WEB-PROJECT

REPORT ON

“AlgoPlus”

Submitted by:

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Under The Guidance Of:

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Objectives:

1. To design a design a Algorithm Learner website name “AlgoPlus”
2. To learn to implement HTML for creating the structure of the website.
3. To learn how to implement CSS for designing the website.
4. To learn to implement Javascript for making the website more dynamic.
5. To learn to implement ASP.NET for the backend work.
6. To learn to implement MYSQL database management for database handling.

Introduction:

A website is a collection of many web pages and web pages are digital files that are written using HTML (Hypertext Markup Language). To make a website be available to every person in the world, it must be stored or hosted on a computer connected to the internet round a clock. Such computers are known as a Web Server.

The website’s web pages are linked with hyperlinks and hypertext and share a common interface and design. The website might also contain some additional documents and files such as images, videos, or other digital assets.

There are two types of website:

1. Static Website
2. Dynamic Website

In static websites, web pages are returned by the server which are prebuilt source code files using simple languages as HTML, CSS and JavaScript. On the other hand, dynamic websites processed during runtime means they are not prebuilt web pages, but they are built during runtime according to the user's demand with the help of server side scripting languages such as PHP, Node.js ,ASP.NET and many more.

The website I built is a dynamic website. The name of the website is **Algoplus** . It is a website where we can Learn many algorithm and Data structures . When a user comes to the website, he can see Static homepage describing the website . The user can also submit his own problem but have to be logged in first. There is also an admin page where all the user's list and pending problem lists are handled.

To build this website, HTML, CSS, JavaScript, JQUERY and BOOTSTRAP was used as frontend language and ASP.NET with C# was used as backend language. I also used MySQL database management system to store and manipulate data.

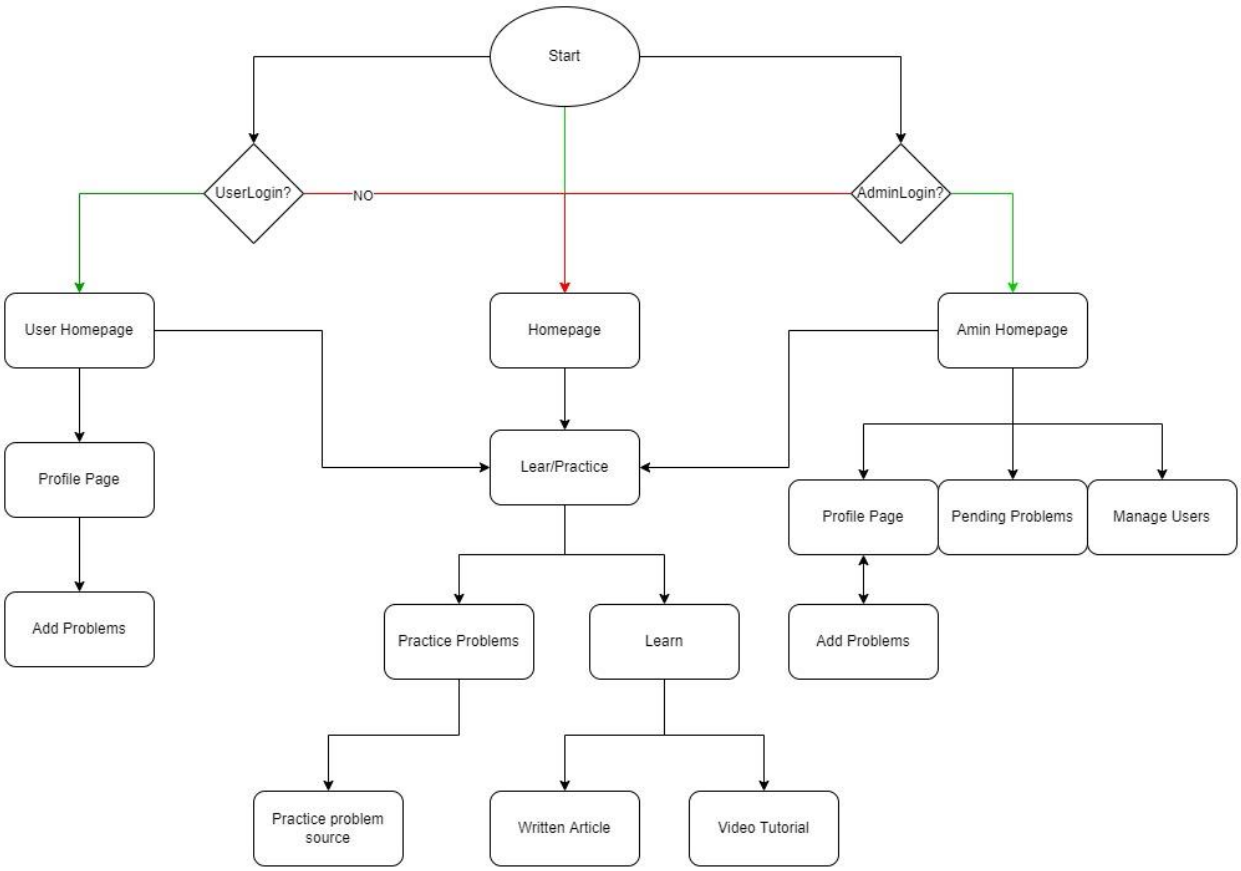
Implementations:

At the very top of the website there is a Header. The Header has logo at the left most corner, following by Home, Learn/Practice and Login. By clicking to Home he can return to homepage, can go to Learn/Practice section to learn about some Data structures and Algorithms .

He can traverse to log in page buy clicking log in option from the header. If the user is not registered, he can register by clicking to create account link. Then he can log in by submitting his username and password. At the add problem page, there is form at which the user must submit information about his problem.

There is also an Admin page. When the admin log in with his username and password, he will be transferred to admin page. There are Manage user Page and Pending Problem page which is only accessible by an admin . Admin can add or delete any user. He can also delete any problem from the database. With all this implementation the website run perfectly.

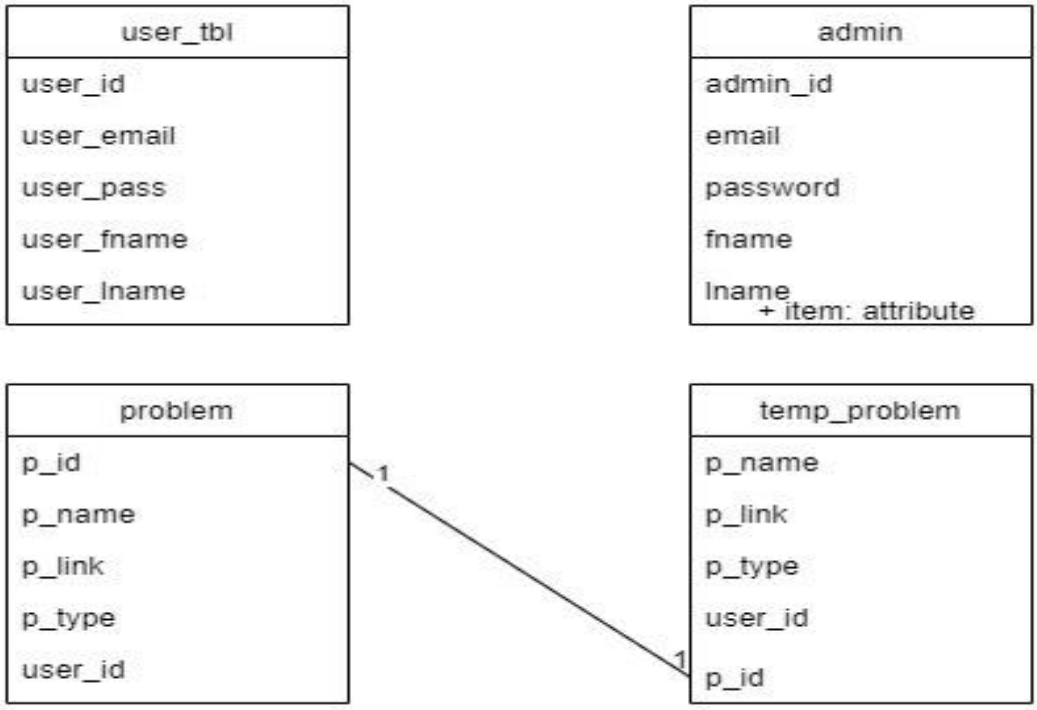
Flow Chart:



Schema Diagram:

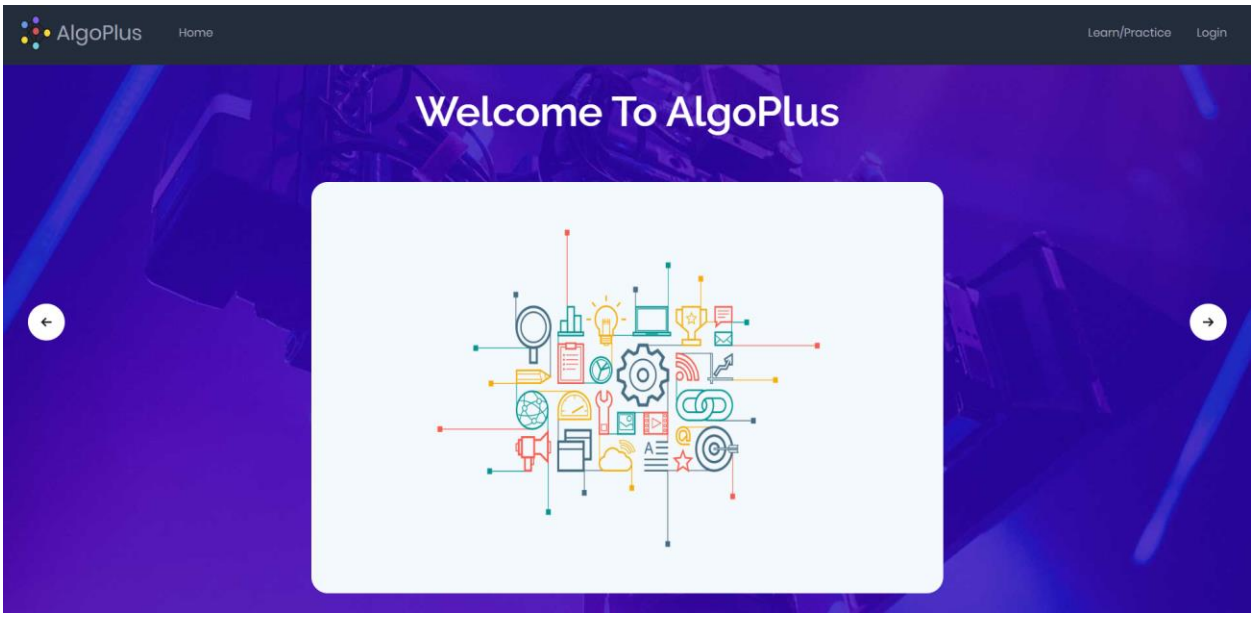
The design of the database is called schema and more formally it means the structural view of the database .A database schema defines how the data is organized using the schema diagram.

In this project 4 tables are used under a database where various information is stored. The schema diagram is given below

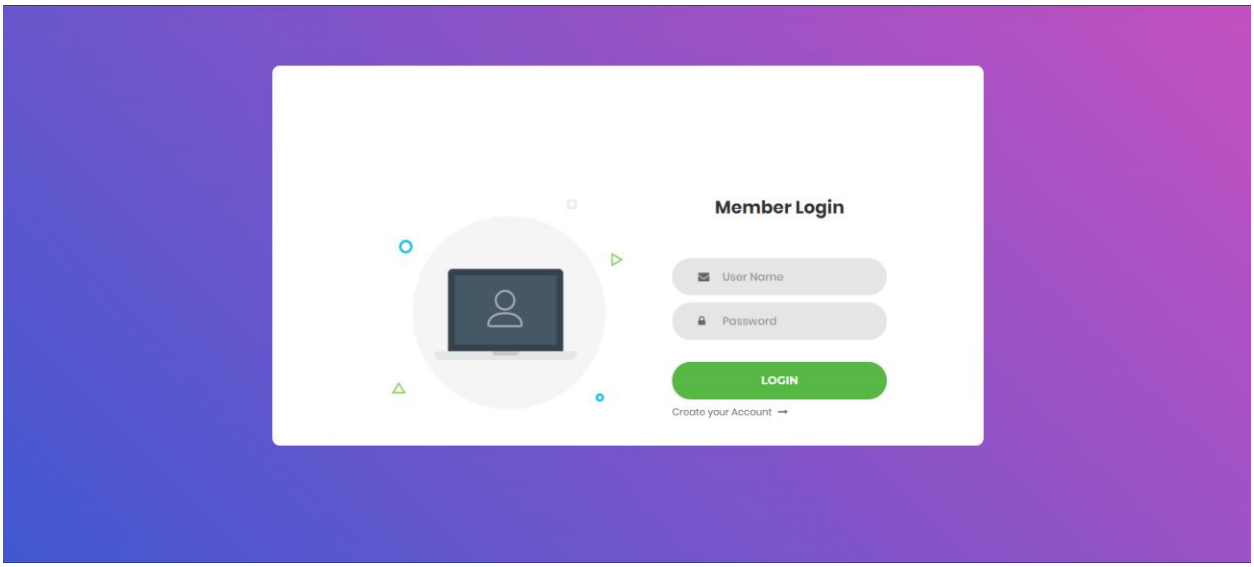


Detailed Visualization:

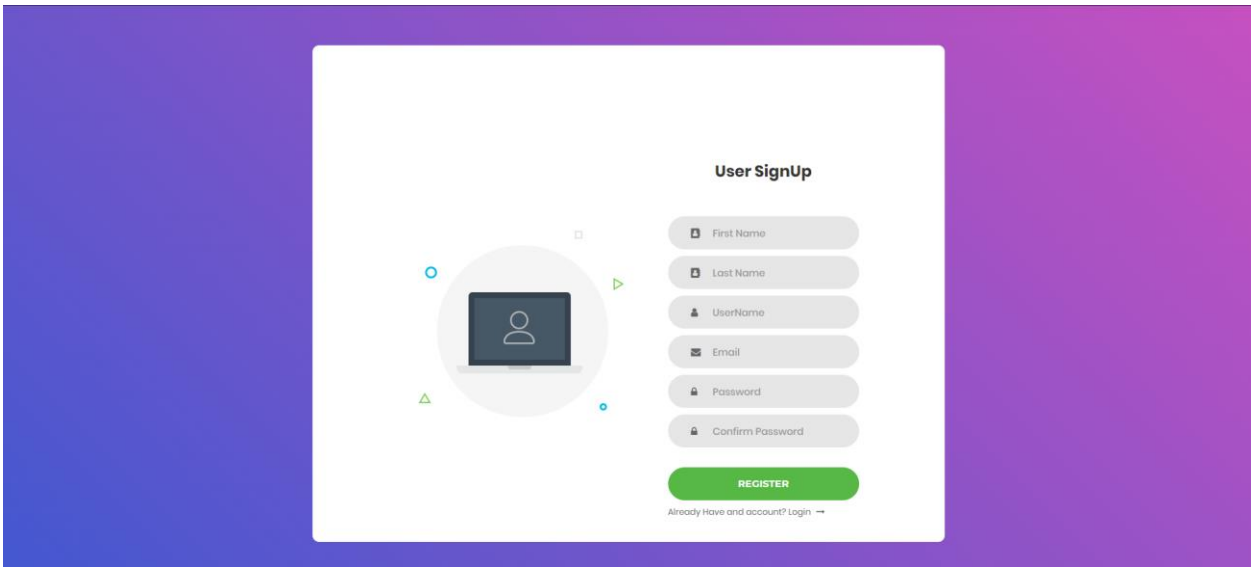
Home Page:

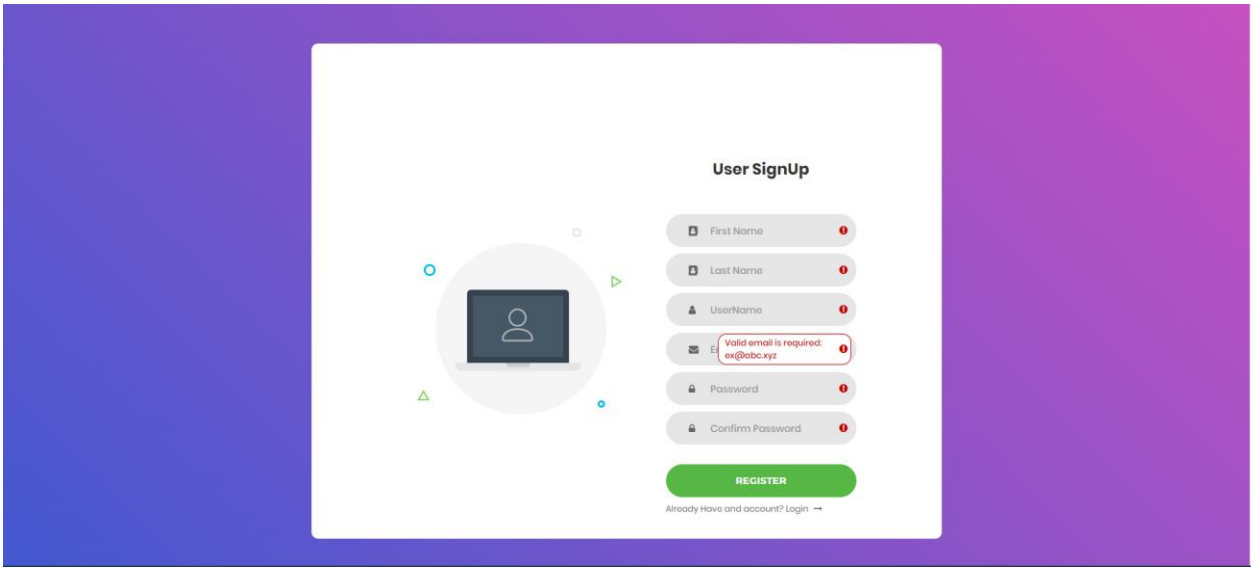


Login Page:

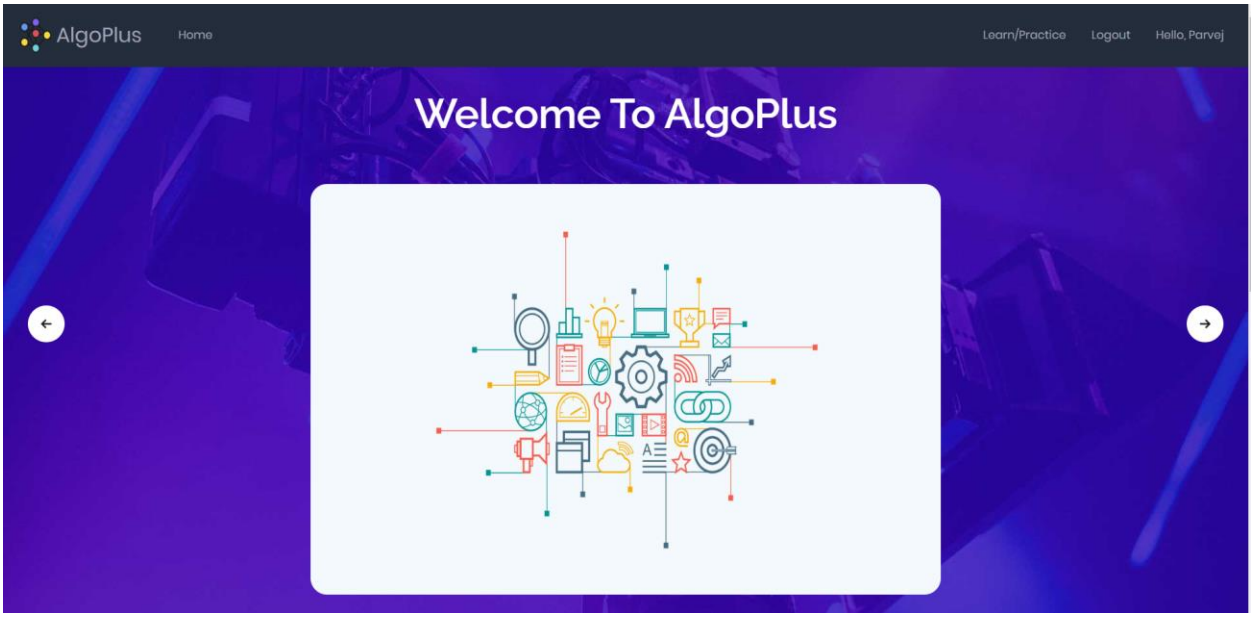


Sign UP Page

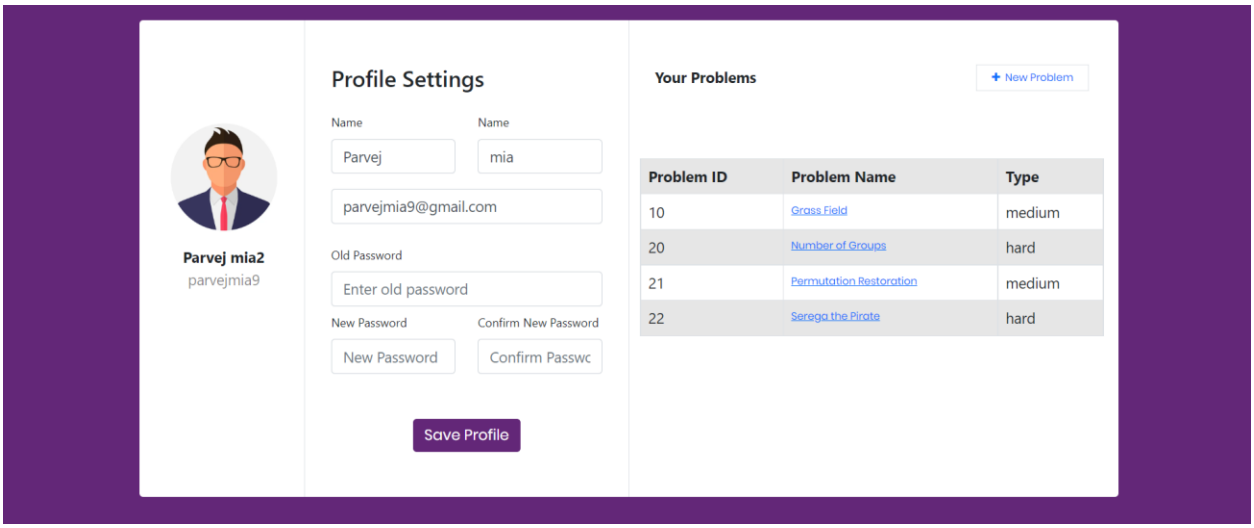




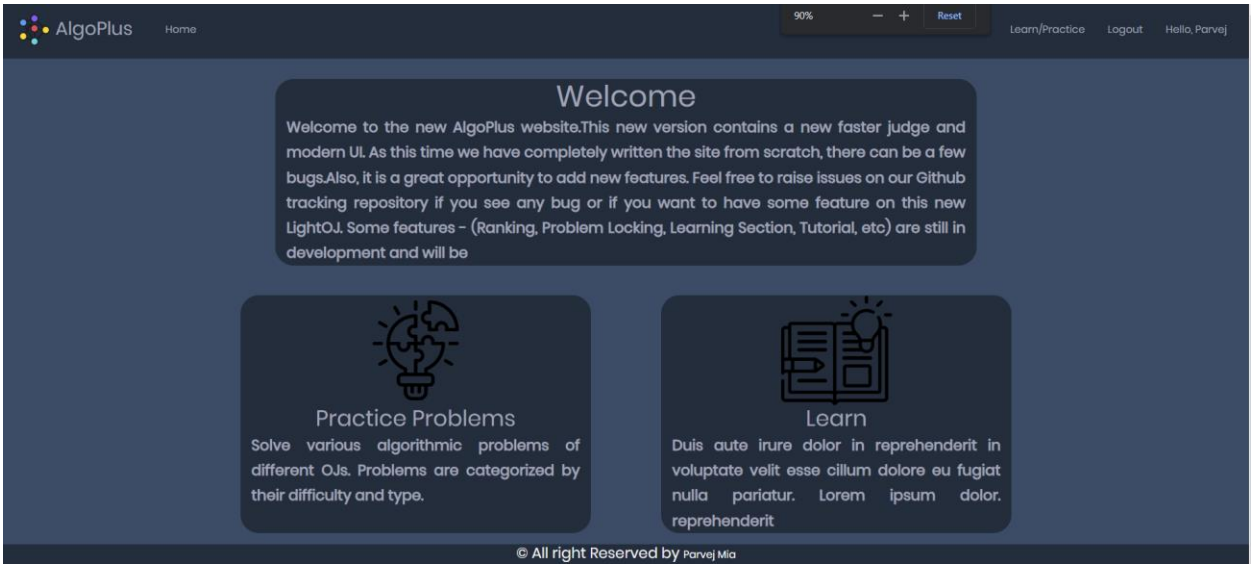
Logged In page:



User Profile Page:



Lear/Practice Page:



AlgoPlus Home Learn/Practice Logout Hello, Parvej

Welcome

Welcome to the new AlgoPlus website.This new version contains a new faster judge and modern UI. As this time we have completely written the site from scratch, there can be a few bugs.Also, it is a great opportunity to add new features. Feel free to raise issues on our Github tracking repository if you see any bug or if you want to have some feature on this new LightOJ. Some features - (Ranking, Problem Locking, Learning Section, Tutorial, etc) are still in development and will be

Practice Problems

Solve various algorithmic problems of different OJs. Problems are categorized by their difficulty and type.

Learn

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Learn

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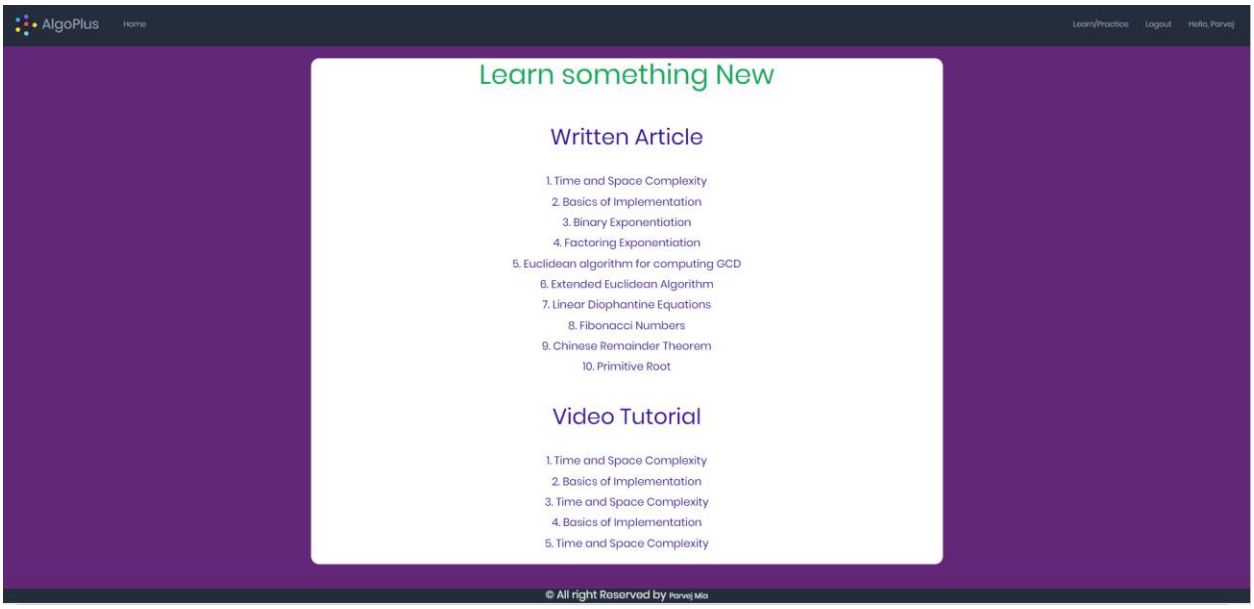
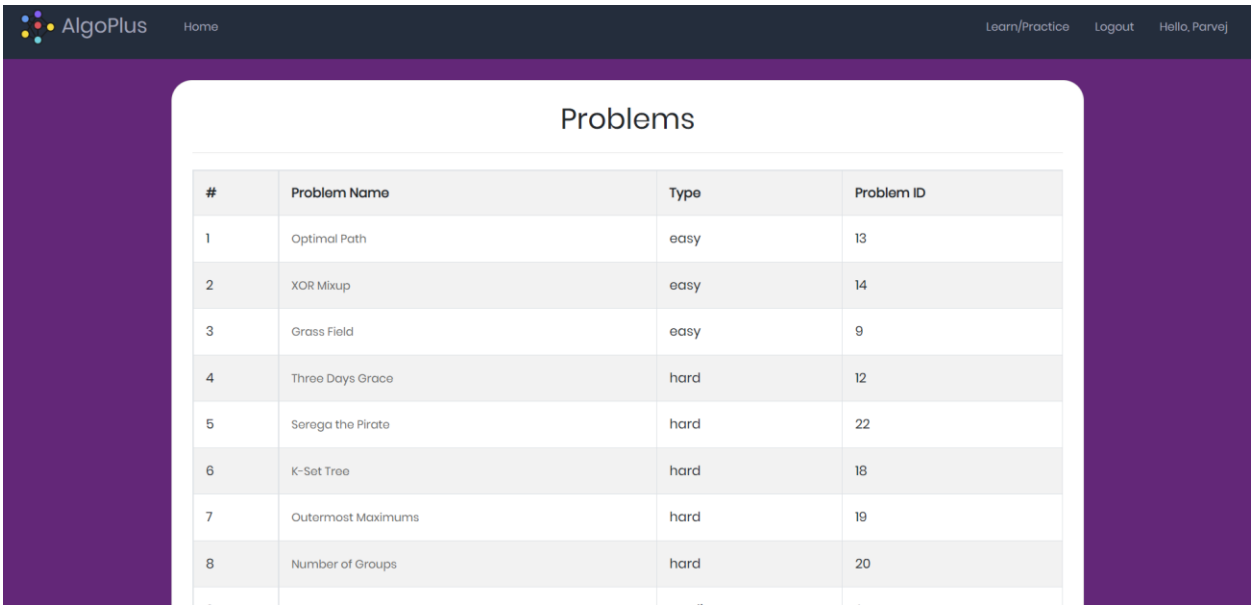
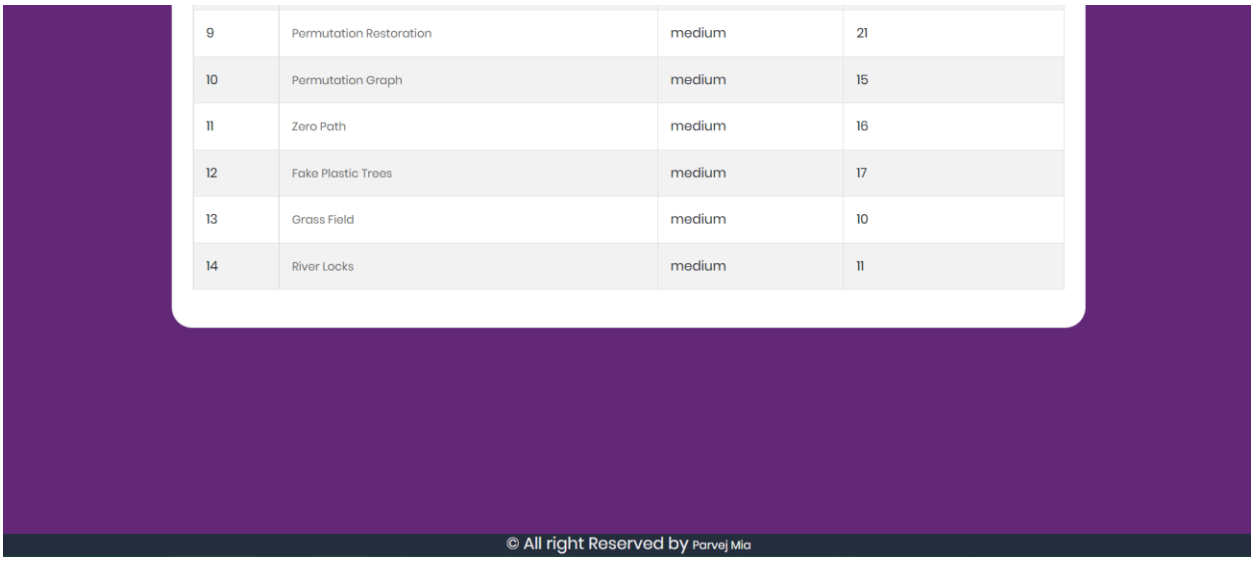
Learn Page:



Problem Page:





9	Permutation Restoration	medium	21
10	Permutation Graph	medium	15
11	Zero Path	medium	16
12	Fake Plastic Trees	medium	17
13	Grass Field	medium	10
14	River Locks	medium	11

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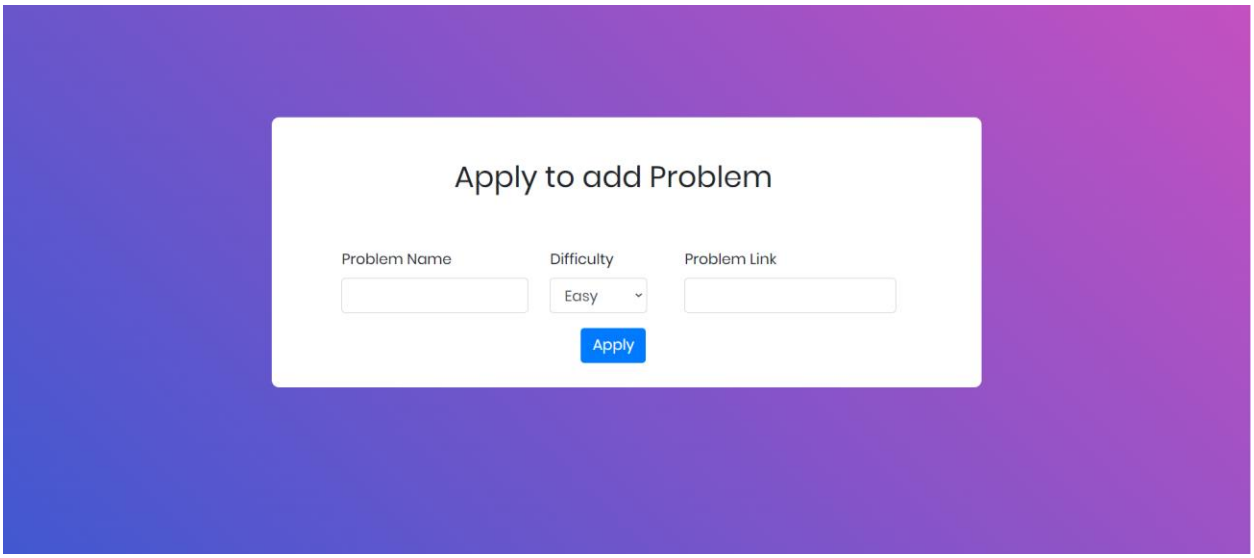
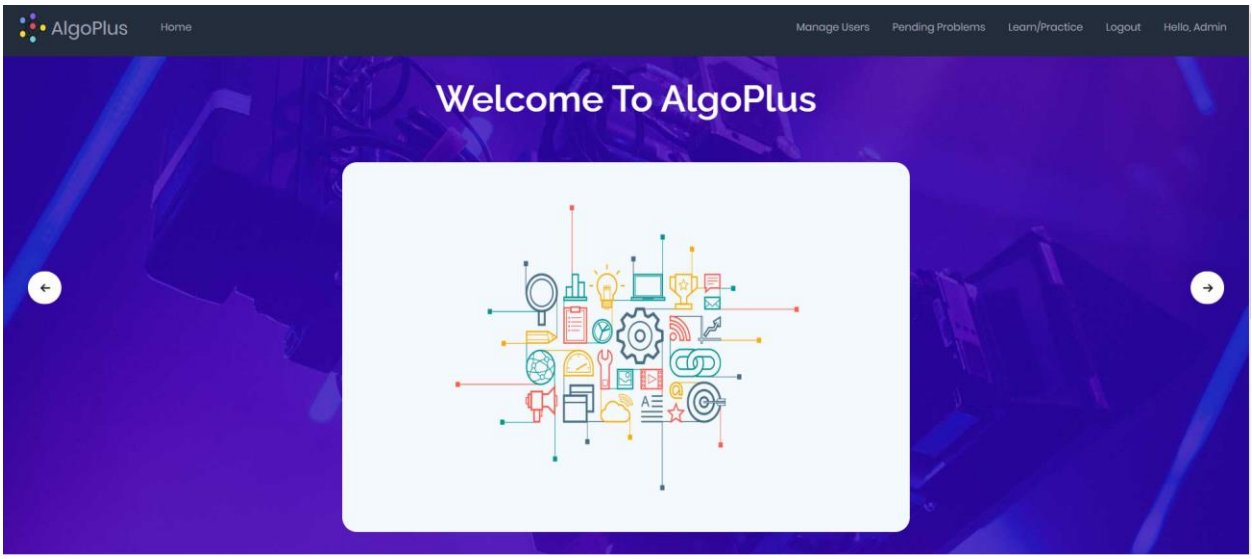
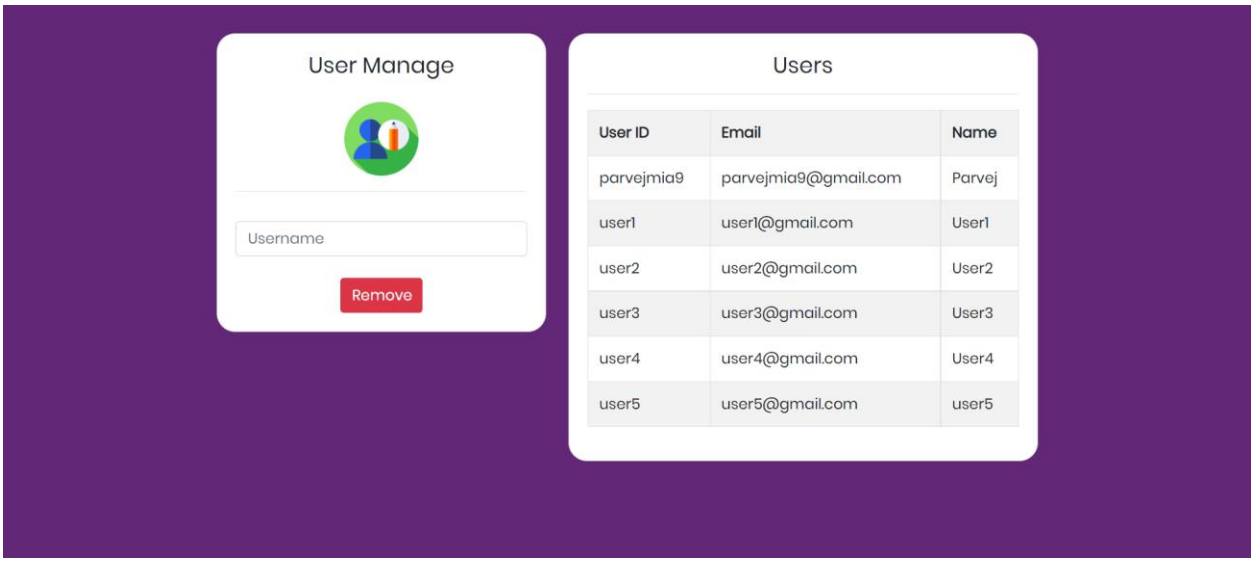
Problem adding page:



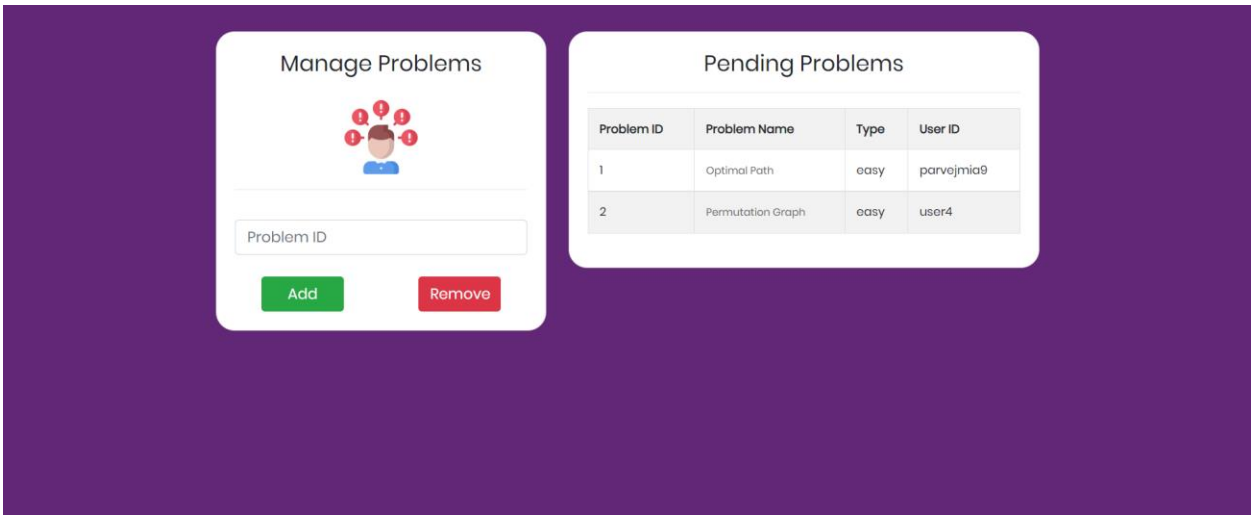
Admin Home Page:



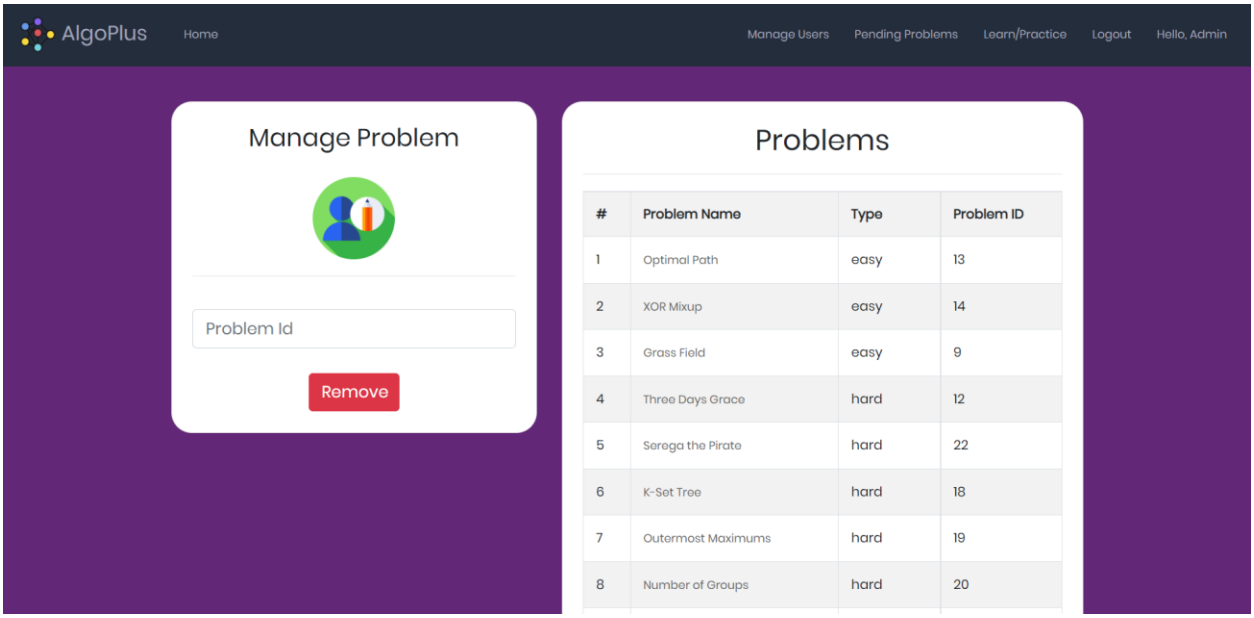
Manage User Page:

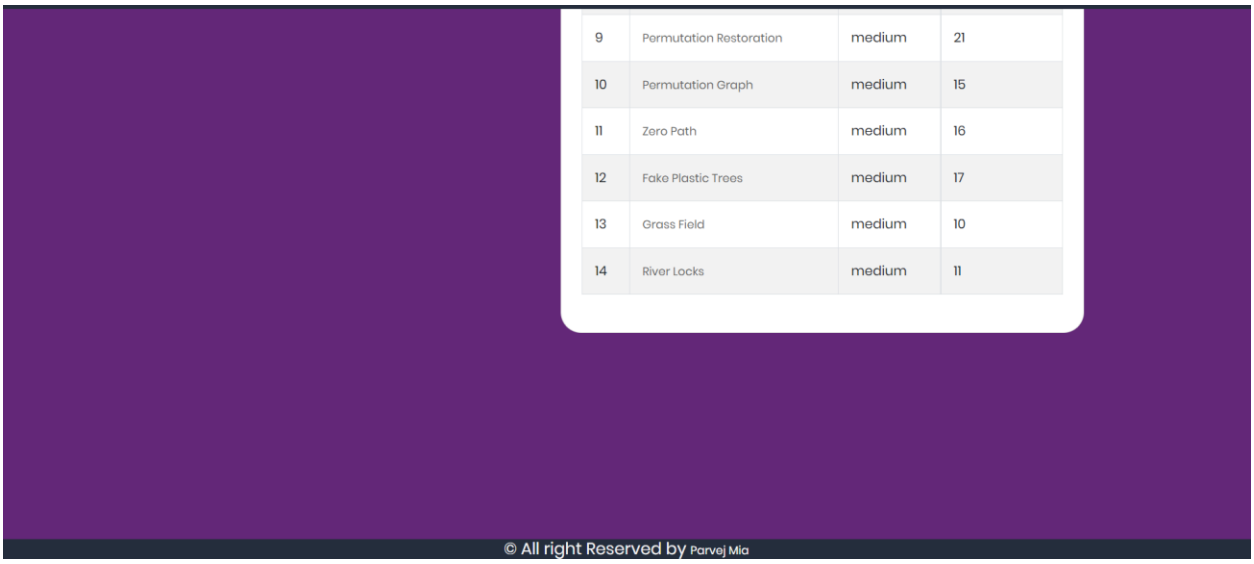


Pending Problem Page:



Admin Problem Page:





Target vs. Actual Accomplishments:

In this website ,I wanted to make a section for asking help from one user to another and to build a more user friendly UI. My target was to add animation and make the website more dynamic which I wasn't able to do. There are other minor problems as well. The targeted website included a search option for properties, which can search problems by type or name. But I couldn't implement it.
But at the end I am satisfied with the website. It might have lacking but it is enough to satisfy the users.

Risks and Issues:

There is a lack of security in the website. A professional hacker may hack into the system and know the user password and email. Also

as the website fetch a lot of information from data, it is quite slow when a slow net connection is used. There might be some minor bugs as some corner cases may not have tested.

Discussion & Conclusion:

In this project , I gathered a lot of knowledge and experience to build a real life dynamic web page using HTML CSS and ASP.NET in the background. I learn a lot about developing dynamic and responsive website.

In this project, I had the experience of developing a professional website creative thoughts and ideas. I also faced some real world problems while developing this projects but eventually I solved all the problems going thorough different learning sites. I gained practical knowledge of creating a website.

I learned to use frameworks like Bootstrap and JQuery. Also I got accustomed to HTML, CSS and JS. I learned a lot about ASP.NET. ASP.NET is a useful language for backend. We could easily fetch our data from database. I learned to fetch info from database and dynamically show that information at the GridView in the website. So the project played a great roll on developing my web development skills. It also boosted up my confidence level, which in the future will work as a great inspiration as web developer.

References:

i) **https://getbootstrap.com/**

ii) **https://www.w3schools.com/**

iii) **https://www.tutorialspoint.com/asp.net/index.htm**