**Group Members:**

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**Java Enterprise Applications/J2EE using Spring and Hibernate**

Our project is based on developing a Banking System as a RESTful API using Spring Boot for backend server and React.js for frontend, persisting the data into a PostgreSQL database. We are planning to add multiple routes/endpoints that will serve views with data to the user. They can then use the system to navigate through the application. We will be implementing CRUD operations, namely GET, POST, PUT & DELETE on the API where the user can perform operations in the system with live updates on user data using Spring Data JPA.

For our application we are planning to allow a customer to interact with their bank accounts. The Customer can login or register to the portal to use the service. They can open and close a bank account. Customer can open two types of accounts, Checking, and Savings. After a bank account is open, they can check balance, deposit to an account, and withdraw from an account. We are also planning to add a feature where a customer can send money to another person within the current bank system. Apart from that we are planning to add Customer Service Representative and Admin modules to the system if time permits; details of the implementation were not gathered at the time of writing this document.

For the backend server we will add routes to accommodate the user requests as need arises. For frontend, we will have a similar strategy for routes to show different views and protect the authenticated routes for those where an unauthenticated user is not permitted to access them.

**Final Deliverable**

Our app will always work on localhost for testing and development purposes however we are planning to deploy the application(backend & frontend) on a web hosting platform like Heroku for production stage and connect to the database remotely available within Heroku using a PostgreSQL build pack.

**Research Links**

We have watched a couple of videos and read some articles that will serve as starting point for our research project related to creating REST APIs in Java, like the following:

* <https://www.youtube.com/watch?v=9SGDpanrc8U>
* <https://www.youtube.com/watch?v=35EQXmHKZYs&t=21s>
* <https://spring.io/guides/gs/spring-boot/>
* <https://www.youtube.com/watch?v=O_XL9oQ1_To>
* <https://www.youtube.com/watch?v=i-hoSg8iRG0&t=62s>
* <https://docs.spring.io/spring-boot/docs/current/reference/htmlsingle/>
* <https://docs.spring.io/spring-framework/docs/current/reference/html/index.html>

**Timeline of project milestones**

* Sunday, 27th March - System Design, UML Class diagram (is refined as the project progresses).
* Sunday, 27th March – GitHub/ Version Control setup, test GitHub repo, create branches. (Gets updated everyday at the end of day once everyone pushes the code changes to GitHub)
* Sunday, 27th Match - Setup DB connection, test CRUD operations on PostgreSQL.
* Sunday, 27th Match – Lay out/create tables in DB and assign relationships to the tables.
* Wednesday, April 6th - Backend code setup – Model(class) + Services (methods) for models.
* Wednesday, April 6th - Backend code setup 2 – Controller(endpoints/routes) & Views(html + bootstrap).
* Wednesday, April 6th - Frontend – Setup React application, server, and views, to render the views + data.
* Wednesday, April 12th - Connect backend + frontend for CRUD operations and persisting data to DB.
* Wednesday, April 12th - Test local application and make it ready for production.
* Wednesday, April 12th – Deploy application, test deployed application, push production code to GitHub.