Group members: Miguel Jimenez, Oscar Ochoa, Ranjita Summan

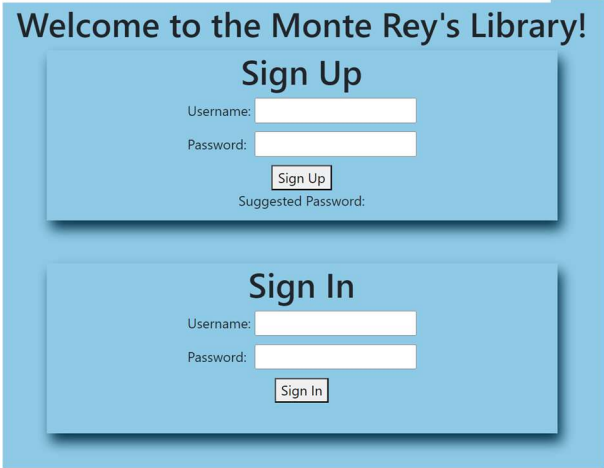CST 336 – 40 Summer 2023

8/9/2023

Library Book Check Out System

For our project we designed a library check out system that allows users to login or sign up if not a member and then access a list of books. The system will have the user select from various pages that will allow them to see books available or checked out, add books, update book information and see the books in their library.

We had to modify our original plan in a few ways, like verification of password length was changed to suggestion of password and removed the check in and out books feature due to time constraints.

Below is a list of features that were used in our project:

Sign-up/ sign in:

- This page is the greeting page for the user. Here the user will create a username and password that will be added to the database. If the user is having difficulty creating a password, they can click on the password input field and a password will be suggested thanks to the use of an API. Once the credentials are created by hitting the sign up button the user will be taken to a page confirming credentials were accepted.
- After the user has set up credentials, they will enter them in the "Sign In" section of the page and if the credentials are verified correctly, they will gain access to the libraries list of books.
- As a control, we created the following credentials for our test user, username: "admin" and password: "testadmin" .

Library Shelf:
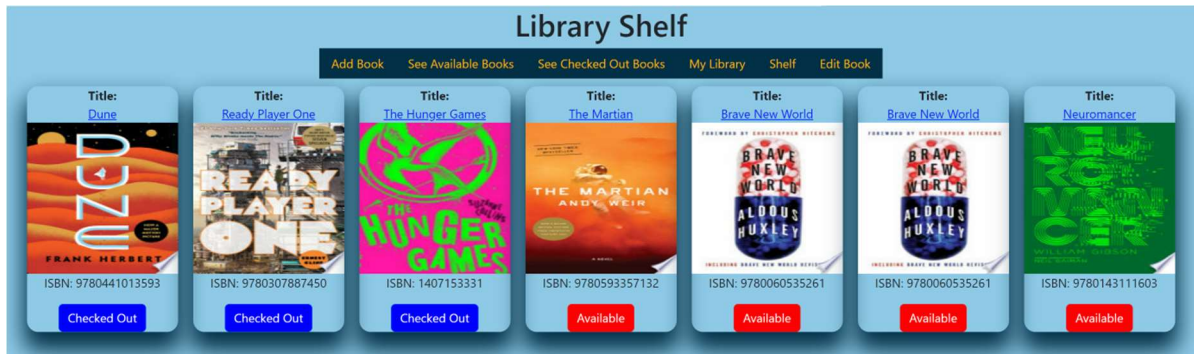
- The Library Shelf is where the books are displayed. The user can see the status of the book as either "Checked-out" in a blue button or "Available" in a red button.
- In this page the user will also have the ability to obtain more information about the book by clicking the title of the book. Doing so will open a modular window with additional information regarding the book.
- The navigation bar will allow the user to select which page they would like to access (more detail below).

Add Book:

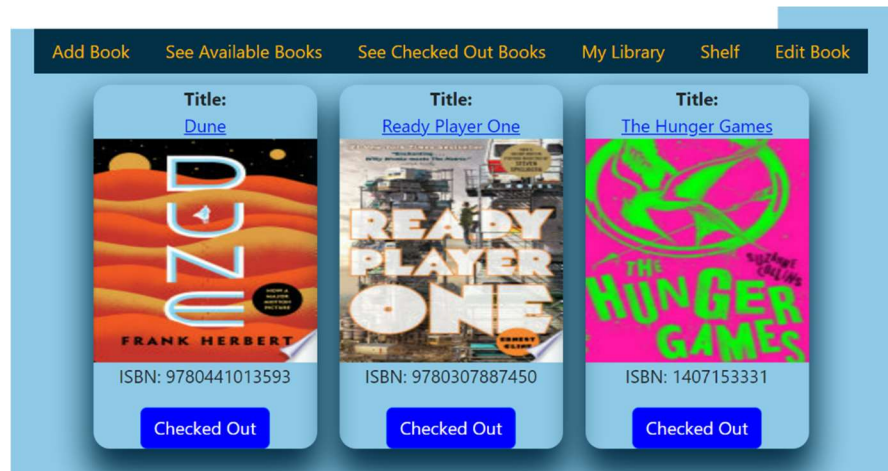- Here the user can add a new book by entering information in the input fields: "Title", "Author", and "Available". The information will be added to the database the moment the user hits the "Add Book" button.
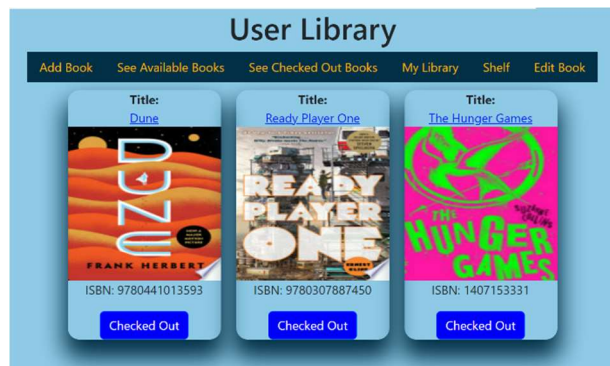
See Available Books:
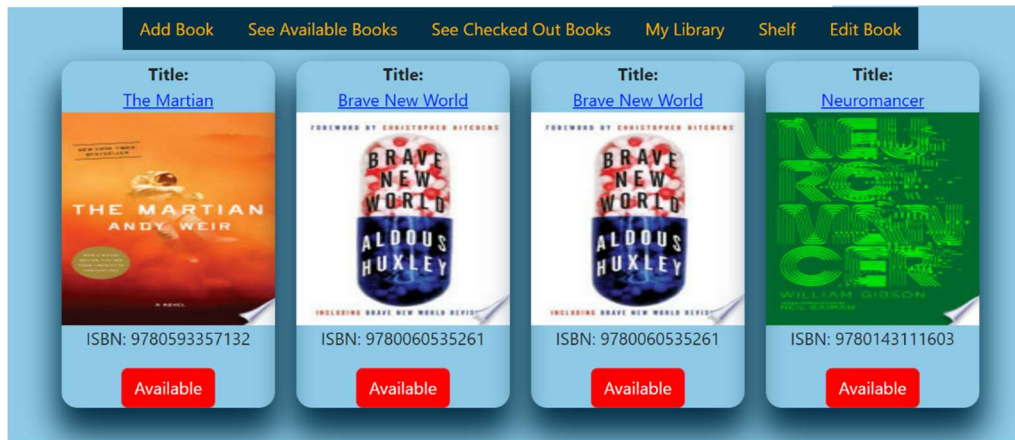
- In this page the user can see a list of all books with status as "Available".

See Checked Out Books:

- Here the user is able to see a list of books with status as "Checked Out".

My Library:

- In this page the user is able to view which books they have checked out. Currently during our testing the only user with books pre-loaded to their account is username: "admin", password: "testadmin".

Update Book:

- This page allows the user to update book selected from list of books. Once changes are complete, the database is updated.

Modular Window:
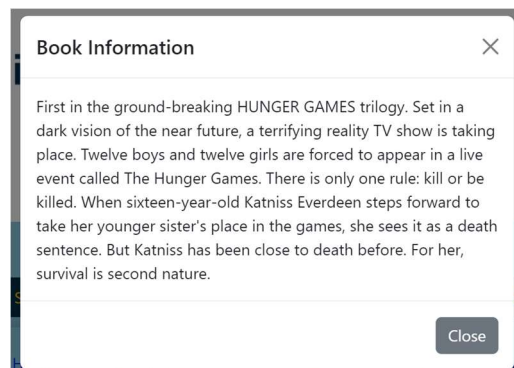
- Here is the modular window the user will see when selecting the title of the book while in the "Shelf" page.

Database Tables:

Three tables were created to handle the information associated with our project:

Column	Type	Comment
bookId	int *Auto Increment*	
title	varchar(72)	
checkedOut	char(1)	
picture	text	
author	varchar(72)	
description	text	
isbn	varchar(20)	

Indexes

PRIMARY	*bookId*

Column	Type	Comment
checkout_id	int *Auto Increment*	
userId	int *NULL*	
bookId	int *NULL*	

Indexes

PRIMARY	*checkout_id*
INDEX	*userId*
INDEX	*bookId*

Alter indexes

Foreign keys

Source	Target	ON DELETE	ON UPDATE	
userId	lib_users(*userId*)	RESTRICT	RESTRICT	Alter
bookId	lib_books(*bookId*)	RESTRICT	RESTRICT	Alter

Column	Type	Comment
userId	int *Auto Increment*	
username	varchar(8)	
password	varchar(72)	

Indexes

PRIMARY	*userId*

Alter indexes

Foreign keys

Add foreign key

- lib_books, which contains the information from all the books in our library system.
    - Consisting of the following columns and data:
    - bookId with integers 1 through 50
    - title which has a varchar up to 72 characters
    - checkedOut with the letters "Y" for yes and "N" for no
    - picture with the link to the cover of the book
    - author has the name of the author
    - description which has a short description of the book
    - isbn which is the book's identification number

- lib_user_books, which contains the books loaded to the user's account:
    - checkout_id which is the id for book transaction
    - userId which is the user's identification number
    - bookId which is the book's identification number within the library database

- lib_users, which is the table containing the users in the library database
    - userId which is the user's identification number
    - username for the user
    - password for the user

** the table schema scripts have been added as a SQL file in the zip folder containing the project **

Tasks for group members:

Miguel Jimenez – Set up replit, database tables, add routes to project, testing and submit assignment.

Oscar Ochoa – Database table for user's book list, add routes, API, modular windows and testing.

Ranjita Summan – Assist with testing and debugging.