CS5200 DBMS Fall 2021 Group Project Conclusion
Group 3 - SeattlerHub

I. Whether we fulfill our value proposition

Yes, we did as we wished.

Our initial thought was to make a housing recommendation app that provides suggestions for users on where to live in Seattle. To achieve differentiation with other house listing apps, instead of focusing on housing's quality, we focus more on the neighborhood environment, such as security levels, restaurants, schools or other entertainment nearby. We planned to filter houses based on those key aspects.

We achieved this goal by implementing a filter function on our homepage with five selections: crime, schools, restaurants, cultural spaces and parks. We will recommend those houses which perform well on those aspects the user selected.

II. Initially planned to deliver v.s. Actually delivered

- **Initial plan**

    1. Personalized search (advanced feature);
    2. Rating or commenting on current living units/community/district;
    3. Finding friends living in the same neighborhood.

- **Final app**

    1. Personalized search (e.g. checkbox group on homepage);
    2. Rating and commenting on current living units;
    3. Registration and authentication has been deployed, but due to limited time and manpower, we didn't fully deliver the friend finding function.

III. The biggest challenges

JSP is a little bit hard to grasp the core in limited time while we had no knowledge of this frontend tech stack.

Meanwhile, we are dedicated to making our codes reusable, clean, simple and readable. The code modification process is time-consuming and requires high carefulness, but it greatly uplifts our code quality.

IV. Things that went well

We showed strong teamwork and everybody fulfilled individual work perfectly:

1. had a good project blueprint and successfully constructed the UML;
2. successfully built the relational model and inserted the data into the model;
3. generated multiple SQL statements to filter out the housings based on different neighbourhood environments;
4. built both frontend and backend with advanced features;
5. designed an expandable application: external data can be imported later.

V.   Final UML with description of changes and explanation

Compared with the original UML, our final UML sticks to our initial plans with some extra values, for instance names and addresses for housings to provide convenience for our target audiences.
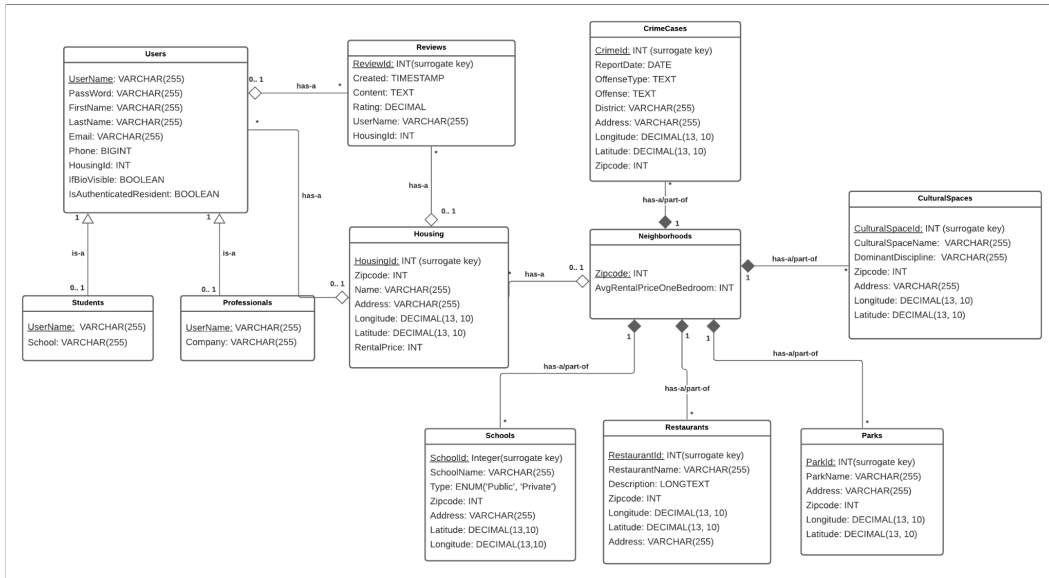
Final UML

VI.   What we would do differently

The project is currently built with a MySQL backend with an easy frontend created with JSP. Since the main part of our project is about the specific details about housings and also people would care a lot about other previous residents comments, a NoSQL storage would be a much better choice to this concern.

Meanwhile, it should be ok to build the server side with current options, but a better decorated web page may lead to more users' attraction. JSP is a little too out-dated and other modern techniques such as React or VUE would certainly be a better choice if applied.

VII.   What we plan to do next

What we plan to do is not just to construct an internal database management system, but to be a public website which would lead to some practical business benefits. As a concern, RESTful APIs and user-friendly UI/UX should be taken into consideration.

Some other features can be also included into our app: search engine, more filter options, chatting bots, open source cluster map, etc. These would greatly promote our app quality on the client side.

Modifications will also take place on our server side. APIs for now are mostly to satisfy our current demands. While a much heavier app has been constructed, we will require much more APIs with different usages that provide varied functionalities. Our schemas and models might expand since more data sources will be joined.