EECS 447 Project Vision and Plan

Vision Statement

The goal of our library database product is to offer a comprehensive and user-friendly database system solution for a small library. We aim to provide an efficient model for managing and tracking library resources across a broad range of clients and membership types. We want to provide an easy-to-use interface for both the library staff and clients to best suit their respective needs, from processing checkouts, returns, and catalogs to searching and reserving items. In addition, we will make it easy to generate reports on item availability, borrowing trends, fines, and client activity to guide future plans and decisions. Finally, the system must be reliable, secure, maintainable, and scalable in order to remain adaptable and fulfill the needs of the library in the future.

Scope Statement

The project will encompass the following components:

- **Data Management:**
    - Items: Various types of items such as books, digital media, and magazines. Each item will have attributes such as the title, ISBN, author, and availability.
    - Clients: Clients will have an ID and attributes such as their name, contact information, membership type, and account status. Different memberships will have different borrowing limits and fees.
    - Transactions: All instances of borrowing, returning, and reservations will be recorded along with their respective client and timestamps.
- **Constraints:**
    - Implement constraints (e.g., borrowing limits, overdue fee calculations, and special restrictions for certain items) through database check constraints and triggers.
- **User Interfaces:**
    - Staff Interface: This interface will allow library staff to check out items for clients, process returned items, add new items to the catalog, and manage client details such as membership type and status.
    - Client Interface: This interface will allow clients to browse the library's catalog, make reservations for items, and check the status of their borrowed items and reservations.
- **Feedback:**
    - Reports can be generated for staff to view borrowing trends, broad item availability, and client activity.
    - Notifications will be provided to clients for their upcoming due dates and availability of their reserved items
- **Software Stack:**

- We will implement the database relational DBMS, such as MySQL or MariaDB (TBD). Transactions will be performed and described with SQL.
- The project along with our design documents, diagrams, and meeting logs will be version controlled with a git repository hosted on GitHub. Each member should maintain an updated local or feature branch and create pull requests with their changes so they can be tested before merging.

Team Organization and Profiles

Team Name: CCADM

Team Roles & Profiles:

- **Team Administrator & Project Manager:**
  - **Name:** Carson Abbott
  - **Role:** Oversees project management, organizes team meetings, and serves as the primary point of contact for the project.
  - **Contact Information:** carson.abbott@ku.edu
  - **Availability:** MF after 6 PM, TTh 11AM-1PM and after 5:30PM, SatSun all day

- **Developer:**
  - **Name:** Darshil Patel
  - **Role:** Responsible for the development of the DBMS.
  - **Contact Information:** pateldarshil02@ku.edu
  - **Availability:** M-F after 4 PM

- **UI/UX Designer & Front-End Developer:**
  - **Name:** Chase Curtis
  - **Role:** Designs user interfaces for library staff and clients; ensures usability, accessibility, and clear documentation of workflows.
  - **Contact Information:** curtischase6@ku.edu
  - **Availability:** M-W after 4 PM, RF after 6 PM

- **Developer:**
  - **Name:** Aryan Kevat
  - **Role:** Development of library database, performing pull request review, verification, and quality assurance, maintaining meeting logs
  - **Contact Information:** aryankevat@ku.edu

    - **Experience:** Linux based server and backend administration with Rust, Python, & TypeScript
    - **Availability:** MWF after 12 PM, TR after 6 PM, SS

Meeting Details:

- **Meeting Schedule:**
    - **Day:** Friday or Saturday
    - **Time:** Any time between 6:00 PM Friday and 8:00 PM Saturday
    - **Location**: Virtual meetings via Discord or Zoom
    - Exceptions from this scheduled permitted as availability shifts
- **Meeting Log 1**
    - Meeting not precisely scheduled and was instead conducted over several days virtually.
    - **Objective:** Determine availability and complete Part 1.
    - **Team Members Present:** Full Attendance
    - **Tasks Completed:**
        - Centralized communication channel established
        - Contemporary member availability determined and documented over when2meet.
        - Part 1 write-up organization and structure determined
        - Overall project goals discussed
        - Part 1 sections written, reviewed, and approved
        - GitHub repository created