TransitDB

CPSC 304 course project

Summary

Our database project models a public transit system and tries to capture necessary information about transit lines, vehicles, commuters and employees. It allows for administrative supervision, rider account and payments management, and real-time schedule information for client-side applications.

Task Breakdown

- The front-end and back-end will be evenly distributed amongst all three of our group members to ensure we each get exposure to the different types of development and maximize our learning opportunities.
- Each member will be responsible for completing steps 2-6 for their assigned relations.
- Steps 7-8 will be completed as a group.

Timeline

Step 1) Decide on which portion of the project to implement

Tentatively, we have chosen to represent these relations:

- Line [Jasvir]
- Line_Has_Station [Payam]
- Station [Payam]
- Station_Has_Amenities [Flora]
- Amenities [Flora]
- Bus [Jasvir]
- Train [Payam]
- Ferry [Flora]
- Timing [Flora]
- Vehicle_Operates_In_line [Jasvir]
- StationLine_Scheduled_for_Timing [Flora]

Step 2) Go over TA feedback & make necessary changes to previous stages of the project [March 15-18]

Step 3) Getting familiar with the frameworks we will be using (PHP/Oracle Database) [March 17-20]

Step 4) Designing a prototype for GUI [March 18-19]

Step 5) Begin with backend development [March 20-25]

- Storing the data in the back-end
- Writing the PHP code to control the functions of the application
- Testing the code and ensuring compatibility between our parts
- Ensuring integrity constraints

Step 6) Front-end [March 26-April 1]

- Creating basic structure of the front-end
    - Creating a table and a button
    - Creating text boxes
    - Determine how to place data inside a table
- Styling the structure
- Triggering the data to refresh once the button is clicked
- Creating a save option for user to store their data in the backend

Step 7) Discuss and resolve merge conflicts [April 2-4]

- Implement, test, debug our own and each other's code
- Integrate front-end and back-end

Step 8) Run through demo as a group [April 4]

- Ensure implementation is functioning properly
- Make any last minute stylistic edits

Description of challenges

- Since we will be working on each step together, there will be a higher chance of merge conflicts. We need to have good communication and be confident in resolving conflicts on GitHub.
- To get familiar with the frameworks and process of implementing the front- and back-end, we will refer to the PHP and Oracle official documentation, YouTube tutorials, office hours, and reach out to our TA if we get stuck at any part.