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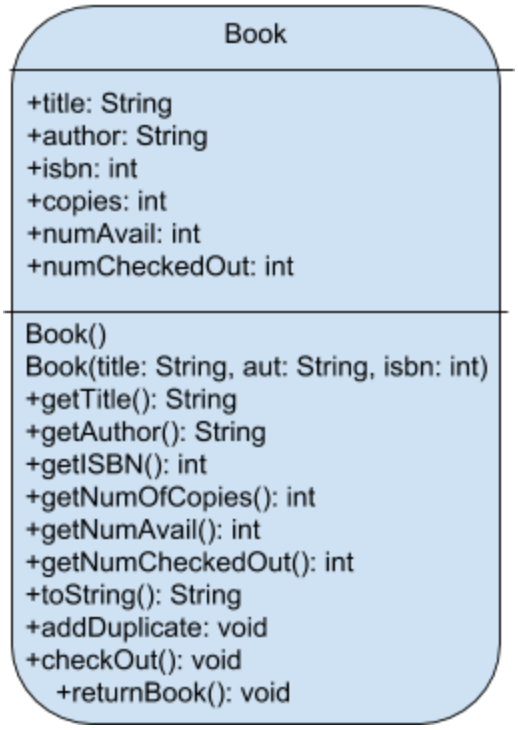
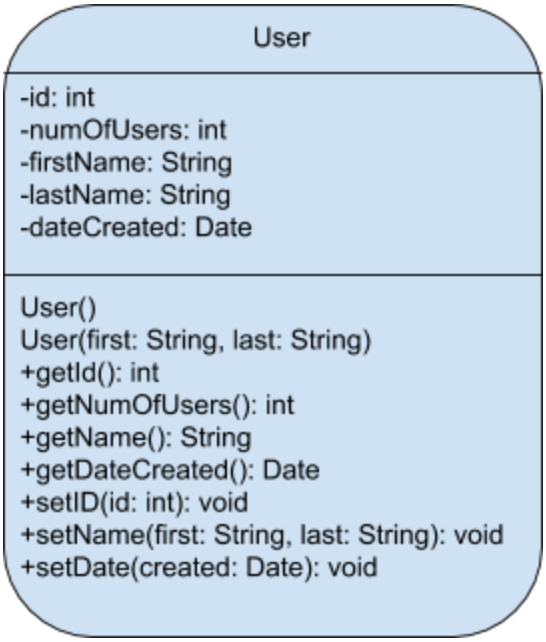
Milestone

Abstract: This project sets up a database for a library and allows an administrator to add books to the library and system or users and members of the library to the system. Furthermore, the users can check out, return and reserve books. The two main classes, the book class and the user class, handle these interactions. The book class keeps track of all the information about the books, including title, author, ISBN, number of copies, and location in library while the user class keeps track of the user's ID number, what books they have checked out, what books they have on hold, and what money they owe in overdue fees. All of this information is stored in a database built using MariaDB. The first table is a Books table, that tracks each books individual ID, the title, the author, the ISBN number, and if it is available to check out. The second table is a User table that has the user's ID, their first name, last name, and the time their account was created. The third table interacts with the books and users table and keeps track of which users have which books.

Introduction: The motivation of this project is to explore the organization and complex classification of books and libraries. My project will be explained with first, a detailed system description of UML diagrams, them the requirements of the system, then a description of similar systems, and finally a description of how users should use the system.

Detailed System Description:





Requirements: The system is addressing the needs of a library and providing a system for returning, checking out, and reserving books.

Literature Survey: Many iterations of this system exist, both professional ones used by real libraries and other amateur Java projects made by students. The New York Public Library, which is the fourth largest library system in the world, uses two online catalogue systems that allow users to search the collection and request books online. There are various open source versions of

this project that other amateur Java users have created, however most of these existing projects are very complicated and require the user to download lots of various software.

User Manual: This system should be used by small scale libraries to track the books they have and the users that have library cards. In the future, I will design the front-end aspect of this so it is easier for users to find, check out, return and reserve books. For now, that is all located in the Book class with methods such as checkOut() and returnBook().

Conclusion: Once this project is complete, I will have a working library database that can store books and users. Users will be able to check out, return, and reserve books, and they will be charged fines for overdue books. I will also create a GUI for my code to make it more user friendly.