System Design Document LibraryHub Group 2

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CRC Cards

Class Name: Main	
Parent Class (if any):	
Subclasses (if any):	
Responsibilities:	Collaborators:
- Main class of the project	- Instantiates LoginView
- Main method runs upon application	
execution to instantiate LoginView for user	
to interact with the application	
Views	
Class Name: LoginView	
Parent Class (if any):	
Subclasses (if any):	

Responsibilities:

Uses: LoginController

- Presents user with interface to Login to application
- Listens for Register button clicks to send user to Register View
- -Listens to Login button clicks, retrieves login information from text fields upon button click and passes it to LoginController for login validation
- Sends user to Application class (Homepage) if login successful

Collaborators:

- Creates an instance RegisterView upon Register Button Click
- Uses LoginController to listen to button clicks
- Instantiates Application class upon successful login

Class Name: RegisterView	
Parent Class (if any):	
Subclasses (if any):	
Responsibilities:	Collaborators:
- Presents user with interface to Register as	- Uses LoginController to listen to button
a new user	clicks
- Upon Register button click, sends text	
information from text fields (first name, last	
name, username, password) to	
LoginController to handle User Registration	
- View closes upon successful registration,	
stays open if login fails	

Class Name: Application

Parent Class (if any): Subclasses (if any):

Responsibilities:

- Presents user with homepage interface to search for books (clients), and view book inventory (Librarians)
- Displays list of books that library owns and if they are checked out or not upon click of show database button
- Displays list of books whose title matches text field entry upon click of search button

Collaborators:

- Uses DatabaseManager class to listen to the search button and show database button clicks. DatabaseManager retrieves all books from database while Application parses books

Controllers

Class Name: LoginController

Parent Class (if any): Subclasses (if any):	
Responsibilities: - Receive username and password text entry from user - Redirect user to home page if login is successful - Redirect user to registration page if they click to register button	Collaborators: - Login Controller sends requests to UserService class validate user logins and handle user registrations
Class Name: User Service	
Parent Class (if any): Subclasses (if any):	
Responsibilities: - Adapter class that handles requests from other classes that require information from the user Repository database - handles UserLogin requests by calling on userRepository.validateUser - handles user registration by adding new users to database and checking to see if users already exist, making sure no required entries are missing for user creation	Collaborators: - Receives requests from LoginController for user login and registration - Sends requests to UserRepository class for User database manipulation
Models	
Class Name: UserRepository	
Parent Class (if any): Subclasses (if any):	

Responsibilities:

- Executes SQL statements to handle manipulation of user database
- Adds users to database
- Gets users from database by their ID, username
- Searches through user database to validate username and password entry
- Removes users from user database

Class Name: Rook Repository

Collaborators:

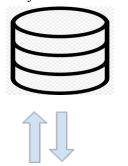
- Executes SQL queries on behalf of UserService Class
- Retrieves information from database User Table for UserService Class

Class Ivalic. Bookicpository	
Parent Class (if any):	
Subclasses (if any):	
Responsibilities:	Collaborators:
- Executes SQL statements to handle	 Will eventually be used by a
manipulation of book database	controller class
- Updates book and user tables when book is	
checked out	
- Updates book and user tables when book is	
returned	
- Adds new books to databases when added	
by user	
Class Name: User	
Parent Class (if any):	
Subclasses (if any):	

Responsibilities:	Collaborators:
- Represents a user	 Used by UserService and
- Holds first name, last name, username, and	UserRepository to communicate
password of user	User information
Class Name: DatabaseManager	
Parent Class (if any):	
Subclasses (if any):	
Responsibilities:	Collaborators:
- Retrieves book from libraryTest database	
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Software Architecture Diagram

Library Test Database



Models

Classes: DatabaseManager, UserRepository, BookRepository

- Run SQL Updates and Queries on LibraryTest database
- Responsibilties include adding books to books table, updating users in suer table



Controllers

Listen to button clicks from View classes and handles the corresponding request

Classes: LoginController, UserService, Application



Views

Provides interactive user interface. Presents book information and inventory, presents search results. Allows user to send requests to application

Classes: RegisterView, LoginView