Library System Project Essay

For my project I created a Library management system using IntelliJ, and MySQL. The program runs like a small scale library system. Users are able to sign up or login using their email address, browse book and eBook titles and then rent and return them and manage their accounts. I added some staff features as well to allow them admin access to delete user account and manage books and transactions. The project uses CRUD operations (create, read, update and delete) and brings together classes to that do different tasks.

When I started the project I wanted to do something related to some of my hobbies, I am quite an avid reader and would visit the library in my home town almost every day after school, I thought doing something I like might help with motivation when designing a system that I would use. When starting it was a bit overwhelming cause I had to do this project I had previously done in a group solo, I was quite content doing the database but was struggling to connect my code through the JDBC. When I got the database running, I set my focus on features like login and account management. Once I comfortably got these running, I started adding the rental features and the staff admin access features which I had a decent bit of experience with as in other courses we dealt a lot with admin modes.

The take aways I took from this project was connecting java to MySQL and using JDBC, we had done it in class before but I was never too comfortable with it but I think I am at least a little better with it now. I also learned the importance of structure in a program with multiple classes, I tried to put too much into one class at the start but got confused when going back so I decided to break them up, so it was easier for myself to follow.

I am now a bit more comfortable with database normalization, it wasn’t practical to put everything in one table or even spread it out too much so I just kept it nice and simple with book and member in different tables and connected them with foreign keys.

For testing I wrote a signup test that uses the database directly. It deletes old rows with same details and inserts a new member, it check that the login works and finally deletes the details. It helped when starting out to just ensures I was on the right track starting the project.

Reflection

If I were to do the project again I would manage my time allot better, despite having an entire summer I have a bad habit of leaving things to last minute and procrastination I am actively trying to work on. I would also do some more research and plan better so I can add more features and improvements to my projects, I went straight into the coding without ample planning or considering how certain things would go together like the classes causing a bit more work for myself having to go back and clean things up.

This project made me more familiar with OOP helped better my understanding on structuring code and testing while working with databases. I also realized how useful it is to break down a project as you go and go over and test them step by step instead of building everything in one go.