

## Project Part 2 - Database Requirements

### Book Nerds - 2/25/2025

#### Intro:

The goal of this database is to have an intuitive, fast, and reliable way to access records on members, information on media, and availability of the media. It should be accessible by end users in the library and those on the web so people can see information on what they want to check out before going.

- Scope:
  - Book management system to add, update, categorize, and remove books efficiently.
  - Advanced search filter: Users can search books by title, author, genre, or availability.
  - Borrow & Return tracking
  - Due date & fine management
  - Inventory management (if the books or magazines have been loaned or if they are available)
  - Mobile & Web accessibility (as making books accessible is our vision statement)
  - Security and data protection
- Glossary:
  - MariaDB: DBMS used on the KU servers for database management. It is a free offshoot of MySQL, yet still powerful.
  - MySQL: A popular relational DBMS that can be used on Windows, Mac or Linux.

#### Stakeholders:

Stakeholders are the ones interacting with the database either infrequently (end users) or daily (administrators and Library staff). End users are given different roles based on age, employment, or educational enrollment, different roles come with different access privileges.

- Administrators: library administrators, Database administrator
- End users: students, professors (with request can be given advanced privileges), child, adult, senior
- Additional: library staff (not same privileges as admin), authors

#### Requirements:

Requirements are functions expected to be available in the final product. Each of these features is essential to the library's daily operation.

- Adding/removing an entry
  - Any book added to the library can be entered into our database by the library admin
  - Any book the library no longer has can be removed from our database
- Searching specific media
  - See if it is in the library, out at the moment, or on hold / put on hold

- Seeing tables of media based on attributes
  - Author, date published, genre, etc.
- Client profiles
  - IDs, media checked out, media on hold, past due dates, category of user
- Checked out / in, past due, on hold, etc.
- Checking on rental or membership statuses
- Allow members to reserve books currently out/on loan
- Generate periodical reports, such as
  - Most popular book
  - Most popular author
  - Books due soon
- Generate user-specific reports, such as
  - Fees due
  - Items borrowed
  - Overdue items
  - Items due soon

#### Hardware and Software Requirements:

- EECS Servers - MariaDB
- Local Development - Laptop/Desktop - MySQL
- Windows, Mac or Linux