

System Specification - Folio

Folio is a website for users to buy and download e-books. Users have the option to search for an e-book using an author name or a title of a book. The homepage will present the user with various books that are randomly chosen. There will also be a browse page to look for a book via publisher, date of publication, author or genre.

Other pages that would be included within the website include the login and register pages where the user will be asked to enter their details to either register or login. Once this is completed, they can buy a book they would like which then gets added to the Order System for recording who has bought what. Folio consists of four systems that are allocated between four people. More details of each system are shown below under each subsection.

At the backend, we have access to the database so we will directly access data and do all the relevant actions such as addition, deletion, filtration and modification, listing and validation. A form will be designed to take in input for example for adding a new book entry.

Pre-defined SQL queries will be designed to instantly output relevant data for ease of use. For example, a query will be made to return all the users in the database or all books that are bought by a user. The result will return a list.

User Management System

This system is run by Zana who will be creating the following functionality:

1. Frontend user login. This page will consist of a form asking for email address and password which will validate and authenticate the user. If it was correct then they are redirected to homepage.
2. Frontend user register. This page will consist of a form that will ask for first and last name (which will be combined in the database as **user_fullname**), date of birth, email address and telephone number.
3. Backend User addition, deletion, filtration and modification, listing and validation. This will be done on the windows form. It will have commands

that will popup windows. For example, if you wanted to add a new user, the backend code will take the data from the forms of the popup window and add them to the database directly.

4. Frontend user information update. There will be a frontend page where the user can update their details if they wish to do so. This data will also be validated the same way it would have been when they registered.

User Schema

Below is the schema for a user. On the register page they would have to provide the following details.

1. First name
2. Last name
3. Date of birth
4. Email
5. Telephone number

Then these data will be sent to the server to be validated. An email also will be sent to the user to verify their information which is essential if they want to buy an e-book so that we know that they will receive an email for the receipt and the pdf of the desired book.

Attribute	Type (datatype)	Key
user_id	String <code>varchar(25)</code>	Private Key
user_fullname	String <code>varchar(255)</code>	
user_password	String <code>varchar(255)</code>	
user_dob	Date <code>date</code>	
user_email	String <code>varchar(255)</code>	
user_tel	String <code>varchar(13)</code>	
user_numof_books_bought	Integer <code>int</code>	
user_is_email_verified	Boolean <code>bit</code>	

With every purchase, we will increment the `user_numof_books_bought` field to keep record of how many books each individual has bought. This may come in handy to see how popular the website as a whole is.

When a user is authenticated whether through the frontend or backend, the rest of the application is handled by the other systems.

Book Management System

Order & Record System