SYNOPSIS

ON

DemocraLink E-Voting System

SWAMI VIVEKANAND GOVERNMENT COLLEGE

GHUMARWIN

(AFFILIATED TO H.P.U)

In partial fulfilment for the award of the degree of

BACHELOR'S IN COMPUTER APPLICATION

SESSION: 2021-2024

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(Department of BCA/PGDCA)

DEPARTMENT OF BCA/PGDCA
SWAMI VIVEKANAND GOVERNMENT COLLEGE
GHUMARWIN, HIMACHAL PRADESH

CERTIFICATE

This is certified that Ayush Kaushal, Nikhil Kumar, Nikhil Sankhyan students of BCA at SWAMI VIVEKANND GOVERNMENT COLLEGE GHUMARWIN completed their entitled "Link E-voting System" under my supervision and guidance in the academic year 2023-2024.

This project fulfilled the requirement prescribed by "HIMACHAL PRADESH UNIVERSITY" for the said course.

It is further certified that the work done in this project is our candidate's efforts have not been submitted to any organization in any manner.

(Project Guide)

Prof. Priyanka Dhiman

(Coordinator of BCA/PGDCA)

Prof. Suryakant

ACKNOWLEDGEMENT

We would like to convey my deep appreciation to our Prof. Priyanka Dhiman of BCA department for her valuable suggestions and encouragement in completion of our project. We would also like to express our gratitude to our principal Mr. Ram Krishan for providing all the required facilities to accomplish my assignment. Finally, we would like to thank our parents and friends, without them this project would not have been completed.

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SYNOPSIS

DemocraLink E-voting System

PROJECT OVERVIEW

DemocraLink is an innovative online voting system designed specifically for educational institutions, including schools, colleges, and institutes. This secure platform facilitates seamless and transparent elections, allowing students to actively participate in the democratic process.

With DemocraLink, the traditional paper-based voting system is replaced with a user-friendly digital interface, promoting efficiency and reducing environmental impact.

DemocraLink fosters a sense of civic responsibility among students, encouraging them to exercise their right to vote and take an active role in shaping the leadership of their educational institutions.

The main objective of the project work is

- User Friendly
- Real-time Monitoring
- Transparency
- Easy to use
- Efficiency and Paperless Operations

RATIONALE OF THE STUDY

DemocraLink aims to enhance the democratic process within these institutions by offering a digital platform for conducting elections.

DETAILED METHODOLOGY

Idea formulation stage

This is the initial stage where the general image of the development is drawn. During the ideation and formation stage of DemocraLink, the vision emerged to address a crucial need within educational institutions — to establish a secure, efficient, and transparent online voting system tailored specifically for the unique context of schools, colleges, and institutes. The conceptualization of DemocraLink was driven by a commitment to fostering democratic principles and encouraging active student participation in the electoral process.

The Planning stage

The planning stage will involve defining the user requirements, including features for candidate registration, voter accessibility, and result tracking. Consideration will be given to the user interface design, ensuring an intuitive and user-friendly experience for both candidates and voters. Security protocols will be a top priority, with the implementation of advanced measures to safeguard the integrity of the electoral process and protect against unauthorized access..

Design

The designing stage for the development of DemocraLink is a pivotal phase where the vision for an innovative and secure online voting platform begins to take shape. Our design process is characterized by a meticulous approach that prioritizes user experience, security, and functionality. The team focuses on creating an intuitive and visually appealing interface that ensures ease of navigation for both candidates and voters.

During this stage, we conduct thorough user research to understand the unique requirements of educational institutions and the diverse user base they serve. We, ensure that DemocraLink aligns seamlessly with the specific needs and preferences of schools, colleges, and institutes.

Coding and execution stage for front-end and back-end

In the development lifecycle of DemocraLink, the coding and execution stages for both the front-end and back-end play pivotal roles in crafting a seamless and secure online voting platform. During the front-end development, skilled developers focus on translating design concepts into interactive and user-friendly interfaces. This involves employing a variety of web technologies such as HTML, CSS, and JavaScript to create an intuitive and visually appealing voting experience for users.

The coding phase involves collaborative efforts between front-end and back-end developers to establish seamless communication between the user interface and the underlying server logic. This integration ensures a cohesive and responsive voting platform.

Testing

During the testing phase of DemocraLink development, our team focuses on ensuring that the online voting platform works smoothly and effectively. We use this phase to identify and fix any potential issues or bugs to guarantee a seamless experience for users. This includes checking the user interface for simplicity and clarity, validating the security measures to protect against unauthorized access, and confirming that the real-time result tracking functions accurately.

App trial stage

After the app is fully developed it should first be put into trial to check its viability. In this case, app developing experts should be hired so as to ensure the testing process is perfect. The best developers to hire are the iPhone's since they understand all the processes that are required in this stage. The quality of the app should be carefully determined in this stage. An expert understands

how to do so, through accurate testing. This involves using different devices or codes stimulator which allows for debugging.

LANGUAGE AND OPERATING SYSTEM:

PHP

PHP supports a wide array of databases, making it a popular choice for web developers working with database-driven applications. Its compatibility with MySQL, PostgreSQL, and other database management systems facilitates efficient data handling within web applications. Additionally, PHP is open-source, fostering a vibrant community of developers who contribute to its continuous improvement and expansion of functionalities.

PHP (Hypertext Preprocessor) is a powerful server-side scripting language widely used for web development. Originally designed for creating dynamic web pages, PHP has evolved into a versatile language suitable for a range of applications. Its syntax is easy to learn, resembling C and Perl, making it accessible for developers at various skill levels.

One of PHP's key strengths lies in its integration with HTML, allowing developers to embed PHP code directly within HTML documents. This seamless integration simplifies the process of creating dynamic and interactive web pages, where PHP scripts can generate content based on user input or other dynamic factors.

PHP is a versatile and user-friendly scripting language that empowers developers to build dynamic, interactive, and database-driven web applications. Its integration with HTML, support for various databases, and open-source nature contribute to its widespread use and continued relevance in the ever-evolving landscape of web development.

MYSQL

- **Developers:** MySQL was initially developed by a Swedish company called MySQL AB. The primary contributors included Michael "Monty" Widenius, David Axmark, and Allan Larsson. MySQL is currently owned by Oracle Corporation, following its acquisition of Sun Microsystems in 2010.

- **Open Source:** MySQL is an open-source relational database management system (RDBMS), allowing users to access and modify the source code. This open nature has contributed to its widespread adoption and continuous community-driven development.

- **Origin and Initial Release:** MySQL was first released in 1995. Its development was motivated by the need for a robust and efficient database solution for web applications.

- **Language Support:** MySQL supports multiple programming languages, making it versatile for developers. Commonly used languages include PHP, Python, Java, and others.

- **Cross-Platform Compatibility:** MySQL is designed to run on various operating systems, including Linux, Windows, macOS, and more, providing flexibility in deployment.

HTML (Hypertext Markup Language):

HTML, or Hypertext Markup Language, serves as the backbone of web development by providing the structural foundation for web pages. Developed by Sir Tim Berners-Lee in 1991, HTML enables the creation of a structured document using a series of tags, each serving a specific purpose. These tags define the different elements on a webpage, such as headings, paragraphs, images, links, and more.

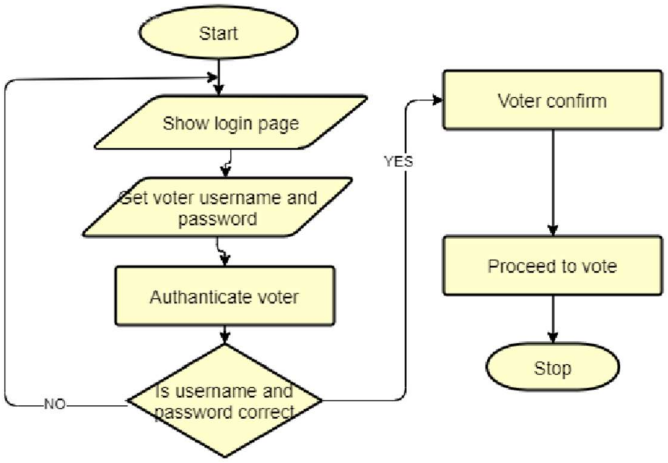
CSS (Cascading Style Sheets):

CSS, or Cascading Style Sheets, is a stylesheet language that complements HTML by controlling the presentation and layout of web pages. Proposed by Håkon Wium Lie in 1994, CSS allows developers to define the visual styling of HTML elements. Developers can apply styles such as colors, fonts, spacing, and responsiveness .The "cascading" nature of CSS allows styles to be inherited and overridden, providing a systematic approach to design and layout in web development.

JavaScript:

JavaScript, often abbreviated as JS, emerged in 1995 as a dynamic scripting language designed to bring interactivity to web pages. Developed by Brendan Eich at Netscape, JavaScript allows developers to manipulate the Document Object Model (DOM), dynamically updating content and responding to user actions. As a client-side scripting language, JavaScript runs directly in the user's browser, reducing server load and enabling real-time interactions. JavaScript's versatility and compatibility across browsers have made it an integral part of modern web development, contributing to the creation of dynamic and responsive user interfaces.

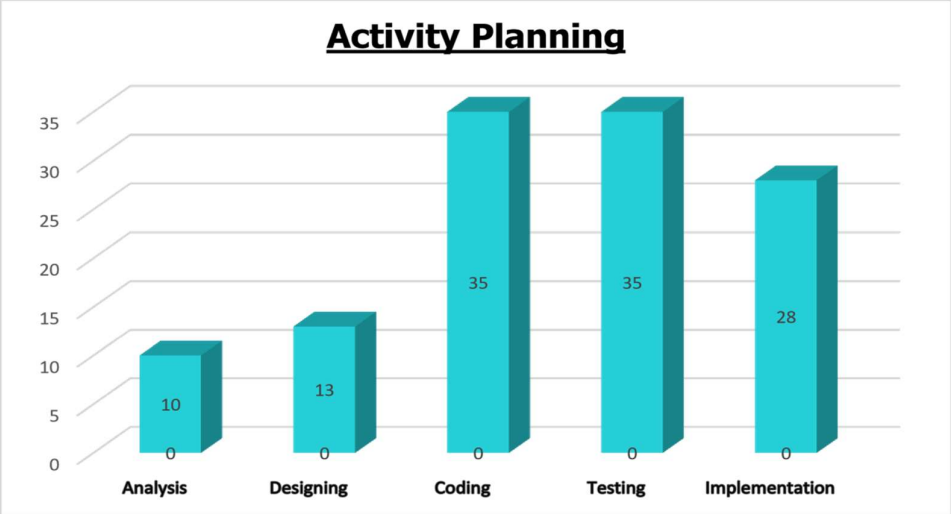
Data flow diagram



ACTIVITIES TO BE CARRIED OUT TO COMPLETE THE PROJECT

- Software development according to the specification
- Software testing for functioning and acceptance
- Software implementation
- Software maintenance is the ongoing process.

Activity Planning (Bar Chart)



LAB EQUIPMENTS AND TOOLS REQUIRED

HARDWARE REQUIREMENTS

- **FOR DEVELOPMENT**

  Processor: Intel Pentium i3 or higher

  RAM: 4GB

  Space on disk: 256MB (at the least)

- **For running on a device:**

  Device: Phone , Microsoft Windows or macOS

  Disk space: 1GB (at the least)

SOFTWARE REQUIREMENTS

- **FOR DEVELOPMENT**

  Windows Operating System and MacOS

- **For running on a device**

  Internet requirement

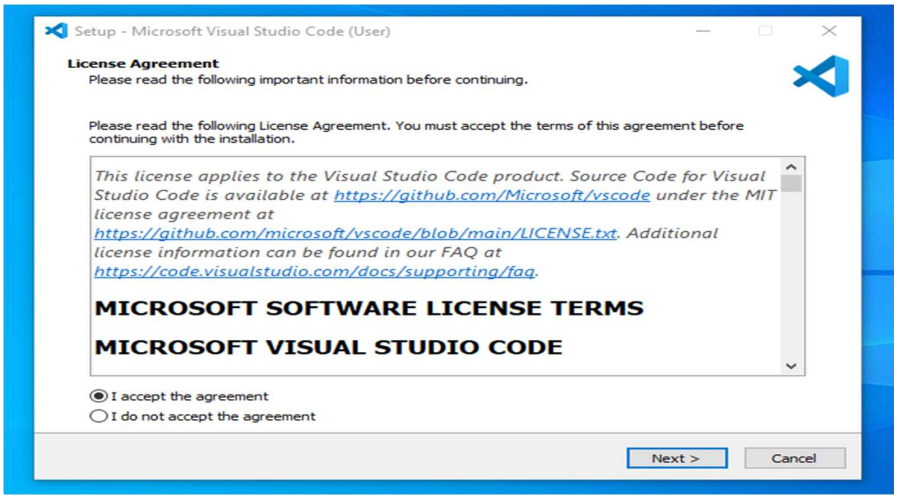
  Dedicated system: Any internet Browser

REQUIREMENT IN WEBSITE DEVELOPMENT

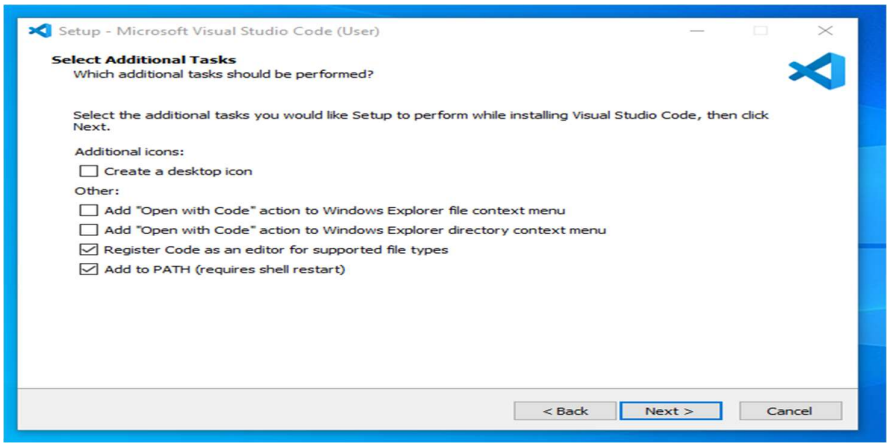
- Web Server Software
- Database Management System (DBMS)
- Front-End Frameworks
- IDE: - Integrated Development Environment
- Programming Language

INSTALLATION PROCEDURE

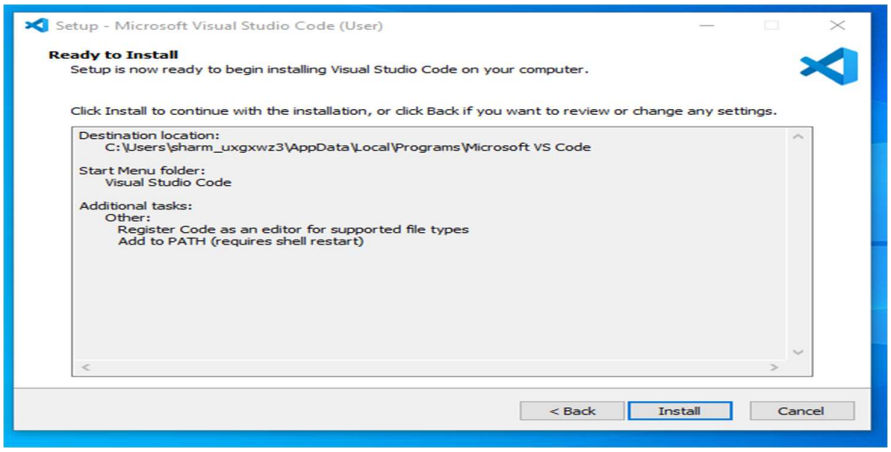
- Open the folder where you downloaded and saved the Visual Studio code installation file.
- Double-click the downloaded file.
- If you see a **User Account Control** dialog about allowing the installation to make changes to your computer, click **Yes** to confirm the installation.
- After the Installer opens, it will ask you for accepting the terms and conditions of the Visual Studio Code. Click on **I accept the agreement** and then click the **Next** button.



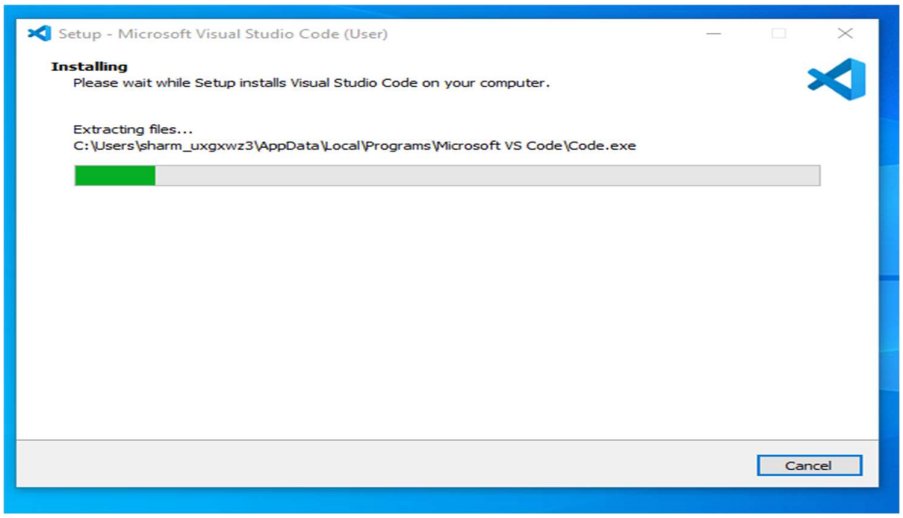
- Choose the location data for running the Visual Studio Code. It will then ask you for browsing the location. Then click on **Next** button.



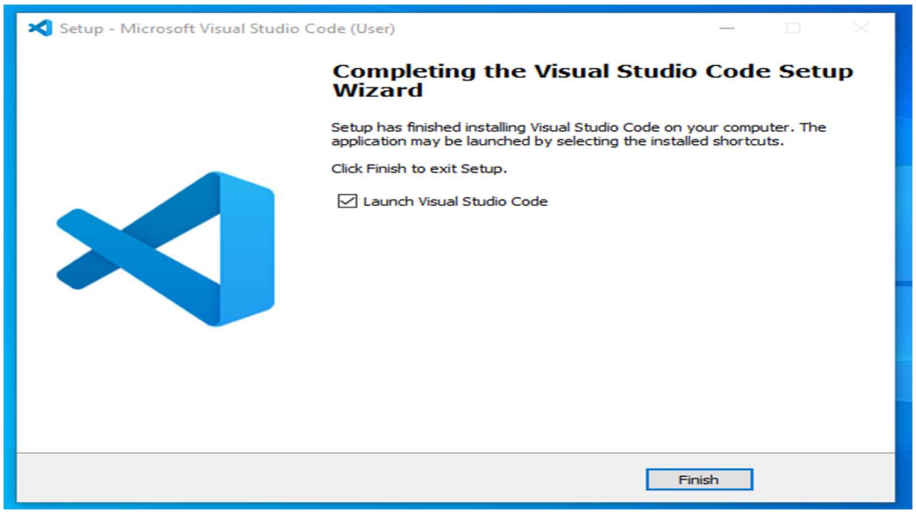
- Then it will ask for beginning the installing setup. Click on the **Install** button.



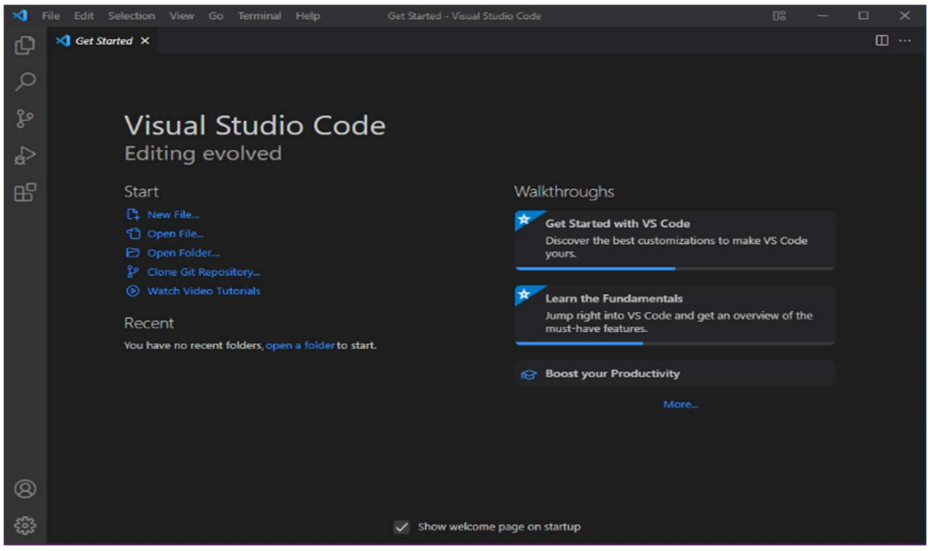
- After clicking on Install, it will take about 1 minute to install the Visual Studio Code on your device.



- After the Installation setup for Visual Studio Code is finished, it will show a window like this below. Tick the "**Launch Visual Studio Code**" checkbox and then click **Next**.



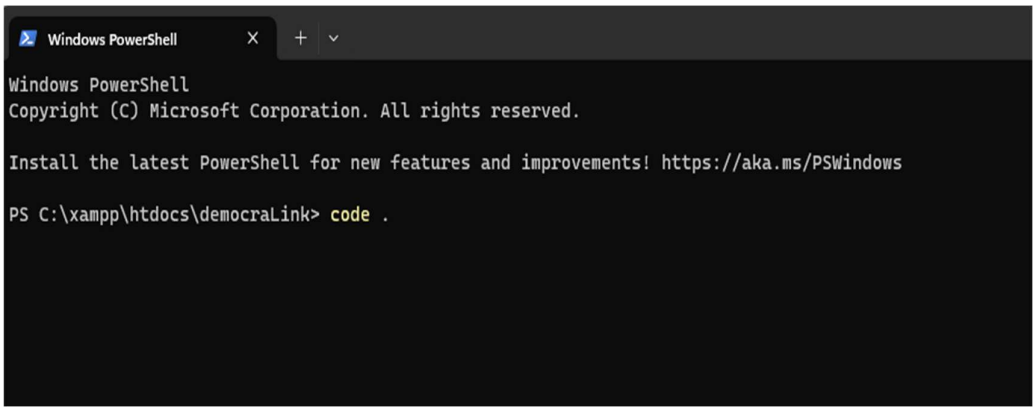
- After the previous step, the **Visual Studio Code window** opens successfully. Now you can create a new file in the Visual Studio Code window and choose a language of yours to begin your programming journey!



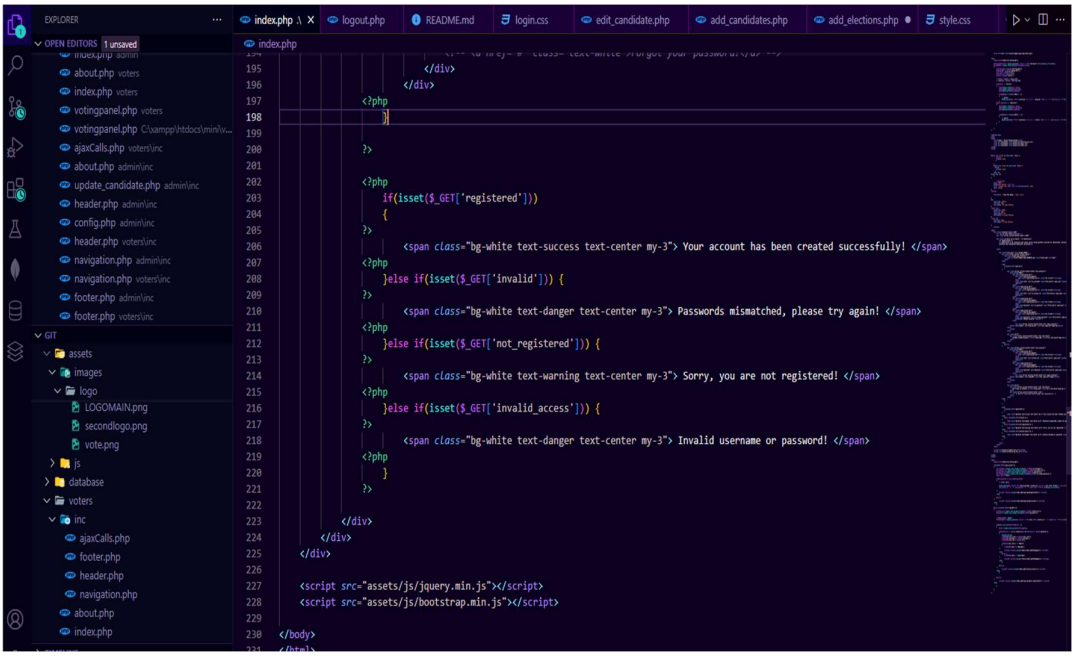
- So this is how we successfully installed **Visual Studio Code** on our Windows system.

WEBSITE RUNNING PROCESS

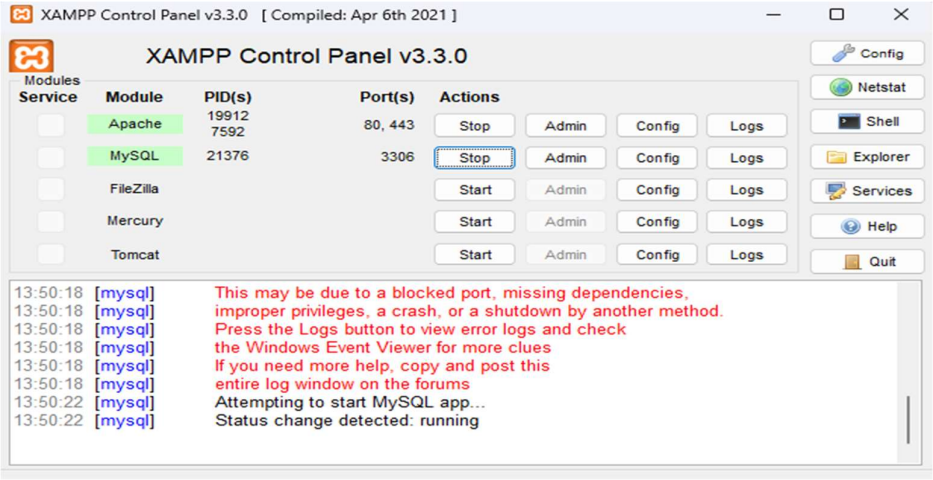
- Then Using Windows PowerShell , open the project folder in code editor (vs code) using a command line “code .”



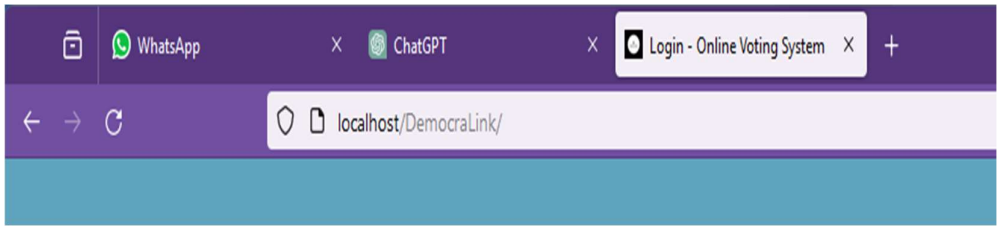
- Then the code editor will appear and we can make changes in our code .



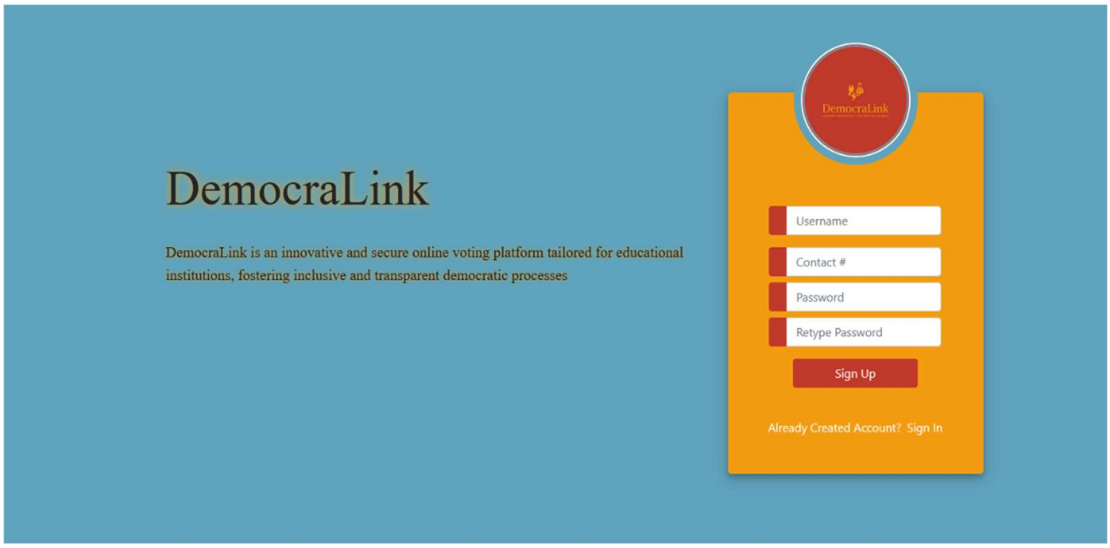
- To run the project in localhost just start XAMPP and start Apache and MySQL



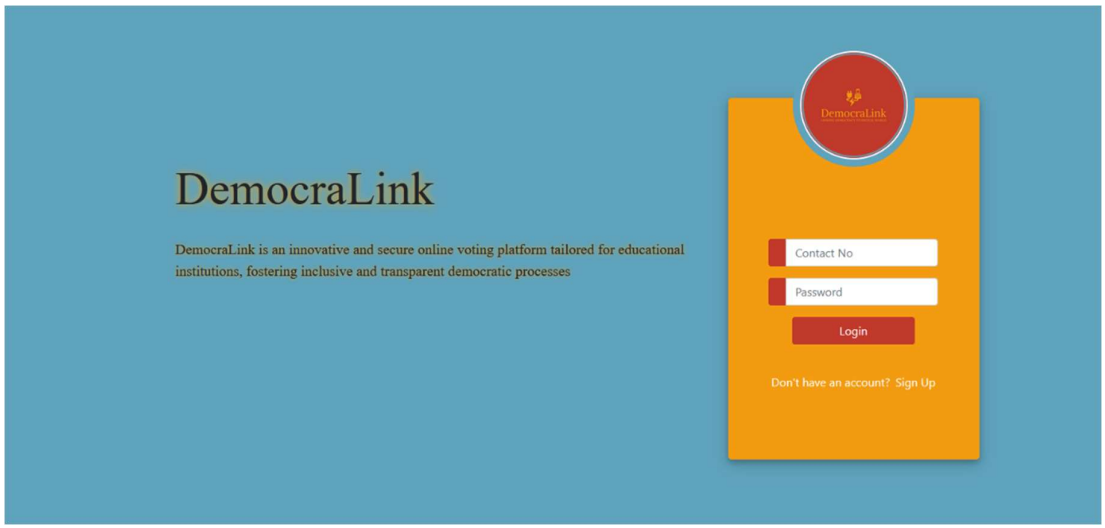
- Then go to any browser and in the search bar type “localhost/address of file/” and click Enter and the project will appears on screen



PROJECT DESIGN

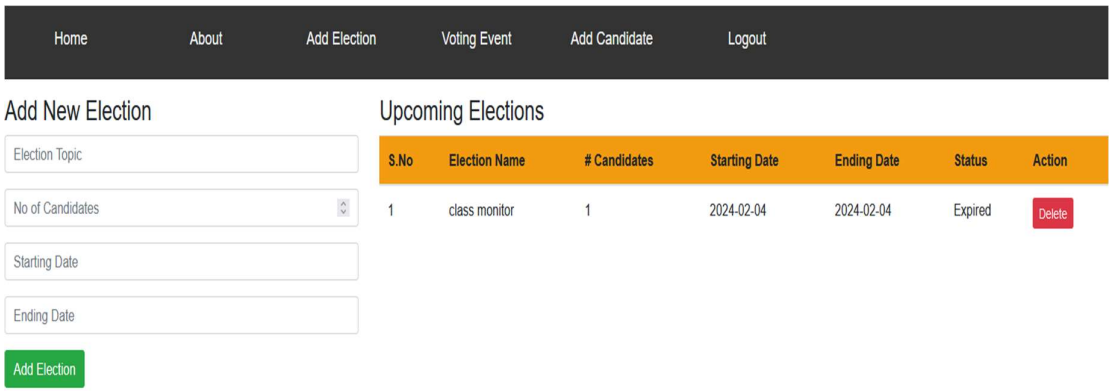


(register page)



(Login page)

(Home page)



(Add election Page)

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