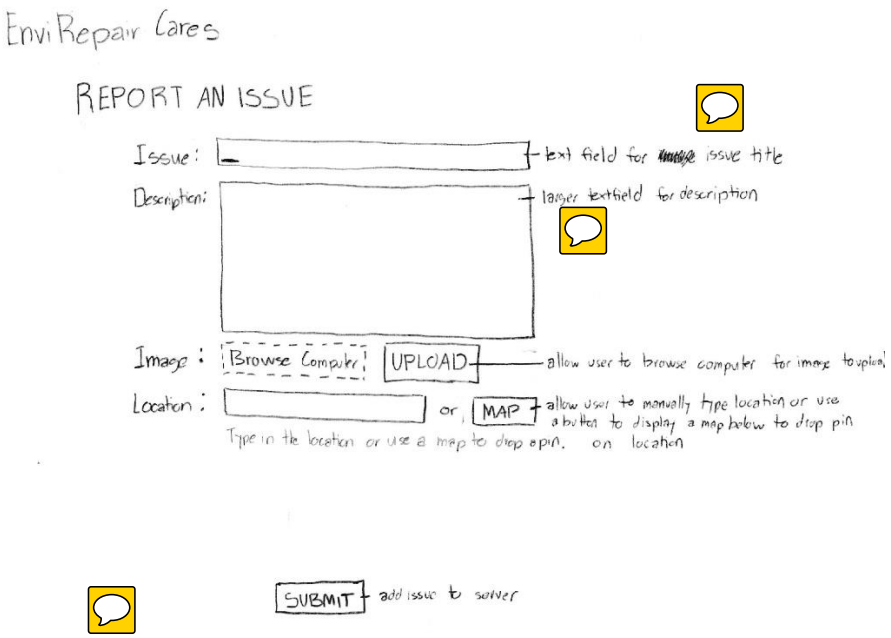




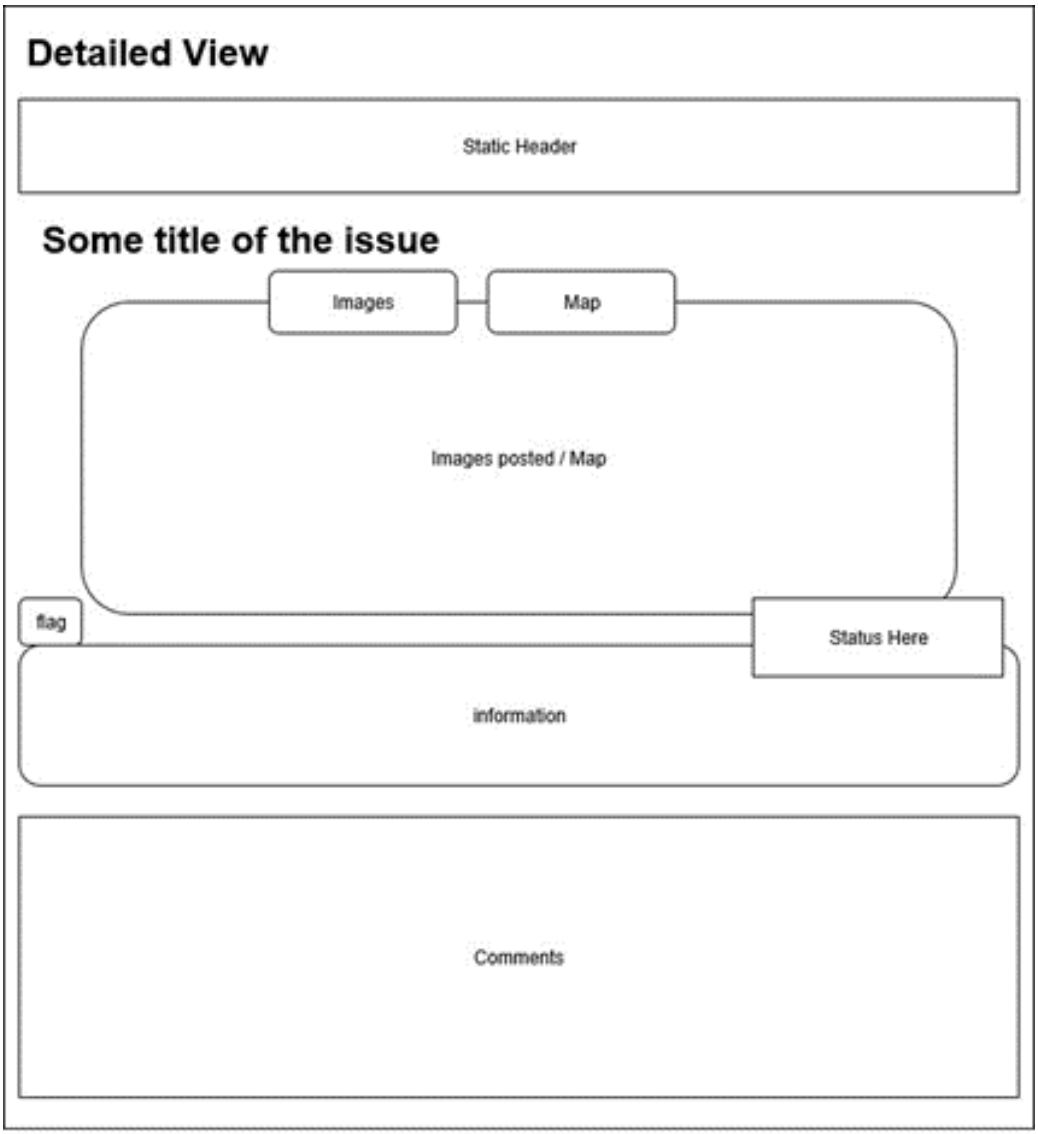
Contact



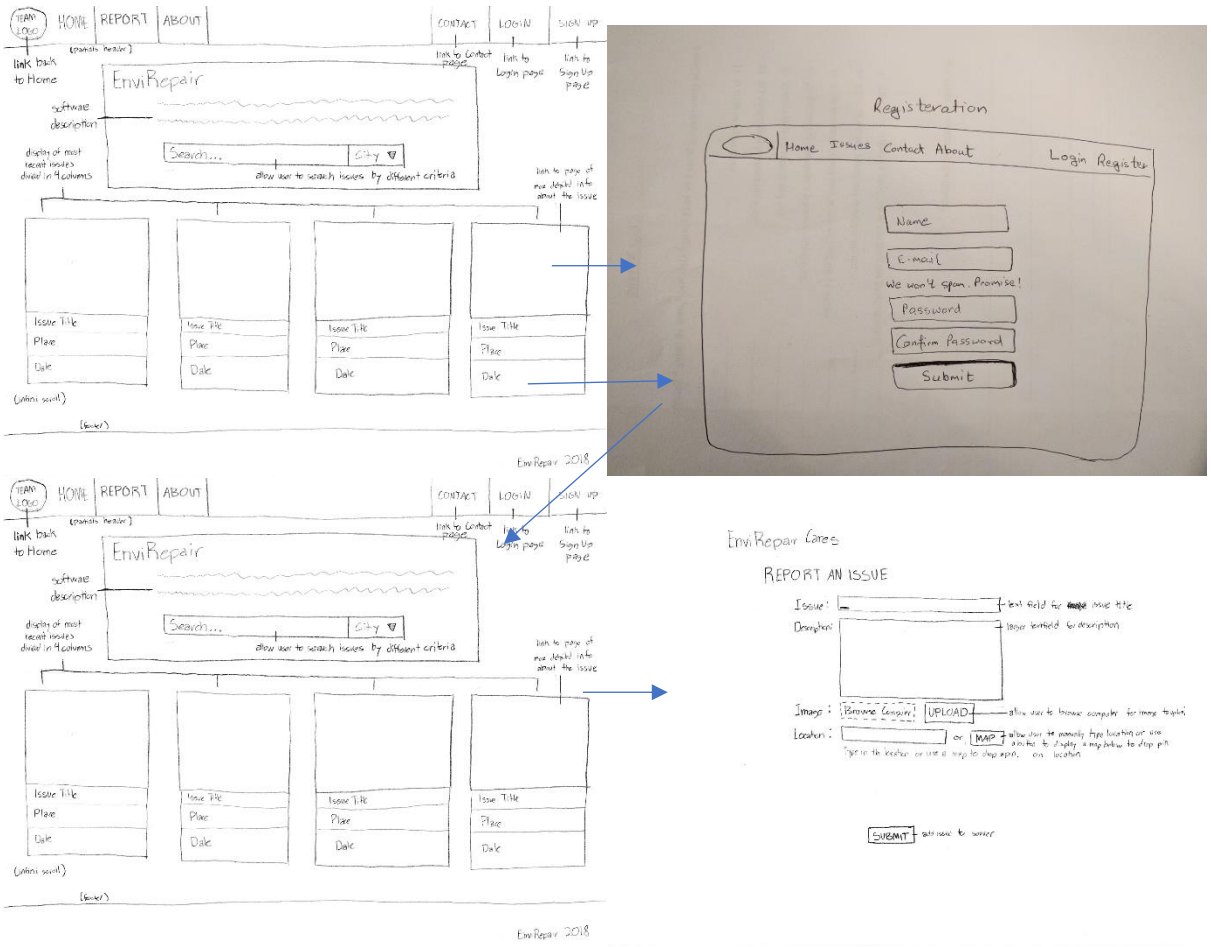
Report Submission



Detailed View

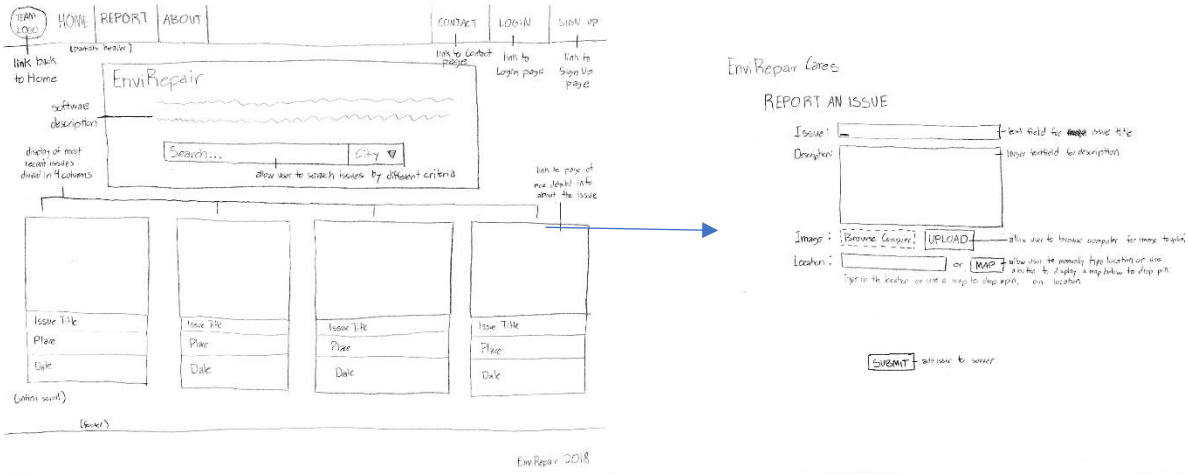


Unregistered User Registers Then Browses



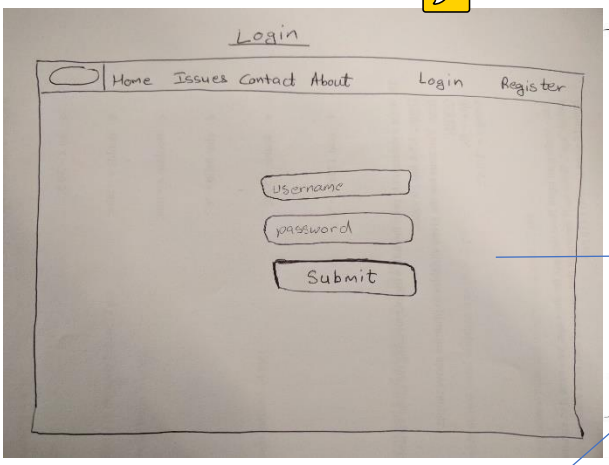
Unregistered users should be able to register, this is a part of the core functionality, please note that currently (Version 1) unregistered users will not be able to import the reports they submit as an unregistered user

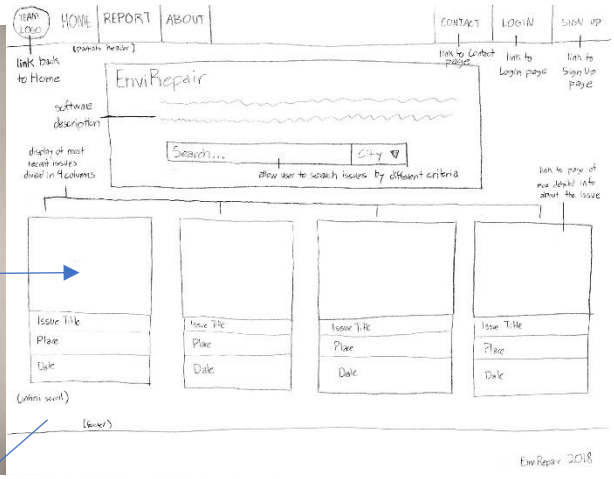
Unregistered User Submits an Issue Then Leaves

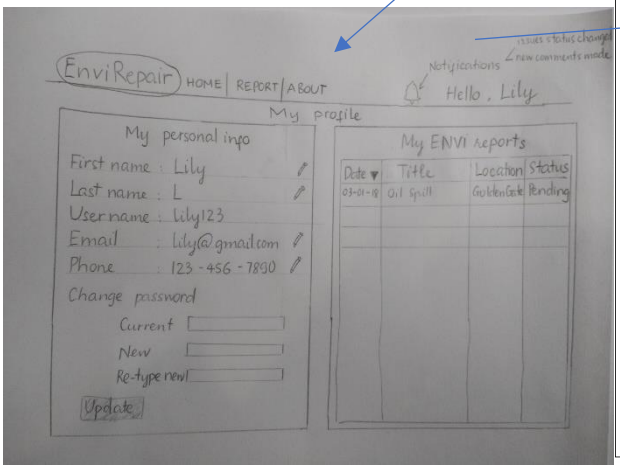


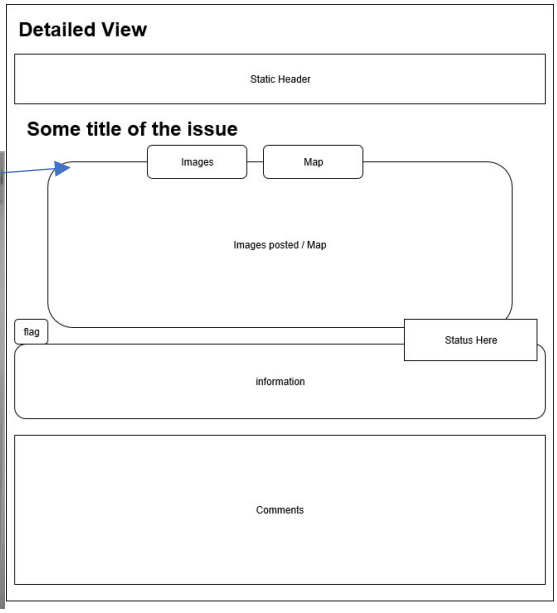
An unregistered user notices something and wants to report it, they are not interested in registering or checking up later. UI should allow someone to quickly report or view issues without having to go through an intense navigation

Registered User Checks Profile History to checkup on post









A registered user logs in, checks out their history and then selects a report to look at in detail. Ideally Logging in should be fluid, basic/recent history may be incorporated into the dash, certain iterations of this story will skip over the profile view.

4. High Level Architecture, Database Organization

Model

Our postgres database in conjunction with our node app serve as our model. Our database will store all relevant information from our website. This information includes user data as well as any issues submitted by registered and non-registered users. There will be functions that are triggered by the controller that allow us to read/modify any data in our database which will then update the view accordingly.

View

The content in our views are rendered from the data in our model. The user-submitted issues will be posted onto our website and represented as bootstrap cards. The cards will contain a picture, a description, a location, a category, and any relevant user information linked to the post. Our site will also contain a dashboard for user information that displays individual user information that is readily available for modification. The dashboard also contains a user's history of reported issues. Lastly, our site will have a contact page that provides users with the information necessary to contact admins, as well as city managers with any concerns that they may have.

Controller

Our controller will be a combination of keyboard inputs as well as button clicks that trigger different events. There will be buttons allowing users to view log in, registration, and submit issue forms. Hyperlink clicks will allow users to navigate other parts of the website. Users will use their keyboard to fill out the forms as well as button clicks to submit the information to be stored onto the model. On the user dashboard, there will be options for the user to click and edit/update their user information.

Database Schema

Users: The users table stores the user information which includes their username, password (hashed), email, and their privilege (the details for this are stored in milestone 1).

Category: The category table will be responsible for storing the specific type of environmental issue (ie. pollution, waste, toxicants, etc.).

Issues: The issues table is responsible for storing all of the information related to the issue that a user reports. There is a foreign key pointing to the users table as well as the category table so that we will be able to record which user posted the issue as well as which the category the issue belongs to. The issues table records all of the detailed information about the issue at hand such as the location of the issue (street address, city, state, zip code), the status of the issue (resolved, in progress, not resolved), the

number of times the issue has been reported, and a isFlagged boolean that other users can mark if they find that an issue on the website is inappropriate/irrelevant.

Logical Schema for database

Users: { user_id: integer, username: String, password: String, email: String, privilege: integer }

Categories: { category_id: integer, type: String }

Issues: { issue_id: integer, category_id: integer, user_id: integer, username: String, title: String, description: String, resolved: String, streetAddress: String, city: String, state: String, zipcode: String, numberOfOccurrences: integer, imagePath: String, isFlagged: boolean, createdAt: Date, updatedAt: Date }

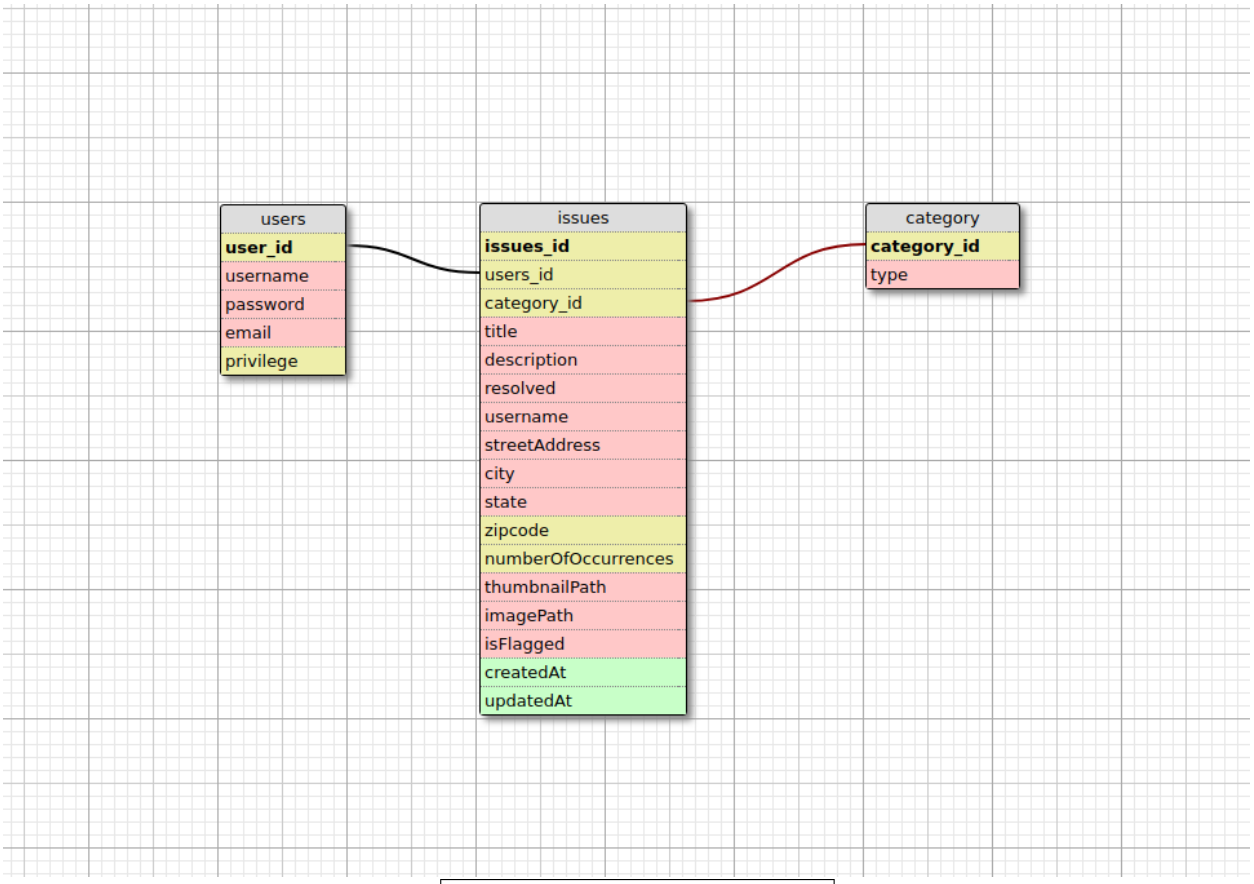
Media Storage

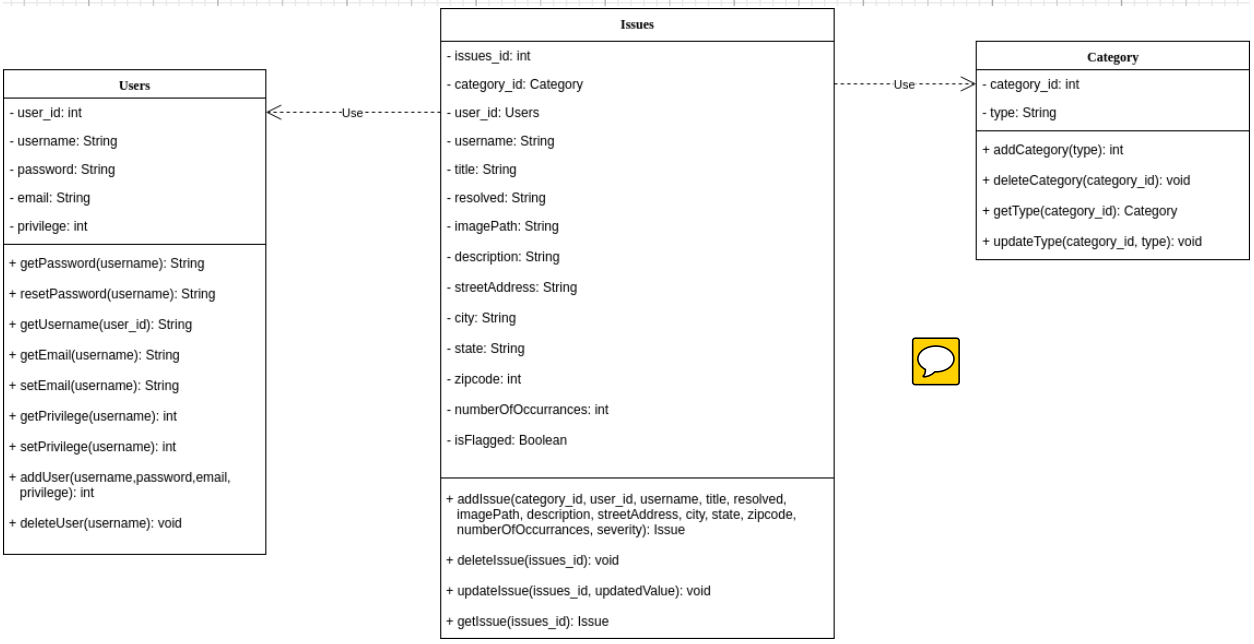
We are choosing to use the file system to store images submitted by users. The relative path to each of these image files will be stored in our database. When issues are being rendered to the view, the path to the correct image to display will be read from the database. Bootstrap offers a class that will make each image appear as a thumbnail which will be using to display our issues in a more compact way when displaying search results.

Search/filter architecture

For now, we implemented our fuzzy search using SQL and %like. We were advised to allow the user to search by city and zip code for simplicity. Our search operates similar to how a basic fuzzy search works in the sense that the user can type in full cities/zip codes or substrings of cities and zip codes and the database will try to match the input to any pre-existing record in the database. By default we are going to order the search results from most recent to least recent by using the created At column in the issues table that stores the date of when the issues was created.

6. High Level UML Diagrams





7. Identify actual key risks for your project at this time