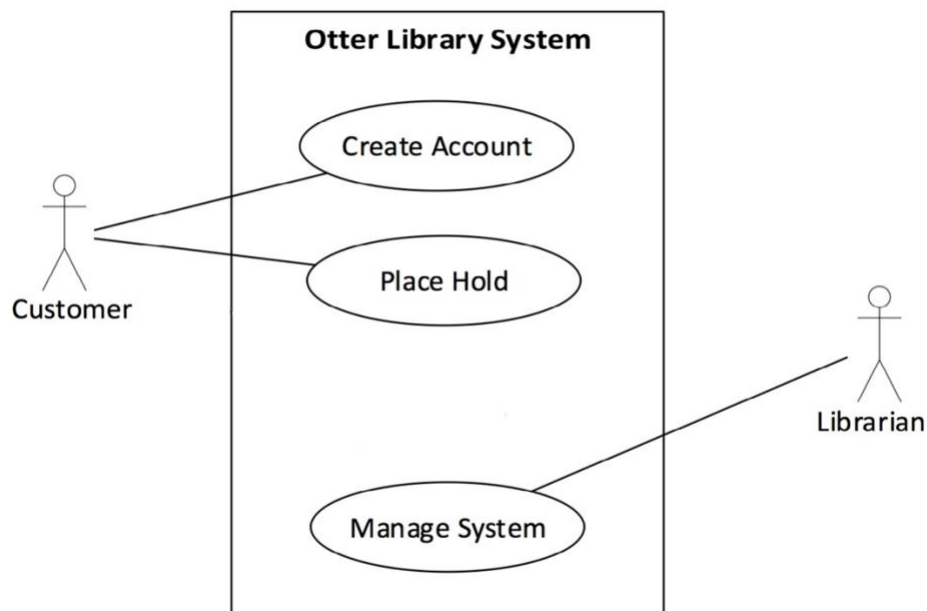# Project 2 Part 2

CST 338

For this part of the project, you will develop an Android app for the Otter Library System, a simplified book reservation system for a library. Below you will see the detailed use case model.

For the project, you must develop an Android app using Android Studio. Data should be stored using SQLite (via Android Room).

Use Case Diagram

Use Case — Create Account

1. Basic Flow

{Display Main Menu}

(1) The use case begins when the System prompts the Customer with options of "Create Account", "Place Hold", and "Manage System".

(2) The Customer selects the "Create Account" option.

{Create Account}

   (3) The Customer enters a username and a password.

   (4) The System verifies that the username and password are not blank. Note that `!admin2` is reserved for the Librarian. Thus, the Customer cannot use it as a username. Additionally, we assume that the System already has three usernames as below:

Username	Password
a@lice5	@csit100
$brian7	123abc##
!chris12!	CHRIS12!!

   (5) The System informs the Customer that his/her account has been created successfully.

{Log the Transaction}

   (6) The System records the transaction information that includes a transaction type (= new account) and the Customer's username.

{Use Case Ends}

   (7) The System displays the main menu.

   (8) The use case ends.

2. Alternative Flows

2.1 Handle Incorrect Username/Password

At {Create Account}, if the Customer's username are blank

   1. The System informs the Customer that the username and/or password cannot be blank.

2. The Customer is prompted to enter new username and password to create an account.

3. If the Customer fails again,

   a. The System displays an error message.

   b. The System displays the main menu.

   c. The use case ends.

2.2 Handle Duplicate Account

At {Create Account}, if the Customer's username already exists in the System,

   1. The System informs the Customer that the username already exists.

   2. The Customer is prompted to enter new username and password to create an account.

   3. If the Customer fails again,

   a. The System displays an error message.

   b. The System displays the main menu.

   c. The use case ends.

Use Case — Place Hold

1. Basic Flow

{Display Main Menu}

   (1) The use case begins when the System prompts the Customer with options of "CreateAccount", "Place Hold", "Cancel Hold", and "Manage System".

   (2) The Customer selects the "Place Hold" option.

{Enter Genre}

(3) The System prompts the Customer to select a genre from the following: Computer Science, Fiction, Memoir.

{Select Book}

(4) Based on the genre selected by the Customer, the System displays all books available for the reservation. In our case, we assume that there are three books in the library as below when the System starts:

Book Title	Author	Genre
I Know Why the Caged Bird Sings	Maya Angelou	Memoir
The Mythical Man-Month	Frederick Brooks	Computer Science
Frankenstein	Mary Shelley	Fiction

(5) The Customer picks a book that they would like to check out.

{Login to System}

(6) The System prompts the Customer to enter their username and password.

(7) The Customer enters their username and password.

(8) The System confirms that the Customer information is valid.

{Confirmation}

(9) The System displays the Customer username, book title, and reservation number.

(10) The System prompts the Customer if the information is correct.

(11) The Customer indicates that the information is correct.

{Log the Transaction}

(12) The System records the transaction information that includes a transaction type (= place hold), the customer username, and a reservation number.

{Use Case Ends}

(13) The System displays the main menu.

(14) The use case ends.

2. Alternative Flows

2.1 Handle Invalid Username or Password

At {Login to System}, if the Customer's login information is not valid,

    1. The System informs the Customer that the information entered is not valid.

    2. The Customer is prompted to re-enter the username and password.

    3. If the Customer fails again,

        a. The System displays an error message.

        b. The System displays the main menu.

        c. The use case ends.

2.2 Handle No Book Available

At {Select Book}, if there's no book available for genre,

    1. The System informs the Customer that there is no book available for the genre.

    2. The System prompts the Customer to exit the program.

    3. The Customer clicks the "Exit" and the System displays the main menu.

    4. The use case ends.

Use Case — Manage System

1. Basic Flow

(1) The use case begins when the System prompts the Customer with options of "Create Account", "Place Hold", and "Manage System".

(2) The Librarian selects the "Manage System" option.

{Login to System}

    (3) The System prompts the Librarian to enter their username and password.

    (4) The Librarian enters the username and password. In the project, we assume that the Librarian uses !admin2 as a username and !admin2 as a password.

    (5) The System confirms that the Librarian information is valid.

{Display Log Information}

    (6) The System displays all transaction logs.

    (7) The Librarian selects the OK button to continue.

{Add New Book Information}

    (8) The System asks the Librarian if they have a new book to add to the System.

    (9) If the Librarian selects the NO option, the use case moves to {Use Case Ends}. However, if the Librarian selects the YES option, the System lets the Librarian enter the book's title, author, and genre.

    (10) The System displays the information entered and asks if the information is correct.

    (11) The Librarian confirms it.

{Use Case Ends}

    (8) The System displays the main menu.

    (9) The use case ends.

2. Alternative Flows

2.1 Handle Invalid Username or Password

At {Login to System}, if the Librarian's login information is not valid,

    1. The System informs the Librarian that the information entered is not valid.

    2. The Librarian is prompted to re-enter the username and password.

3. If the Librarian fails again,

    a. The System displays an error message.

    b. The System displays the main menu.

    c. The use case ends.

2.2 Handle Invalid Book Information

At {Add New Book Information}, if the Librarian missed any information or the book already exists in the Library System,

1. The System informs the Librarian that the information entered is not valid.

2. The Librarian confirms the error message.

3. The System displays the main menu.

4. The use case ends.