Ali Sbeih, Ahmad Ziada, Hamza Shemsu, Jason Nunez

Professor Riondato

COSC 257 – Design Document

25 September 2023

**Project Idea Details:**

**Short Description:**

* Our project idea is improving the Classics library database. The current database is not functional. Our idea is to build a new database system and display the data in a website. The goal is to allow users to search by multiple categories, such as, title, author, editor, etc. We also would like the user to be able to search without the need for an exact match. For the books displayed, we would like the entries to contain all information about a book, its location, its status, and additional notes. Additionally, we would like to provide the faculty members managing the library with the power to insert and update book entries. Ultimately, we want provide users with efficient access to the Classics Library with a user-friendly interface and advanced search capabilities.

**Interactions that the users will be able to have with the database:**

* Search: Keyword searches to find books
* Advanced search options: filters by author, category, editor, translator
* Viewing Catalog Information: display detailed information about books including, title, author, editor, edition, translator, publisher, and additional information about donors if applicable.
* Access metadata: cover images
* Checking availability: check the status of a book and whether it is missing.
* Requesting, borrowing or reservation (the customer wants the name of the person using the book to be available to all users).
* Renewing and returning books
* Feedback: allow user to report issues, provide feedback, and contact responsible faculty

**Current state of the data:**

* Data Source: manually entered into google excel sheet (current website does not offer search features and stopped working after Amherst College Website update).
* Data Volume: 2469 books
* Data Structure: Each entry consists of title, category, donor, edition, editor, original author, publisher, and year of publication.
* Data Quality: not all attributes are available for most books; titles contain unnecessary asterisks.

**Deliverables:**

* Design Document: Project details and ER diagram
* ER diagram
* Database implementation
* SQL scripts
* Web User Interface implementation
* Working keyword and advanced search options.

**Software that you will use:**

* DBMS: PostgreSQL
* IDE: IntelliJ IDEA and VSC
* Programming Languages: SQL, HTML, CSS, JS
* Git and GitHub

**Any other detail that will help you completing the project:**

* The data needs to be cleaned before building the database, generally but specifically editing the asterisk. Some books are missing, but they still exist in the Google sheet.
* The customer will need to provide us with the location information if they want us to integrate it into our project.

**ER diagram:**

