

# CMPS 312 – Mobile Application Development

## Midterm Practical Exam – 18 October 2023 (2-hour duration)

**Objective:** Showcase your mobile development skills by crafting an Android application named "LitQuest" designed for book exploration.

### Implementation Tasks:

1. Define Book Class:
  - Define a Book class that serves as a data structure to serialize and store book data from **books.json**.
2. Implement Data Repository:
  - Within the repository, implement functions to retrieve data from JSON files:
    - **getBooks:** Retrieve all the books from the **books.json** file stored in the assets folder. This function should return a list of book objects.
    - **getBooksByCategory:** Retrieve books in a specific category from the **books.json** file. This function should return a list of Book objects for a given category.
    - **updateBook:** Develop a function enabling users to update a specific book from the list of books.
3. Create **Book Category Screen:**
  - Create a screen that displays a list of categories in a Lazy Vertical Grid as shown in figure one. Users should see a list of categories and be able to click on a category to access the list of books in that category by navigating to the Book List Screen.

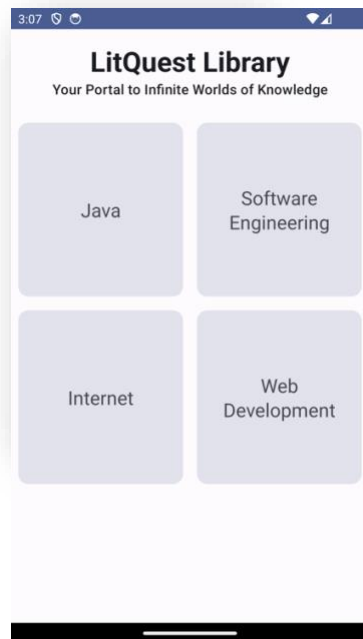


Figure 1 Categories

#### 4. Create a Book List Screen:

- Create a screen that displays a list of books using a Lazy Column Layout.
- Each book entry in the grid should include the book's image, author, title, isbn and description as shown in figure 2.
- Include a button that allows the user to return to the Book Category Screen.

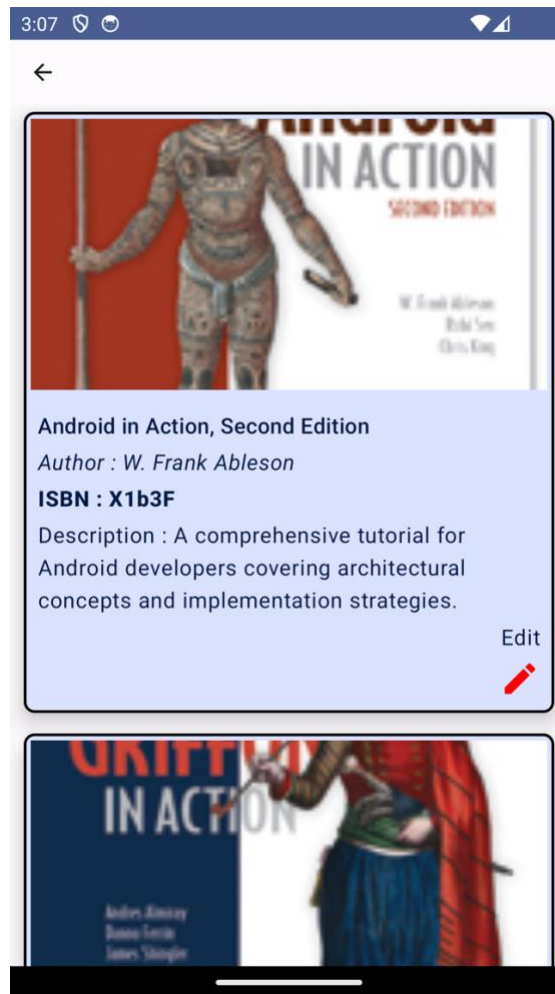


Figure 2 Book List

#### 5. Implement Edit Book Feature:

- On the Category-specific Book List Screen, include an "Edit" button for each Book Card in the list. When a user clicks the "Edit" button, the corresponding book's details should be loaded into an editable form, enabling the user to make changes.
- After the user has made their desired changes, upon clicking the "Update Book" button, navigate the user back to the previous screen (Category-specific Book List Screen) and display the updated book with the modifications as shown in figure 3.

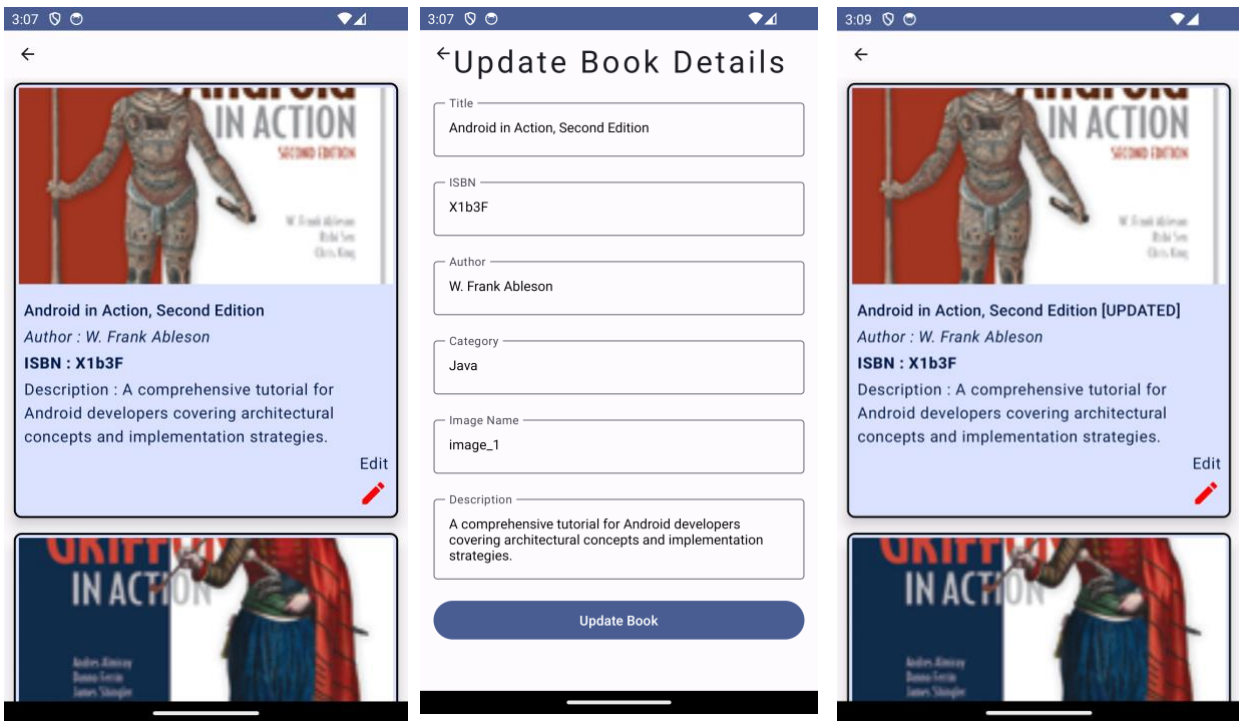


Figure 3 Update Process