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Project Documentation

1. Ideation and Project Description
   1. For this semester project we decided to create a financial tracking application that keeps the user informed of their financial information, as well as recent transactions. The reason we went with this project was because we figured it would be a practical tool to have in order to budget and keep track of purchases, as well as a doable application within the scope of the project. The project consists of a command line interface that connects to a MySQL database hosted on Amazon Web Services (AWS) and connecting through JDBC to develop the application. A GUI was also created to facilitate user interface and interactivity.
2. Planning and Design
   1. We planned this project by thinking about our business domain and candidate classes. Once we figured out that our domain was in Finances/Business, we decided to have entities for the users, user accounts, transactions and further tables representing the relationships among these. Then we created a simple script that would generate these tables and filled it in with data in order to test our application. The scripts and models are attached to this project, as well as the planning phase documents among the other project artifacts.
3. Approach
   1. There were many ways that we could have approached the project. We knew that we needed to create an interface for the user to interact with the database and with their own information, so we decided to go with a Java application as that was the language we had more experience with. Given the project is written in Java, we had to get familiar with how to work with JDBC and connecting to a database to use query results as information. After figuring out the scope of what our application was going to perform, we wrote our requirements and goals for the application.
4. Obstacles
   1. The major obstacles that we faced were in terms of implementing and deploying the application. For the majority of the semester, we were working with creating a Java web application that used Maven, Spring and Hibernate to learn those frameworks. However, the curve was a little steep for a semester class so we decided to create a command line interface that was basic, yet efficient. We decided to try to implement a Graphical User Interface (GUI) as well and in the end a complimentary Java Swing application was created to support our project.
5. Learning Experience
   1. Through this project we learned how to operate with MySQL with a hands on approach and how to interact with an instance of this database in AWS for projects. As well, we learned the structure and format of designing a database schema with its entities and relationships that allow for efficient management and use. By creating a Java application we also learned how to incorporate a database aspect to our projects which opens a whole new world in terms of backend operations and processing.
6. Result
   1. Overall we feel very satisfied with the project and learned a lot from both the obstacles and new concepts we came across with. Some changes we would have would be to expand the use of the application to manage more financial information and allow the user to have more control over what they can do with their account. In conclusion, it is a successful project that we feel fulfills the learning objectives of the class and the requirements of the project.