Timeline, Task Breakdown, Challenges

November 3: Database Setup

- Write SQL DDL statements to create the necessary tables. **- Jack**
- Populate the tables with initial data to set the foundation for our project. **- Sohayl**

November 7: Front-End Design

- Design the GUI without writing code. - **Hashim**
- Create non-code representation to visualize how the application will look - **Jack**

November 14: Backend Server Setup

- Initialize a Node.js project **- Jack**
- Install the required dependencies, including Node.js packages and any front-end libraries. **- Hashim**
- Set up the backend server using Node.js. **- Sohayl**
- Define and configure routes for our API, specifying how the server will handle different requests. **- Jack**

November 17: Front-End Initialization

- Initialize a React application for the front end. **- Hashim**
- Ensure the React app is running successfully on our local host. **- Hashim**

November 24: API Integration

- Connect the backend server to the frontend. **- Sohayl**
- Ensure that data and information can be exchanged between the two parts of the application. **- Jack**
- Set up API calls from the frontend to the backend. **- Hashim**
- Configure proxy settings to enable synchronous querying and data mutation between the client and server. **- Sohayl**

November 28: Testing and Code Cleanup - Hashim, Jack, Sohayl

- Build and thoroughly test the program, ensuring all features work as expected.
- Clean up the code by removing any redundant or unnecessary code snippets.
- Add comments where necessary to improve code readability.

December 1: Final Revisions - Hashim, Jack, Sohayl

- Make any last-minute changes and revisions as needed to polish the project.
- Double-check for any potential issues and ensure the project is in its best possible state before final submission.

Potential Challenges

Full-stack development includes working with both the frontend and backend. We plan on using React and NodeJs, hence we will have to learn how to manage these different technologies, the libraries, and the components.

Data needs to be transferred between the front end and back end. Ensuring the data is encoded in the correct format and also decoded in the correct for effective communication between the backend and front end, ans also the backend to the database

Conducting data validation. Users querying data can input invalid data therefore making sure we have got solutions to handle different cases so it does not ‘break’ our program will be crucial and challenging.

Since we are collaborating we need to make sure, if we are making any changes to the database, that we are constantly working with the most updated database.