

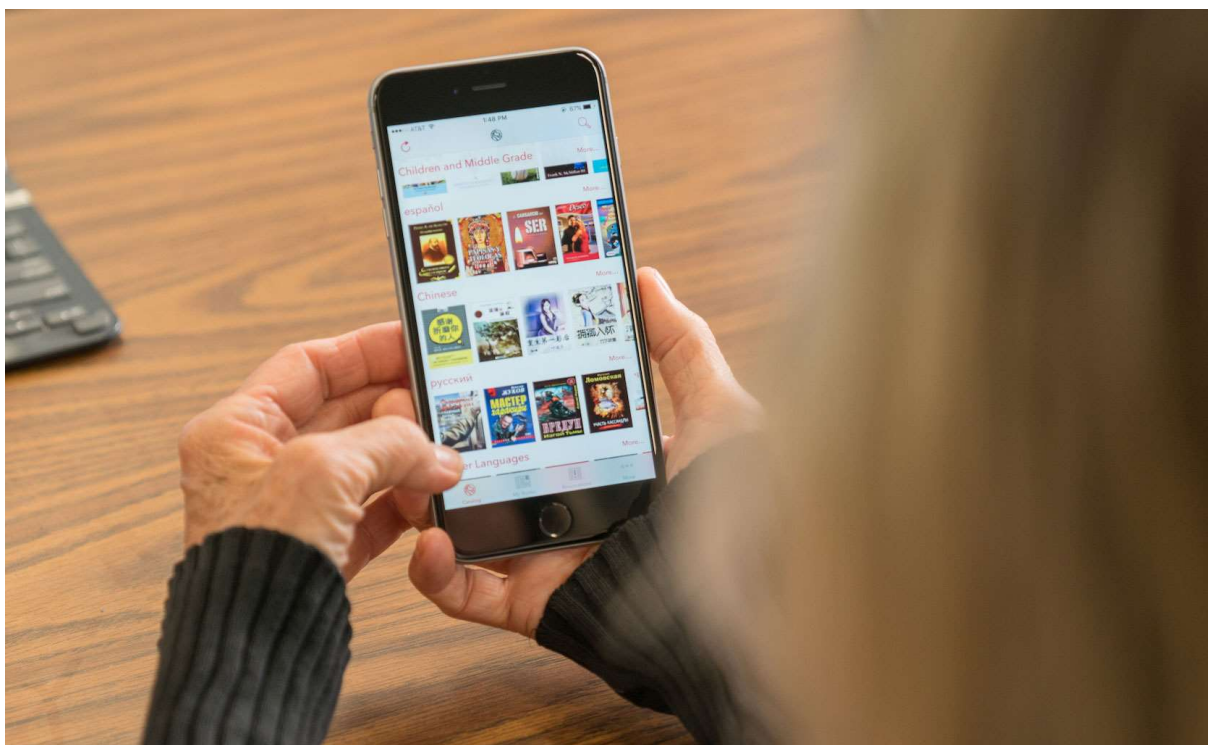
CS 795/895  
Human Computer Interaction  
HW3

Venkata Sai Abhiram Addepalli

UIN: 01205426

**Introduction:**

With the advancement of technology, it is imperative to exalt all the systems into a user-friendly manner. The Library Management system (**LMS**) acts as a tool to transform traditional libraries into digital libraries. In traditional libraries, the students/user has to search for books which are hassle process and there is no proper maintenance of database about issues/fines. The overall progress of work is slow and it is impossible to generate a fast report. The librarians have to work allotted for arranging, sorting books in the book sells. At the same time, they have to check and monitor the lend/borrow book details with its 'fine'. It is a tedious process to work simultaneously in different sectors. Library Management System will assist the librarians to work easily. The Library Management System supports the librarians to encounter all the issues concurrently. The users need not stand in a queue for a long period to return/borrow a book from the library. The single PC contains all the data in it. The librarians have to assess the system and provide an entry in it. Through Library Management System the librarian can find the book in the bookshelves. The Library Management System is designed with the basic features such as librarian can add/view/update/delete books and students' details in it. Once he/she ingress into the system they can modify any data in the database. The authorized person can only access the system, they have to log in with their userid and password. As aforementioned that the Library Management System is designed in a user-friendly manner, so the admin can smoothly activate the system without expert advice. Every data is storing and retrieving from the SQL database so it is highly secure. Hence, I chose to make an application with the above-mentioned functionalities.



## Persona:

In this case I have created a persona of a random person using 'persona-generator', as our topic is based on E-Library Management Application I have taken the technical data in particular which says that the user is perfect reader of books related to computer science. He also works as a Instructor for the Computer Science department, which makes him a potential user and reader of books from his university library. The application will help him complete the task of borrowing/returning of a book from the library.

### Sai Krishna Mahankali

age: 24

residence: Norfolk, VA

education: Master's In Computer Science

occupation: TA - Instructor

marital status: Single



*Kind and hard-working*

He is punctual. He is spontaneous and adaptable to any kind of coding job. He spends his free on learning new technologies.

#### Comfort With Technology

##### INTERNET



##### SOFTWARE



##### MOBILE APPS



##### SOCIAL NETWORK



#### Needs

- He will be needing a High-end Personal Computer to practice his gaming skills.

#### Values

- He values high-level practice and execution.

#### Criteria For Success:

Attaining good grades and marks, meeting all deadlines, publishing research work and papers.

#### Wants

- He wants good food which makes him so happy.

#### Fears

- He is afraid of failure.

### Use Case Diagram:

The use case diagram shows how the application will work according to both the librarian and the user. I used Abstraction in-order to avoid the user to view the content he should not have access for such as adding a book deleting a book etc. User has access to Membership inquiry, Book Issue Request, Book Return Request, Search Box, Update Profile. Here Pay Fine is an extend to the case Book Return Request it will be called when the person has late fee for the book he borrowed. Similarly, the admin will have his own control over the system with access to various functions as mentioned below in the use case diagram.



## Hierarchical Task Analysis:

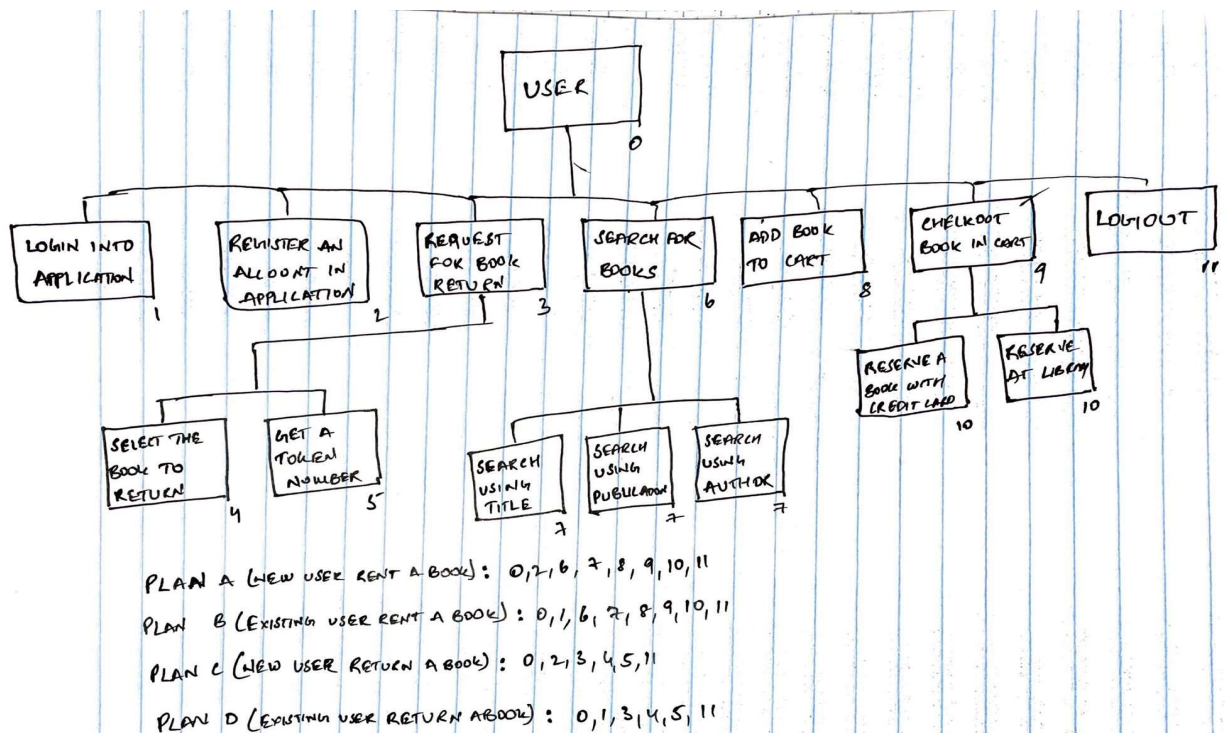
The Hierarchical Task Analysis (HTA) we can see that there are multiple scenarios mentioned. I haven't taken count of all the possible way a user can interact with my system. Every PLAN has all the necessary re-directions to the pages which the user will have a great experience using the application.

### PLAN A (New user rents a book):

If a new user rents a book he will first be redirected to Register Block(2) where he will get registered and gets logged in. Then he is redirected to Search Block(6) where he search using authname, publication, year etc at Block(7). Then he is redirected to Checkout at Block(9) where he can do the payment using creditcard or at pickup as mentioned in Block(10), once he choses the option he gets a receipt and then he can logout or search for other books. PLAN A: 0,2,6,7,8,9,10,11

### PLAN B (Existing user rents a book):

If a existing user rents a book he will first be redirected to Register Block(1) where he will enter all the username and passwords then gets checked and gets logged in. Then he is redirected to Search Block(6) where he search using authname, publication, year etc at Block(7). Then he is redirected to Checkout at Block(9) where he can do the payment using creditcard or at pickup as mentioned in Block(10), once he choses the option he gets a receipt and then he can logout or search for other books. PLAN A: 0,1,6,7,8,9,10,11'



#### PLAN C (New user returns a book):

There can be a user that has shifted from in-person to online, where the scenario can be he renting the book offline and then wanting to return the book online then he will first be redirected to Register Block(2) where he will enter all the username and passwords then gets registered and gets logged in. Then he is redirected to Search Block(3) where he selects the desired book to return and clicks on next then he will redirected to Block(5) where he gets a token number. Then he can either logout or search for reserving new book. PLAN A: 0,2,3,4,5,11

#### PLAN D (Existing user returns a book):

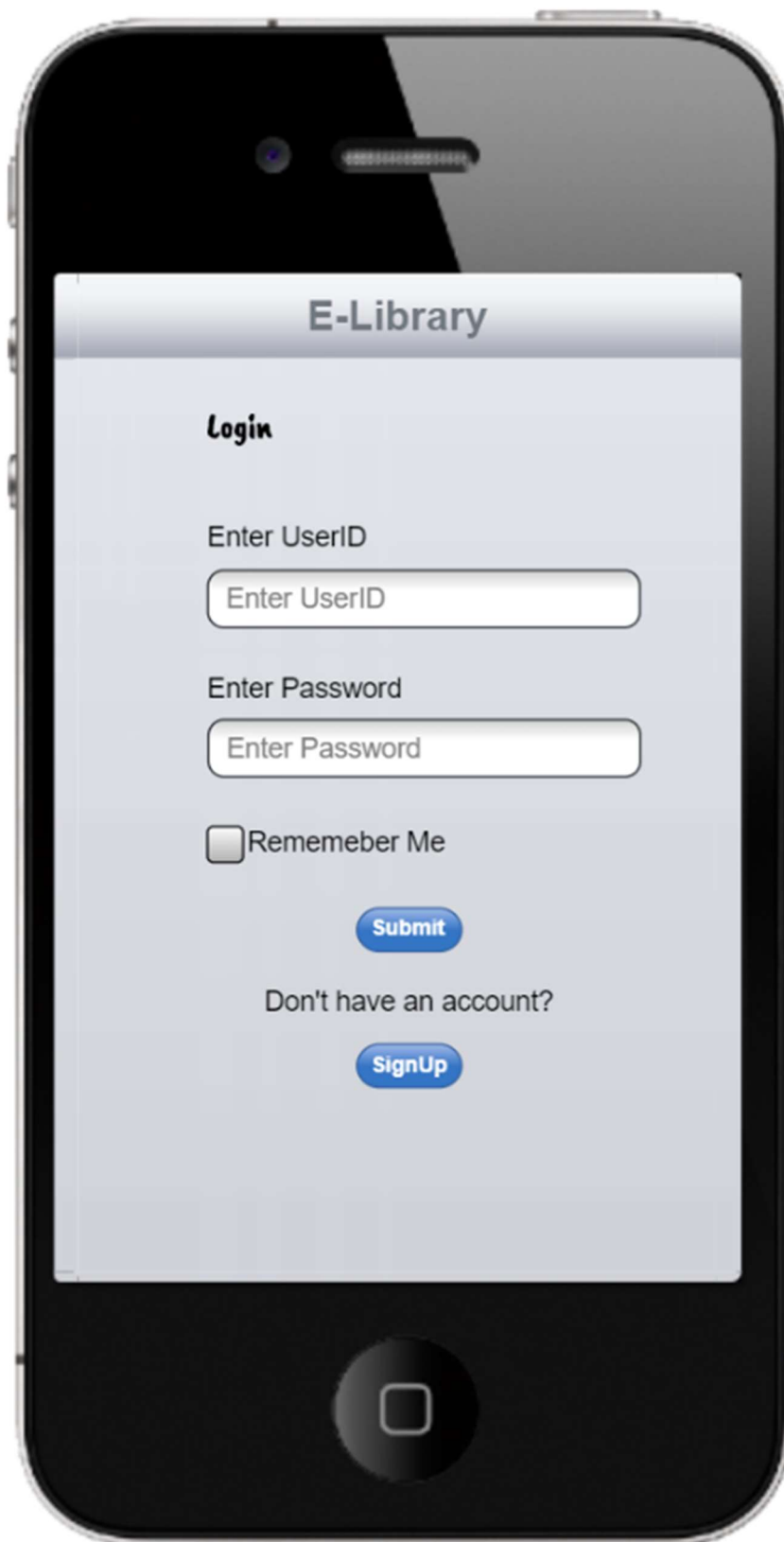
There can be a scenario where an existing customer wants to return a book back to the library then he will first be redirected to Register Block(1) where he will enter all the username and passwords then gets checked and gets logged in. Then he is redirected to Return Book Block(3) where he selects the desired book to return from the list of books already in his borrowed items and clicks on next then he will redirected to Block(5) where he gets a token number. Then he can either logout or search for reserving new book. PLAN A: 0,1,3,4,5,11

#### **WireFrame:**

In my wireframe I have included these functionalities. I am attaching some screenshots to get a clear understanding. I am also attaching all the files that I have generated while working on this project.

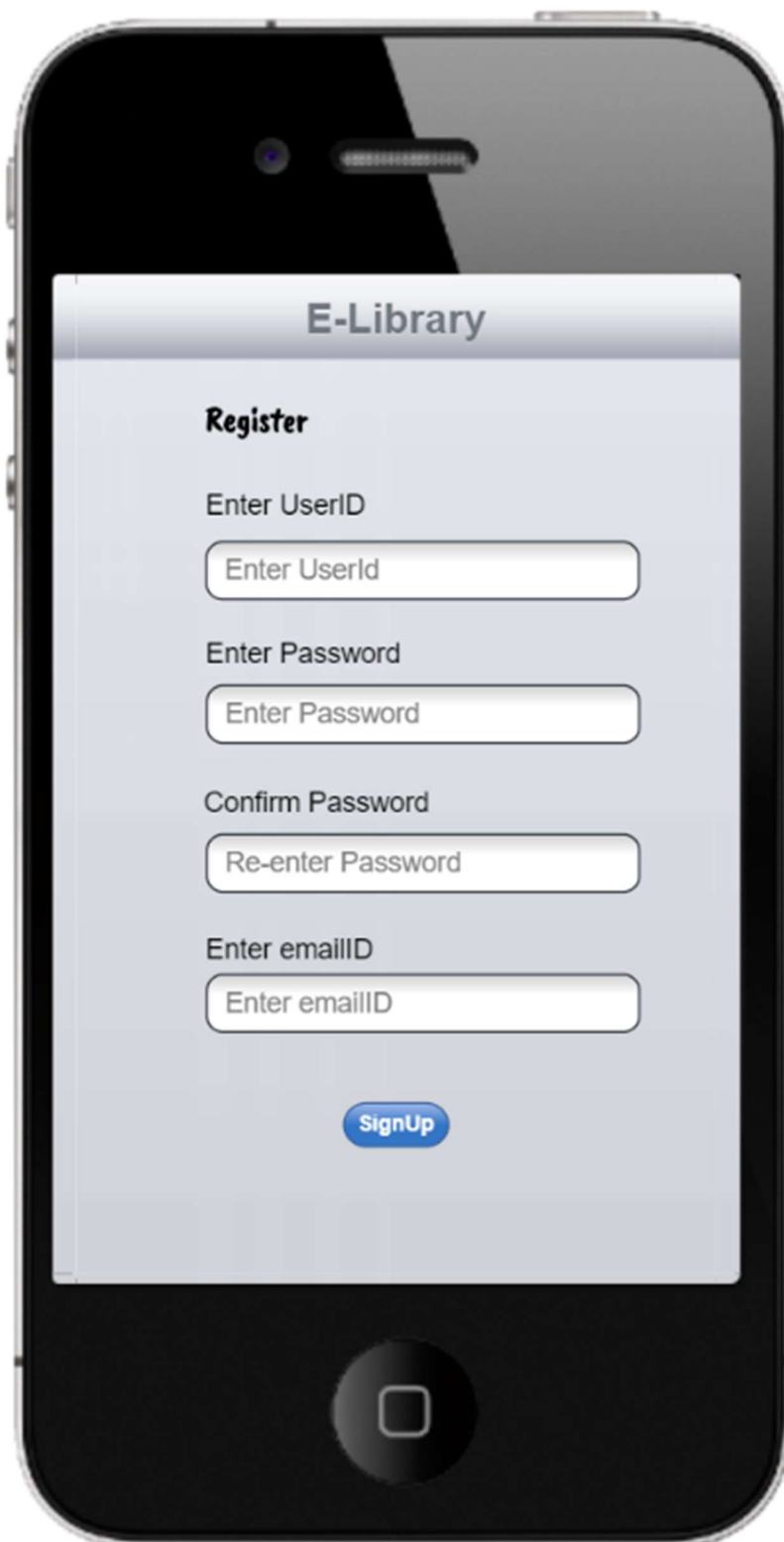
Login Page:

The login page is to users to keep a track of the book and their returns.



Register Page:

The register page is for users to start using the application and access all the books to the library online.



**E-Library**

**Register**

Enter UserID

Enter Password

Confirm Password

Enter emailID

**SignUp**

Select Page:

The select page will help the users to get into the option directly without any difficulties. Here a user can select return and get redirected to that particular functionality unless he wants to reserve a book.

