

# PUBLIC RESTROOM APPLICATION PROJECT REPORT

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## PROJECT DESCRIPTION:

It is almost always the case that when one is on the go and looking for a public restroom near them, it's not in the ideal state that we would like. We decided to build a software that can show a user all the restrooms near them along with ratings and commentary. We plan to create a Public Restroom ratings app that allows users to determine the best restroom based on their location and their ratings. The app will allow users to search by location for a public restroom and see the ratings and comments, if the user wants to rate a restroom, then they would have to log in with their credentials. Users are also able to select favorites, which generates a personal list of favorite restrooms that the user can refer back to at any time.

## WHY THIS PROJECT?

This project is interesting to us because we think it is practical. It is something we think is helpful especially in the city of Boston, where there are many restrooms and being able to check which restroom has the best facilities is helpful when out and about. For us, when we are far from our dorms exploring the city or working outside far from campus, it is necessary to be able to go to a restroom that is clean and resourceful in sanitary items.

## README

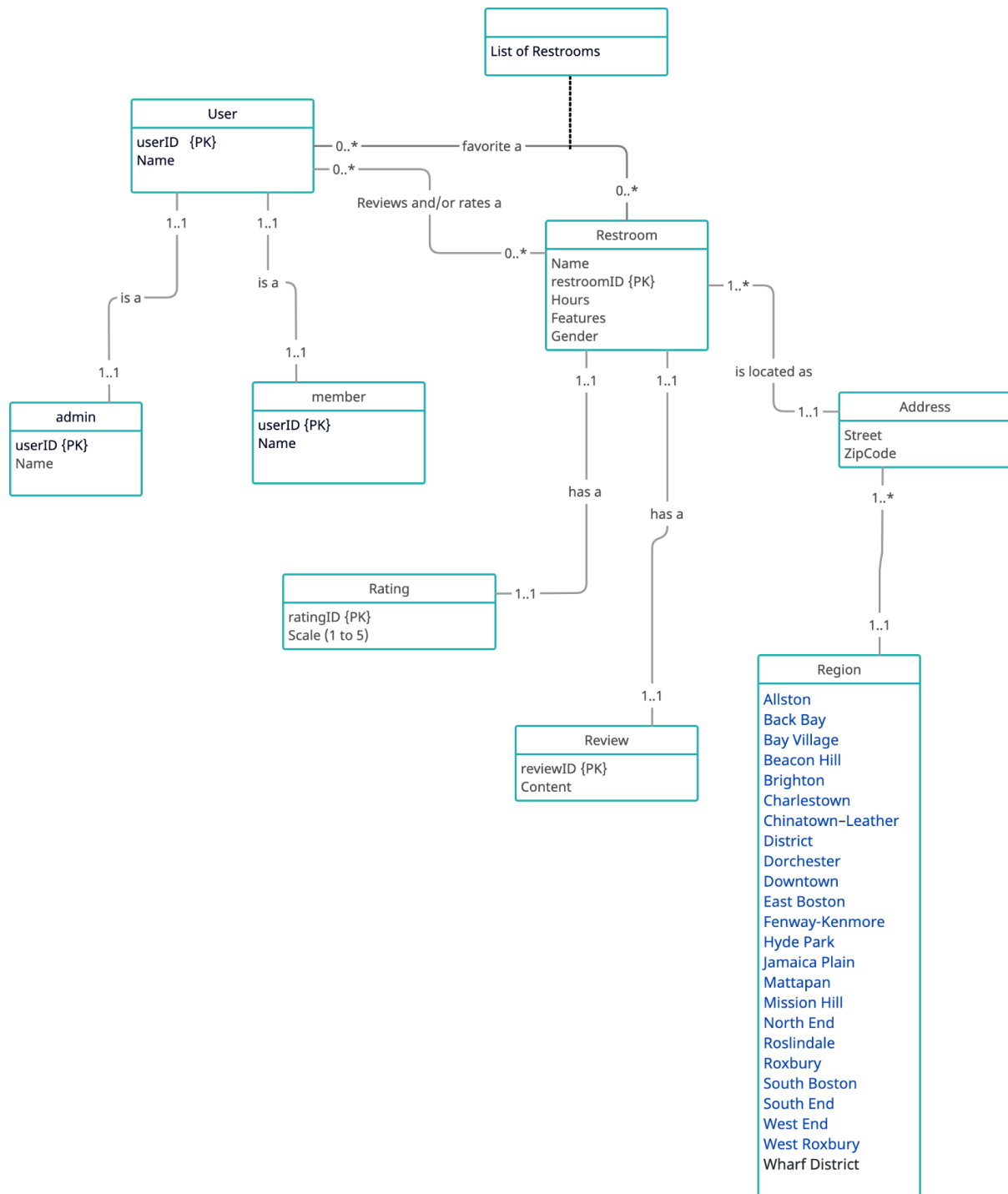
- File download:
  - Download the sql script into your MySQL and run it. Be sure to refresh your schema tab and ensure the pr database exists.
  - Open the restrooms.java file in your IDE of choice (We used IntelliJ IDEA). Make sure to add it to a new project and set up your SDK. All necessary imports are included in the java file. Ensure that the Connector J driver is included in the project (add the jar file to the project) The link to connector J download can be found below.
    - <https://dev.mysql.com/downloads/connector/j/>
  - Once the file is open, scroll to the bottom and find the main method. Run the main method.
- Connecting to the DB

- Once the main method is run, all interactions will be through the terminal. It will prompt you for a username and password, which is for connecting to MySQL. The username is root, and the password is your personal workbench password.
- Running the application
  - The first step is to either sign up for our application, or view the existing database of public restrooms without editing privileges.
  - To sign up, follow the directed prompts. Once you sign up once, the application will remember you, and the next time you open it, you can use the login option and enter the credentials you used to sign up.
  - Signing up will direct you to a user menu where you will see the four CRUD operations are available to you. Follow terminal prompts to carry out these operations.
  - To view the existing DB at any point, use the prompts to navigate to the view DB option (under the read operation, or simply through the main menu). It will then prompt you for a specific region of Boston you are looking for restrooms in. After entering a region, it will filter your results by region, and display all the restrooms with their ratings and reviews.

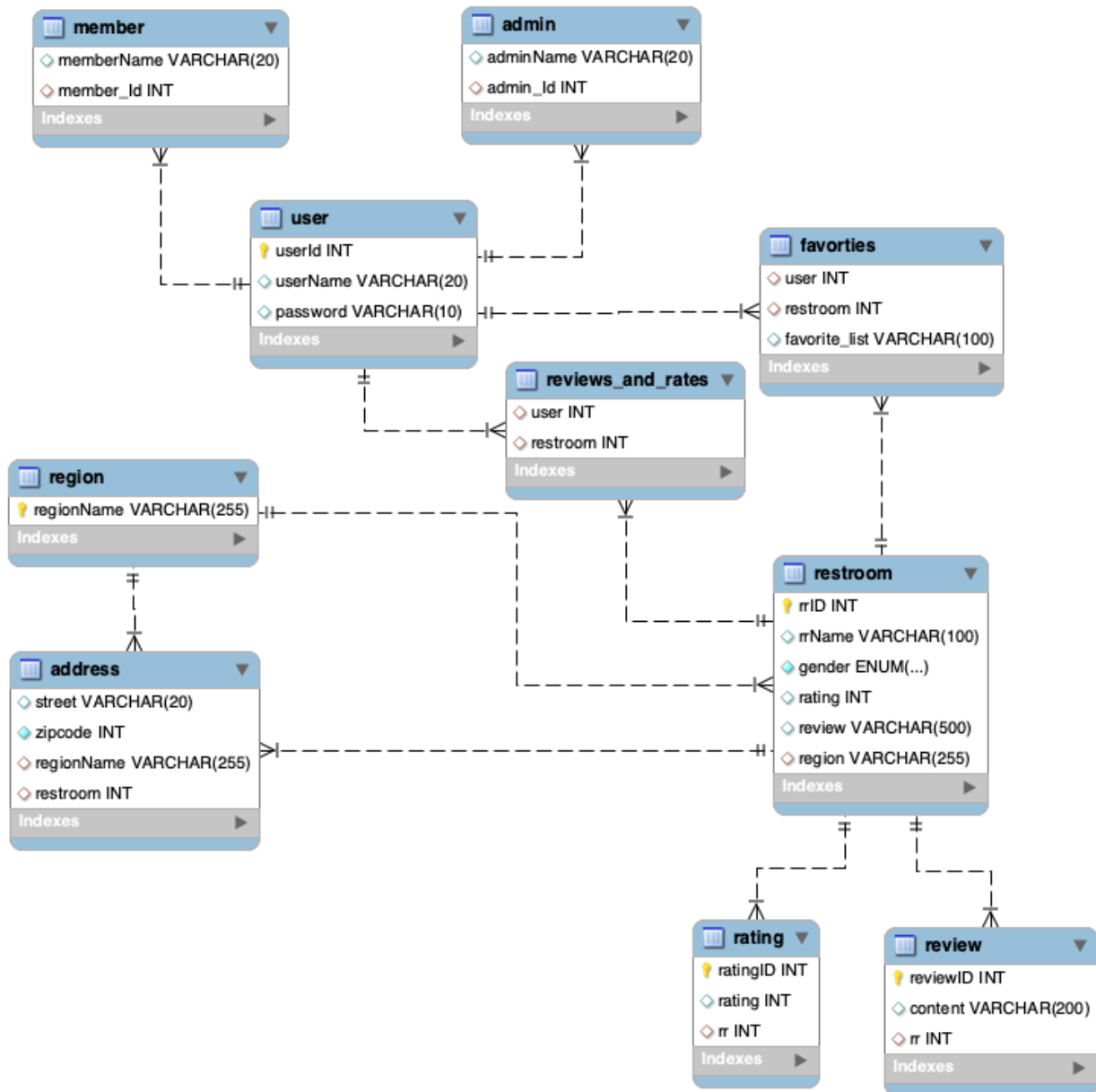
## TECHNICAL SPECIFICATIONS

We have used SQL because it will handle the compound queries with the data in the database, and our data is structured. We have built a text-based GUI in Java that can be run through the console by utilizing the IntelliJ IDEA IDE. We have used both Java and MySQL for this project. There are currently no restrictions that we can foresee with this project.

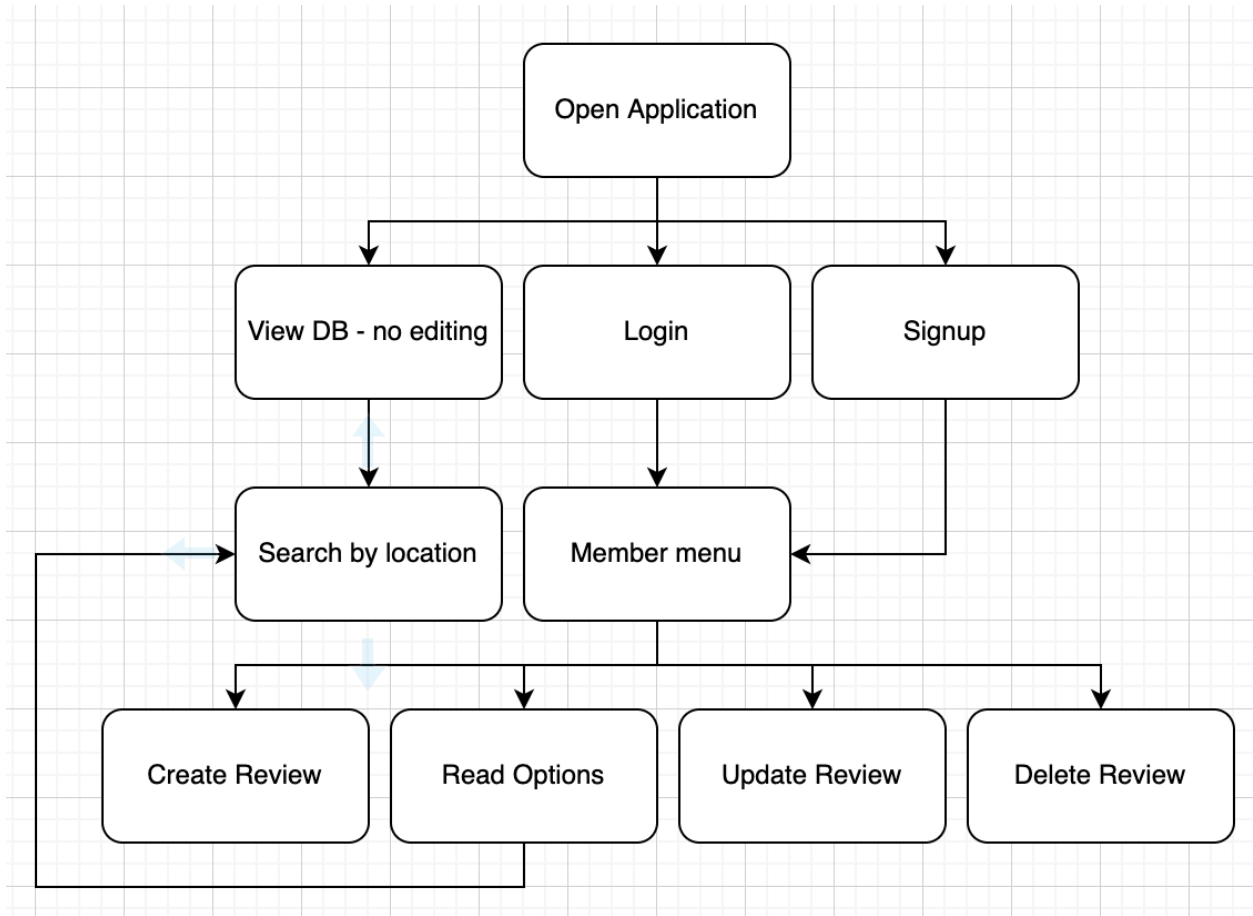
## UML DIAGRAM



## LOGICAL DESIGN OF SCHEMA



## USER INTERACTION DESCRIPTION



## LESSON LEARNED

1. Technical expertise gained
  - a. We learned how to ideate and create a design, and then bring it to life in MySQL. We also learned about connecting it to a Java application, specifically how to call SQL procedures in Java.
2. Insights, time management insights, data domain insights etc.
  - a. Throughout the process of creating this application, we kept editing our attributes and diagrams slightly in order to make the most comprehensive application possible. We gained insight into the kinds of data we can use and how it can best be organized to fit the needs of a user.
  - b. Our initial plan was to do all public restrooms in the northeast, but we quickly realized this domain was way too big, and confined it to restrooms in Boston.

- c. With regards to time management, we would have liked to communicate earlier and figured out the aspects of it earlier. Nearing the deadline, it became difficult to communicate as we were both busy with other classes.
  - d. It was really interesting to think in the perspective of a prospective user of this application. It helped us realize what aspects were lacking and what we needed to improve.
- 3. Realized or contemplated alternative design / approaches to the project
  - a. We had originally started off with a different idea for this project for which we had set up a proposal for. However, it lacked the necessary mobility to develop a well thought out application. The original plan included a database that we found online, but it would be difficult to perform CRUD operations on it. Through our new idea, we were better able to design the CRUD operations as we were the ones who developed the database instead of sourcing it from elsewhere.
  - b. Once we had settled on this idea, we knew that we still wanted to build a text-based GUI and stick with our original technical plan.
- 4. Document any code not working in this section
  - a. The functionality for adding a restroom to a favorite list has not yet been implemented. However, the four CRUD operations are still fully functional. The user has the ability to create new restroom review entries, read existing entries, update an entry, and delete an entry.

## FUTURE WORK

- 1. Planned uses of the database
  - a. For future uses of this database, we plan to expand our entries by sending out this application to our friends and family in Boston after further developing it.
  - b. We plan to create a more attractive and full fledged UI using the Java Swing library.
- 2. Potential areas for added functionality
  - a. We could potentially expand it to be more applicable in other areas outside of the Boston area by enlarging the location feature.
  - b. We are also planning to add the favoriting functionality so that users have the ability to “favorite” particular restrooms and accumulate a “list of favorites” that they can keep returning to.