



Khulna University of Engineering & Technology, Khulna

PROJECT REPORT ON
“ Virtual Library ”

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Objective:

1. To build and develop a full stack responsive website by using both frontend and backend languages with MySQL database.
2. To develop the website using HTML, CSS, JS and Bootstrap5 as frontend languages.
3. PHP will be used as a backend language in which the MySQL database will be connected .
4. To develop a platform in which all the users can get their necessary books with the softcopy file but before getting the softcopy file, an account must be needed.
5. To keep a admin panel from where the admin can remove violent users according to recognize illegal activities as well as illegal books.

Introduction:

A website is a collection of publicly accessible, interlinked Web pages that share a single domain name. Websites can be created and maintained by an individual, group, business or organization to serve a variety of purposes. Together, all publicly accessible websites constitute the World Wide Web.

Websites are available in various kinds of types in world wide web. Basically there are three types of websites from which the developer can develop any kind of one. Those types are:

i)Static website

ii)CMS or Dynamic website

iii)eCommerce website

The domain name as well as my website name is “Virtual Library”.It is a CMS(Content Management System) website where the content is updated and changed automatically depending on the users and so this dynamic website can convey dynamic data.

In the website ,it is opened for all kind of users who can visit the website ,check all kind of books in details and can interact with the administrator.But the limitation is before downloading any book a user account must be needed and after sign in he can be able to download any book.Besides ,after creating a account a individual profile of the user is automatically created from where the user can upload their profile picture as well as books .After uploading the the books, all books are shown in his/her profile page which can be modified by the user also.There are some basic functionality in the website ,a user can search any book by book name .Moreover, at the time of creating any account, a varified email must be required because before registration ,an OTP code will be sent to the email address and by providing it the email will be varified.This OTP varification system is also used in for changing the password if the user forgot the previous password.The session is used in this website for remind the website logged in for a specific time and cookie is used for reminding the email and password before logged

in. There is also an admin panel or dashboard in the website from where the administrator can monitor all the users and their uploaded books. If a user can upload illegal books and spread violent activities, the administrator can remove that user as well as the illegal books permanently.

For developing the website, HTML, CSS, JS, Bootstrap5 are used as frontend languages and PHP is used as backend language. To store and manipulate the data, MySQL database management system is used.

Implementation:

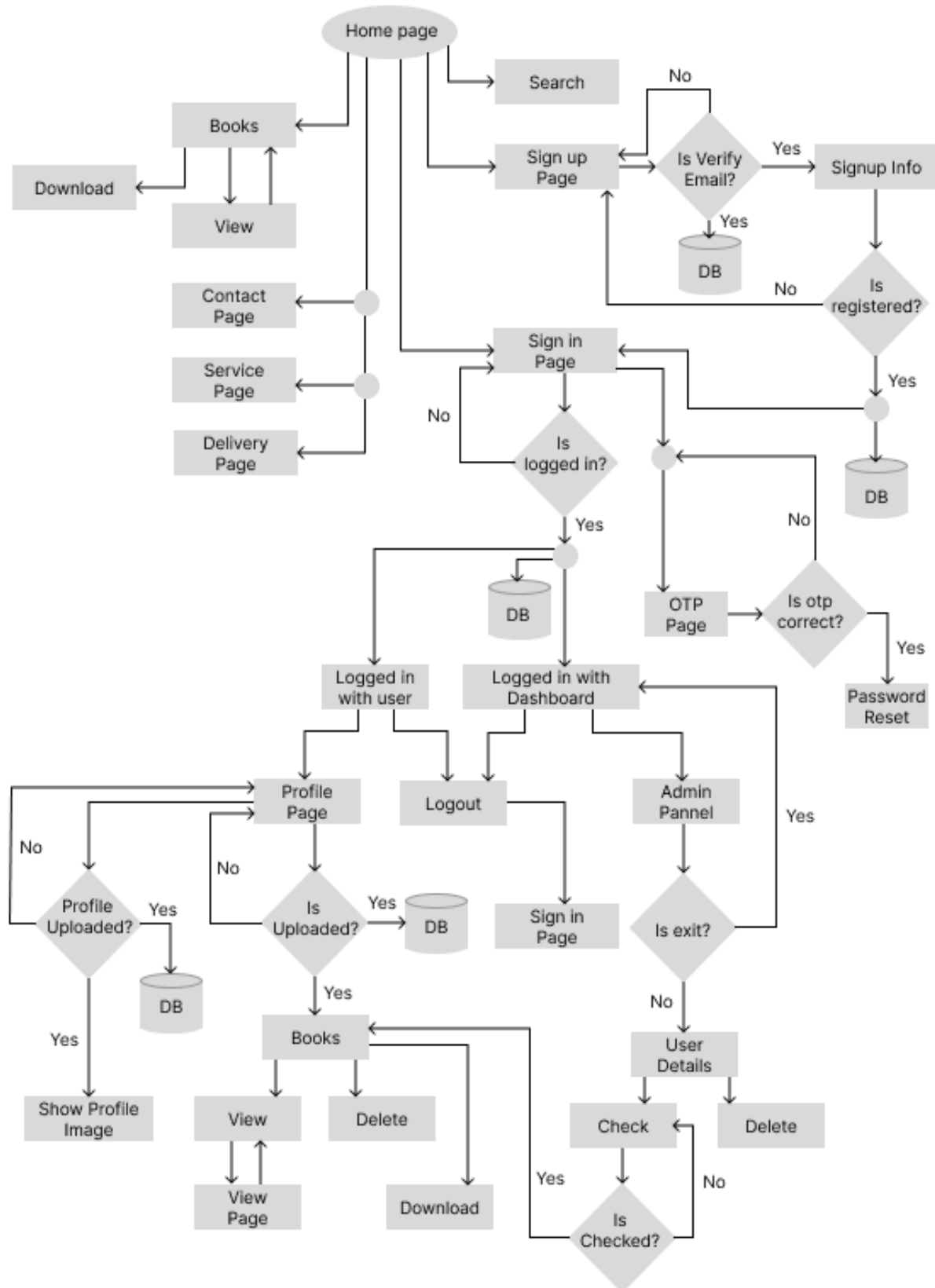
In this project, the full stack responsive website named “Virtual Library” is developed by using HTML, CSS, JS, Bootstrap5 for front end designing and PHP is used as backend language to interact with MySQL DBMS. Actually both PHP and MySQL are considered as core backend of the website. Here no framework of PHP like Laravel is used for backend development. The website is totally developed based on raw PHP language.

Firstly when a user visits the website, initially the home page of the website will be shown. Then the visitor can see all the books which are already uploaded by other users. Here, the random users can view only the books with details information but for downloading any book an account must be needed which can be created from sign up page and before creating any account, email verification must be needed. After creating the account, the user can login the

website with email and password and if the user forgot the password then he can reset his password through email verification with generating OTP .After logged in ,he/she can get all the facilities .At that time the user can download all the books with softcopy of file and a profile will be automatically created. From that profile the user can upload their own profile picture and then upload their own books as well which will be shown in that page and at any time the user can delete any of his books.In the website a search bar is included from where an user can search his necessary books by book name.There is also a contact page from where any user can communicate with administrator.

There is also an administrator section in the website which is named as dashboard. From login page the admin can access dashboard after providing specific email and password which is unique for him. From dashboard the admin can control whole the website .From here he can remove any users and their books if these are likely to be illegal or violent and moreover the admin can monitor all the books of all the users.For executing all the performances, MySQL database management system is used to store and manipulate all the data with the help of query language in PHP code section. Internally a database named 'virtuallibrary' is created and under the database some multiple tables are also be created also for storing user's informations,book's informations,otp codes etc. So, by doing all of the procedures and implementations the website might be run successfully without any issues.

Flow Chart :

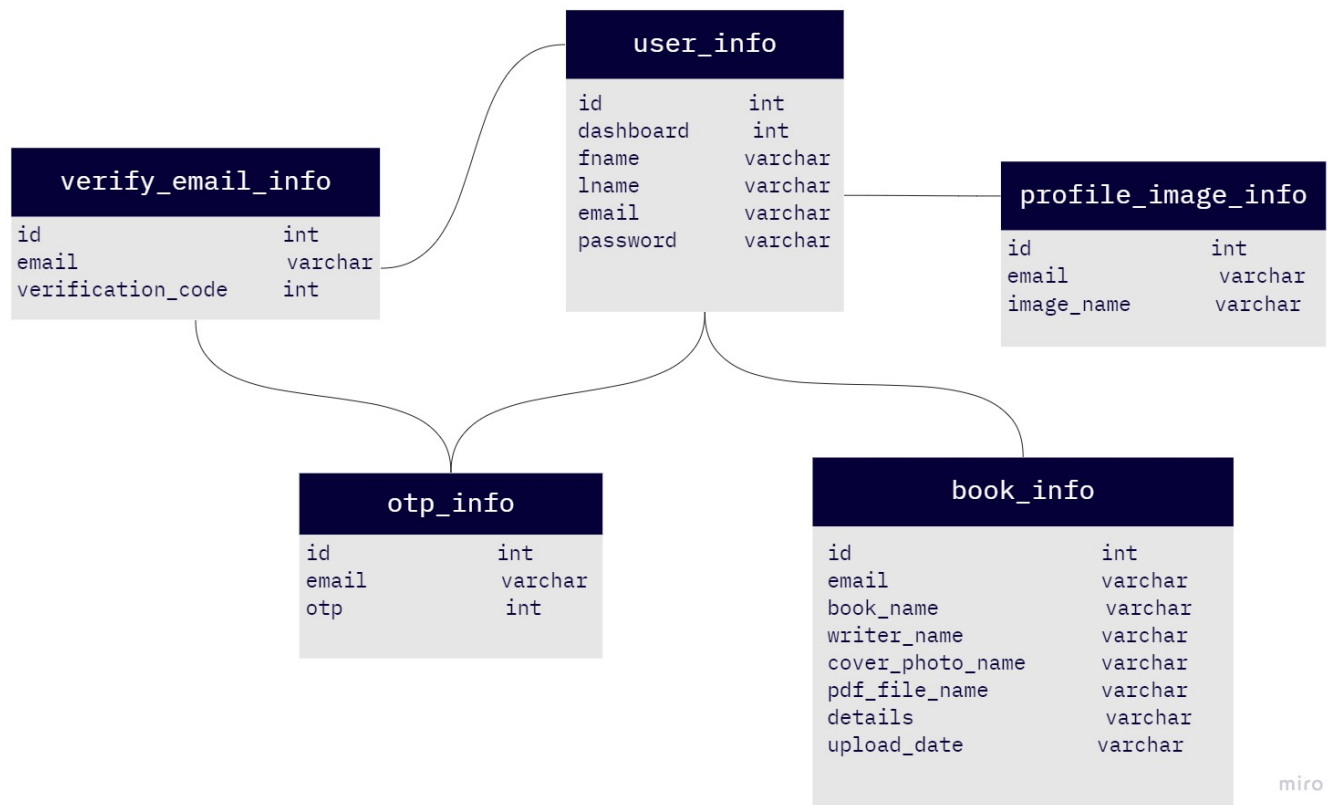


Schema Diagram:

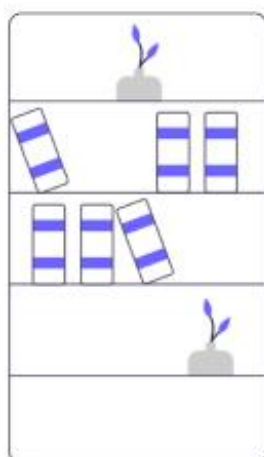
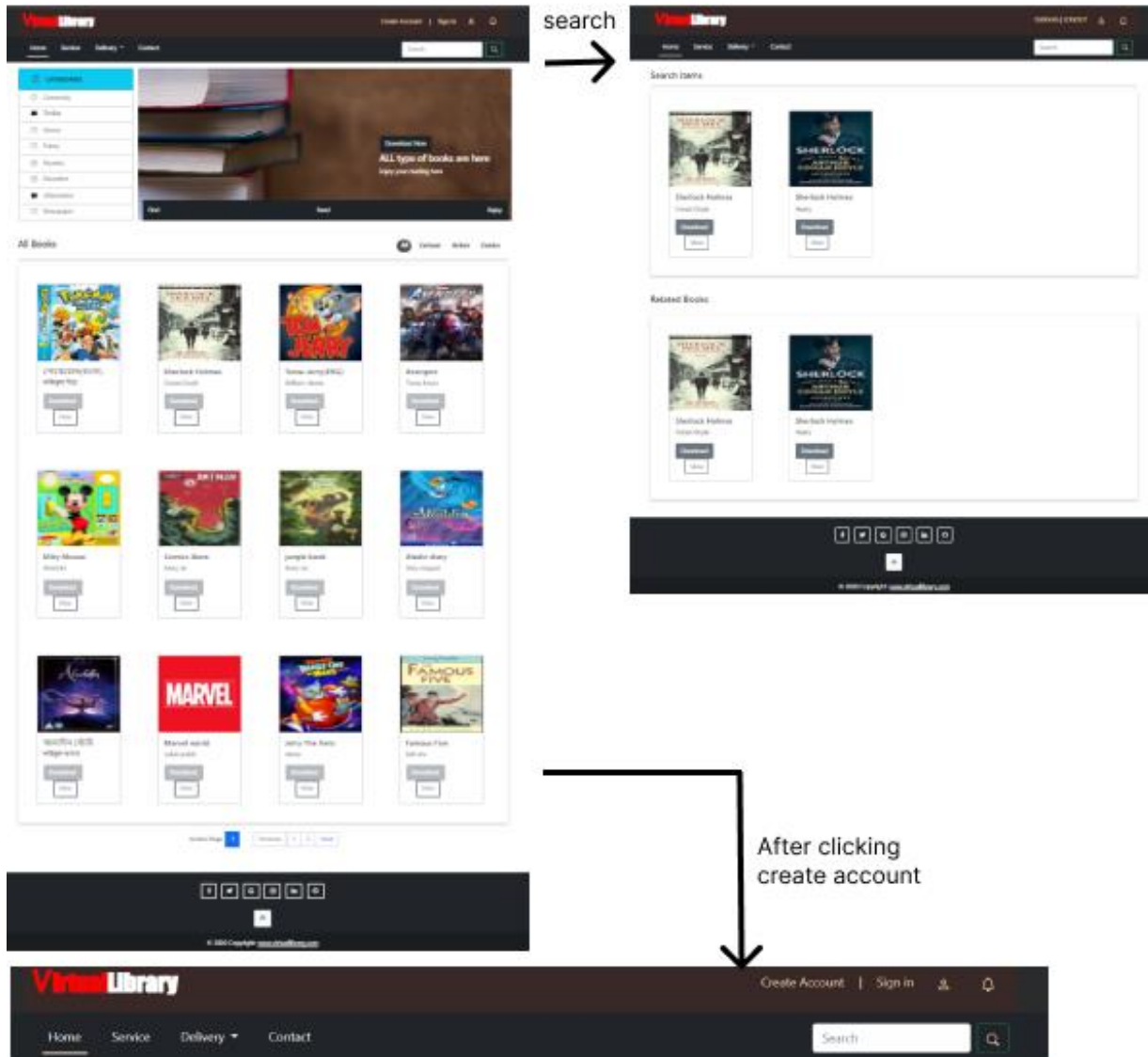
The design of the database is called schema and more formally it means the structural view of the database. A database schema defines how the data is organized using the schema diagram. A schema diagram only shows us the database design. It does not show the actual data of the database. Schema can be a single table or it can have more than one table which is related. The schema represents the relationship between these tables.

In this project, the multiple tables are used under a database where various kinds of data is stored. The schema diagram of the project is given below:

Schema Diagram:



Detailed Visualization:



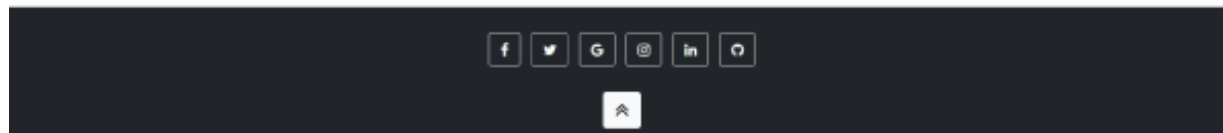
Sign Up

Email address

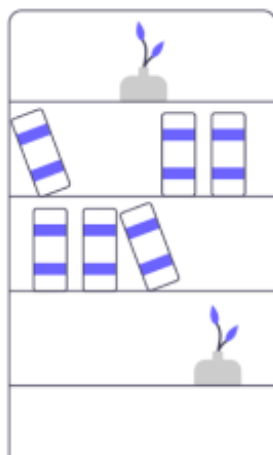
After clicking verify



Verification Code.
Provide the verification code which is sent to your email.



After submitting OTP



Sign Up

First name: Dabbrata Last name: Das

Email address: dasdabbrata@gmail.com

Password:

or sign up with:

After registration



Sign In





Email address
davidbbbrata@gmail.com

Password

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Send

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Forgot Password?

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New Password

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




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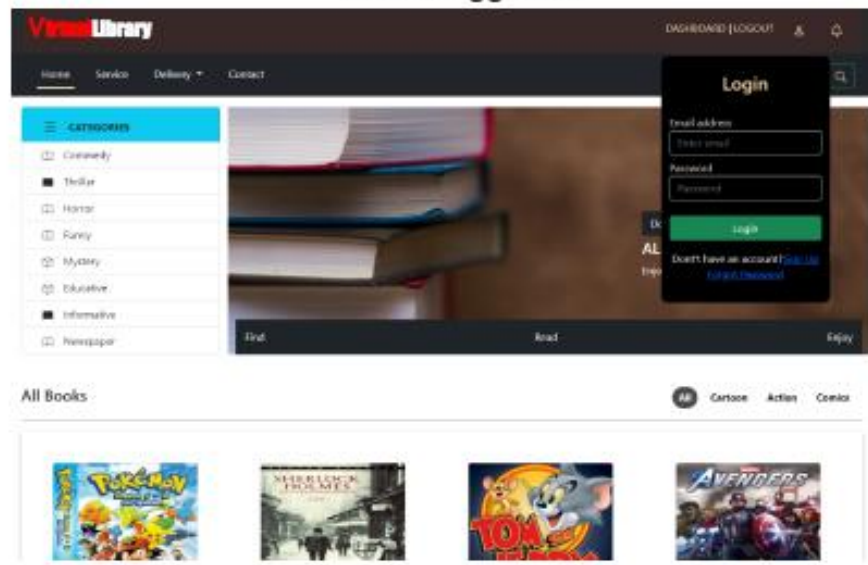


Aladdin
Howard Ashman

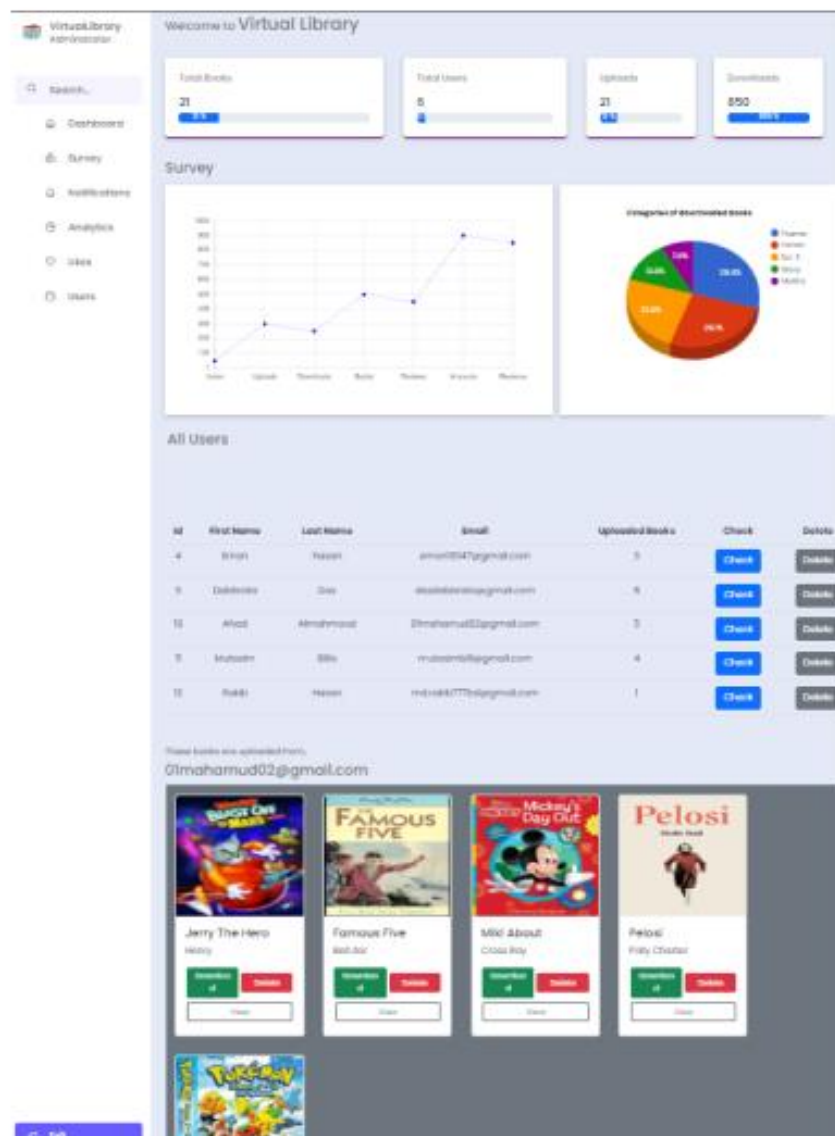


Sherlock Holmes
Arthur Conan Doyle

Admin logged in



Dashboard page



Target vs. Actual Accomplishments:

In the project , I got an idea to build and develop an CMS website named “Virtual Library”.My target was to develop a website using both frontend and backend(PHP)languages with the help of MySQL database and approximately able to complete 95% of the website.There are some minor issues in the website.Such as if a value like first_name&last_name is passed through URL bar,then at the time of receiving, it accepts only the first name .Another issue is after logout ,if the browser backarrow is pressed then it will back to logged in page and at that time reloading the page can fix this issue.

Though I could not face any kind of complex difficulties for user interface designing,it was quite bit painful for backend developing of the website. Overall,I am satisfied for my accomplishments to develop the project.

Risks and Issues:

In this project there is a lack of security of developing the website.Though the MD5 encoding is used for securing the password but the special characters function “htmlspecialchars()” are not used here.

As a result if a hacker can pass the javascript file through input,then the script file successfully executed in the code which can malfunction the program.This is the main issue of the website and the proper usement of these kind of functions can enrich the security of the website.

Discussion & Conclusion:

In this project,I learnt about the basic functionalities of developing a professional website with creative thought and ideas by flowing some basic steps.The project is successfully done inspite of having some issues which may be negligible.

From this project,I learnt about the implementation of some front end languages(HTML,CSS,JS,Bootstrap5) and backend language(PHP) and MySQL DBMS and how these are used for developing a responsive website. In a word,this project is the starting path to introduce myself as an web developer.After completing this project ,it helped me to increase my programming as well as my developing skill.From this project the thinking and executing ability of developing a website are increased dramatically.

So,the project plays a grate role to improve my skill as a web developer. This knowledge will help me to develop another project easily and boosted up my confidence level. Hence,this project is a great inspiration to be a professional web developer as well.

References:

- i) <https://getbootstrap.com/>
- ii) <https://www.w3schools.com/>
- iii) <https://www.javatpoint.com/php-tutorial>
- iv) https://www.youtube.com/watch?v=qxZthRY_cN8&t=10833s