

MINI PROJECT- I - FINAL REPORT

On

“VClub- Social Networking”

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Declaration

We hereby declare that the work which is being presented in the Mini Project-I “VClub”, in fulfillment of the requirements for Mini Project-I viva voce, is an authentic record of our own work carried by the team members under the supervision of our mentor Mr. Akash Kumar Chaudhary

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CERTIFICATE

This is to certify that the above statements made by the candidates are correct to the best of my/our knowledge and belief.

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About the Project

This project is a web based application which aims to provide a platform for the people in respect with their interest to talk to people across the globe and hone their skills also sharing some values to society.

Requirements

a). Software Requirements:

- Technology Implemented: Agora
Languages/Technologies Used: HTML, CSS, Agora, JavaScript
- IDE Used: Visual Studio Code
- Web Browser: Google Chrome / Mozilla Firefox / Microsoft Edge
- GitHub: GitHub is a code hosting platform for version control and collaboration. It lets you and others work together on projects from anywhere. GitHub Repository: A GitHub repository can be used to store a development project. It can contain folders and any type of files (HTML, CSS, JavaScript, Documents, Data, Images). A GitHub repository should also include a license file and a README file about the project. A GitHub repository can also be used to store ideas, or any resources that you want to share.

b). Hardware Requirements:

- Processor Required: Pentium 4 or above
- Operating System: Windows 7 and above
- RAM: 2GB and above
- Hardware Devices: Computer System
- Hard Disk: 10 GB or above

Acknowledgement

Presenting the ascribed project paper report in this very simple and official form, we would like to place my deep gratitude to GLA University for providing us the instructor Mr. Akash Chaudhary, our technical trainer and supervisor.

He has been helping us since Day 1 in this project. He provided us with the roadmap, the basic guidelines explaining on how to work on the project. He has been conducting regular meeting to check the progress of the project and providing us with the resources related to the project. Without his help, we wouldn't have been able to complete this project.

And at last, but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also my colleagues who helped me find resources during the training.

Thanking You

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VClub

Abstract

In this project, we are creating Video Calling website which we have named VClub. The Online Video chat is a web-based application intended for online community. The main objective of this application is to make it interactive and easy to communicate.

It would make Video calling, chatting and communication between people. It contains a sophisticated Video calling SDK for users to call and join the meeting. The Video Call provides an easy and convenient way to call for user and call other users simultaneously and also the User-friendly User Interface. The user can easily join the meeting and have the communication without any software requirement. They can also chat using this web app inside the meeting. The application also provides a better communication system by using Agora as an SDK provider.

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Chapter 1

Introduction

HTML-

HTML stands for **H**yper**t**ext **M**arkup **L**anguage, and it is the most widely used language to write Web Pages.

Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus, the link available on a webpage is called Hypertext.

As its name suggests, HTML is a **Markup Language** which means you use HTML to simply "mark-up" a text document with tags that tell a Web browser how to structure it to display.

Originally, HTML was developed with the intent of defining the structure of documents like headings, paragraphs, lists, and so forth to facilitate the sharing of scientific information between researchers.

Now, HTML is being widely used to format web pages with the help of different tags available in HTML language.

HTML is the *language* for publishing web pages on the WWW (World-Wide Web).

HTML is a *Document Description Language* (aka *Document Markup Language*). HTML is NOT a programming language like C/C++/C#/Java, which is used to implement programming algorithm.

You need a web browser to view the HTML pages. The web browsers do not display the HTML tags, but uses the tags to interpret the content of the web pages.

An HTML document is a text document, and it is human-readable.

HTML was originally developed by **Tim Berners-Lee in 1990**. He is also known as the father of the web. In 1996, the World Wide Web Consortium (W3C) became the authority to maintain the HTML specifications. HTML also became an international standard (ISO) in 2000.

CSS-

CSS is short for **C**ascading **S**tyle **S**heets, and is the preferred way for setting the look and feel of a website. Cascading Style Sheets (CSS) is a markup language responsible for how your web pages will look like. It controls the colors, fonts, and layouts of your website elements

This style sheet language also allows you to add effects or animations to your website. You can use it to display some CSS animations like click button

effects, spinners or loaders, and animated backgrounds. Without CSS, your website will appear as a plain HTML page.

The cascading means that a style applied to a parent element will also apply to all children elements within the parent. For example, setting the colour of body text will mean all headings and paragraphs within the body will also be the same colour.

JAVASCRIPT-

JavaScript is a **client-side scripting language** of web developed by **Netscape** in 1995 with the name **LiveScript**. **JavaScript** is used to build **interactive websites** with **dynamic** features and to **validate form data**. JavaScript is **high-level, dynamic** and **browser interpreted** programming language, supported by all modern web browsers. Apart from web browser, JavaScript is also used to build scalable web applications using Node JS. JavaScript is also being used widely in game development and Mobile application development.

JavaScript is also known as the **Programming Language of web** as it is the only programming language for Web browsers. JavaScript is *an object-based scripting language* which is lightweight and cross-platform. The programs in this language are called scripts. They can be written right in a web page's HTML and run automatically as the page loads. Scripts are provided and executed as plain text. They don't need special preparation or compilation to run. The browser has an embedded engine sometimes called a "JavaScript virtual machine"

JavaScript is the widely used programming language, all over the world. It has the largest open-source package repository in the world (npm). Every type of software uses JavaScript, including the server code (Node.js), productivity apps, 3D games, robots, **IoT devices**. JavaScript has achieved the goal, set by Java a long time ago: write once, run anywhere. There are various JavaScript uses in different segments.

JavaScript History

WWW was formed in 1990. Initially, it was a bunch of web-pages linked together. But soon people want more interactive websites. So on-demand of Netscape, **Brenden Eich**, (*inventor of JavaScript*) in 1995 invented a prototype based (*Class/ess*) language for their Navigator Browser. Initially, it was called "**LiveScript**", but later on renamed as " **JavaScript** ".

In today's world, **JavaScript** is the Topmost demanding technology as it can handle both front end and Back-end.

Pre-requisite

Hands-on knowledge of JavaScript, HTML and CSS is essential before working on the concepts for making of webpages. Make sure that you have the browser or chrome installed and running before opening website.

Chapter 2

Technologies Used

Agora-

To make real-time engagement ubiquitous, allowing everyone to interact with anyone, anytime and anywhere.

Agora is the leading video, voice and live interactive streaming platform, helping developers deliver rich in-app experiences—including embedded voice and video chat, realtime recording, interactive live streaming, and real-time messaging.

VS CODE-

Visual Studio Code is a source-code editor that can be used with a variety of programming languages, including [Java](#), [JavaScript](#), [Go](#), [Node.js](#), [Python](#) and [C++](#). It is based on the [Electron](#) framework, which is used to develop [Node.js Web applications](#) that run on the [Blink layout engine](#). Visual Studio Code employs the same editor component (codenamed "Monaco") used in [Azure DevOps](#) (formerly called Visual Studio Online and Visual Studio Team Services).

Instead of a project system, it allows users to open one or more directories, which can then be saved in workspaces for future reuse. This allows it to operate as a [language-agnostic](#) code editor for any language. It supports a number of programming languages and a set of features that differs per language. Unwanted files and folders can be excluded from the project tree via the settings. Many Visual Studio Code features are not exposed through menus or the user interface but can be accessed via the command palette.

Visual Studio Code can be extended via [extensions](#),¹ available through a central repository. This includes additions to the editor and language support.¹ A notable feature is the ability to create extensions that add support for new [languages](#), [themes](#), and [debuggers](#), perform [static code analysis](#), and add [code linters](#) using the [Language Server Protocol](#).

Visual Studio Code includes multiple extensions for [FTP](#), allowing the software to be used as a free alternative for web development. Code can be synced between the editor and the server, without downloading any extra software.

Visual Studio Code allows users to set the code page in which the active document is saved, the newline character, and the programming language of the active document. This allows it to be used on any platform, in any locale, and for any given programming language

GOOGLE CHROME-

Google Chrome is a cross-platform web browser developed by Google. It was first released in 2008 for Microsoft Windows, built with free software components from Apple WebKit and Mozilla Firefox.^[13] It was later ported to Linux, macOS, iOS, and Android, where it is the default browser.^[14] The browser is also the main component of Chrome OS, where it serves as the platform for web applications.

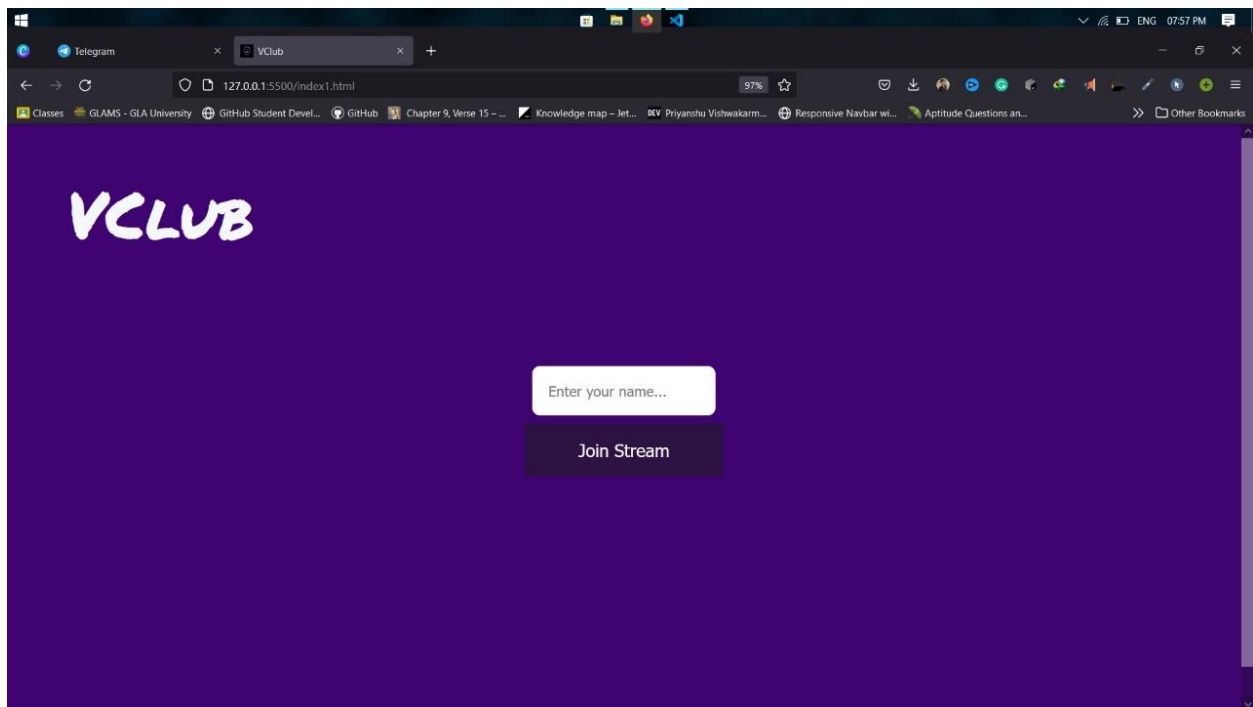
Most of Chrome's source code comes from Google's free and open-source software project Chromium, but Chrome is licensed as proprietary freeware.^[12] WebKit was the original rendering engine, but Google eventually forked it to create the Blink engine;^[15] all Chrome variants except iOS now use Blink.^[16]

As of October 2021, StatCounter estimates that Chrome has a 68% worldwide browser market share (after peaking at 72.38% in November 2018) on personal computers (PC),^[17] is most used on tablets (having surpassed Safari), and is also dominant on smartphones,^{[18][19]} and at 65% across all platforms combined.^[20] Because of this success, Google has expanded the "Chrome" brand name to other products: Chrome OS, Chromecast, Chromebook, Chromebit, Chromebox, and Chromebase

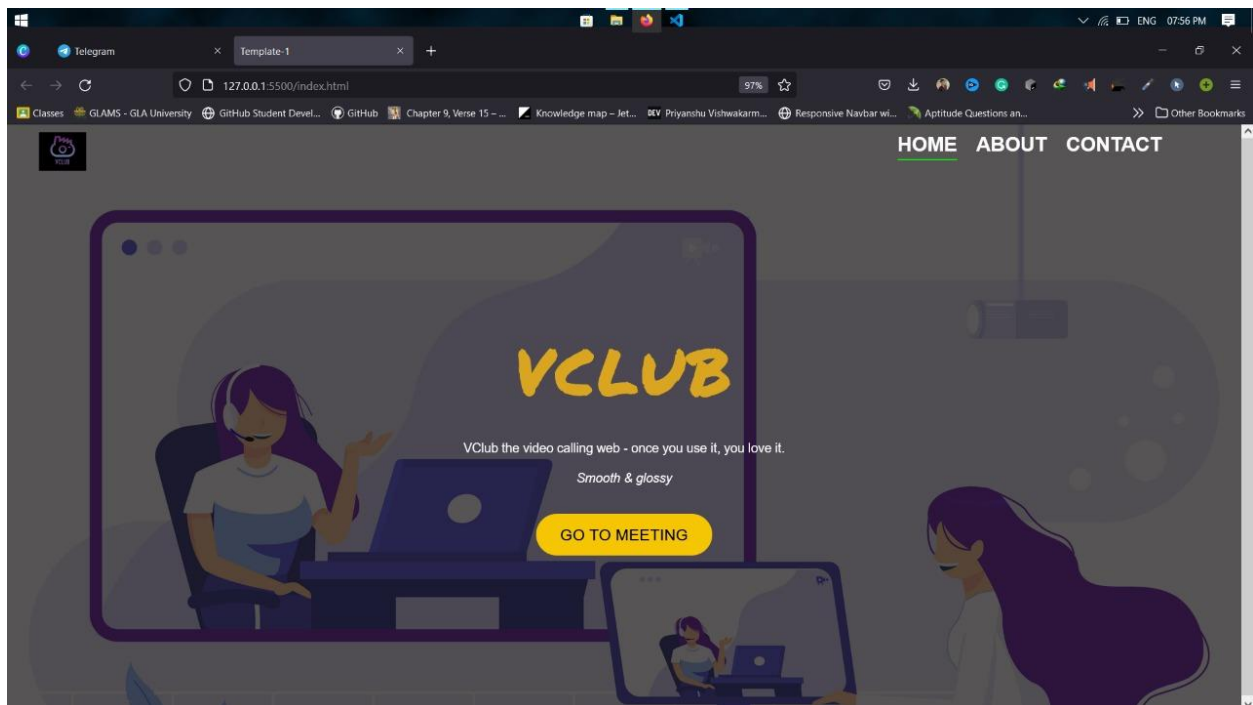
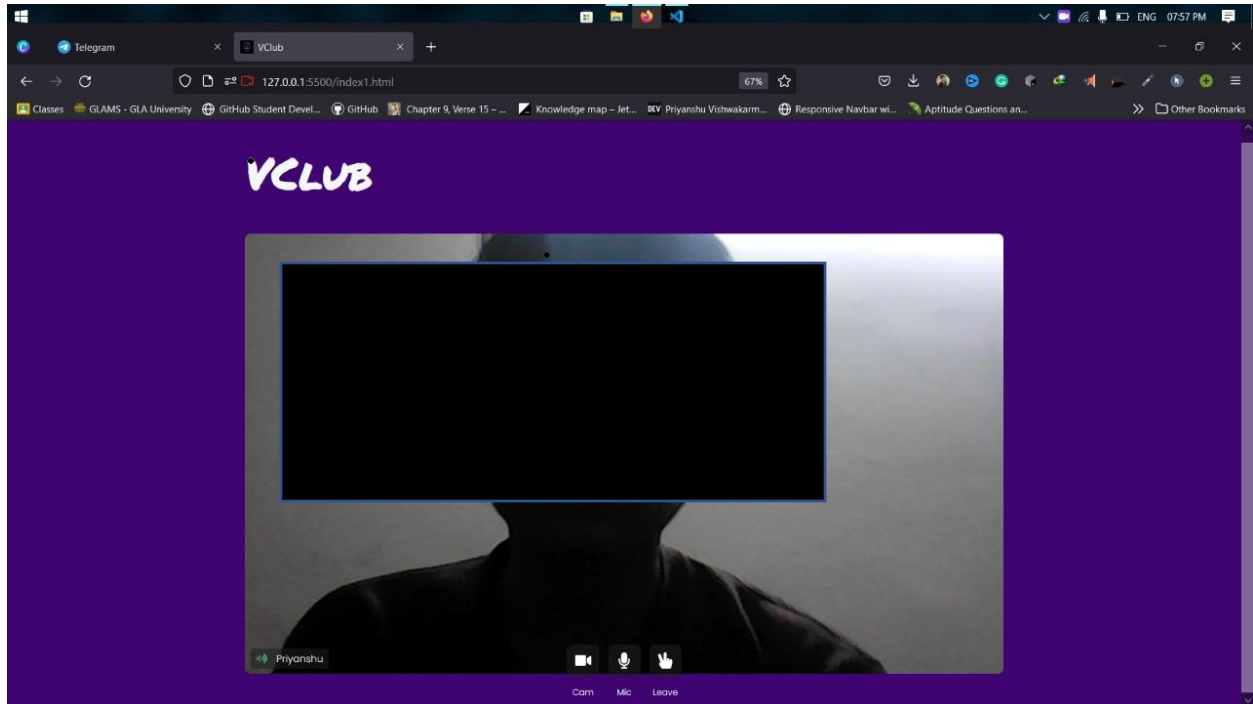
Chapter 3

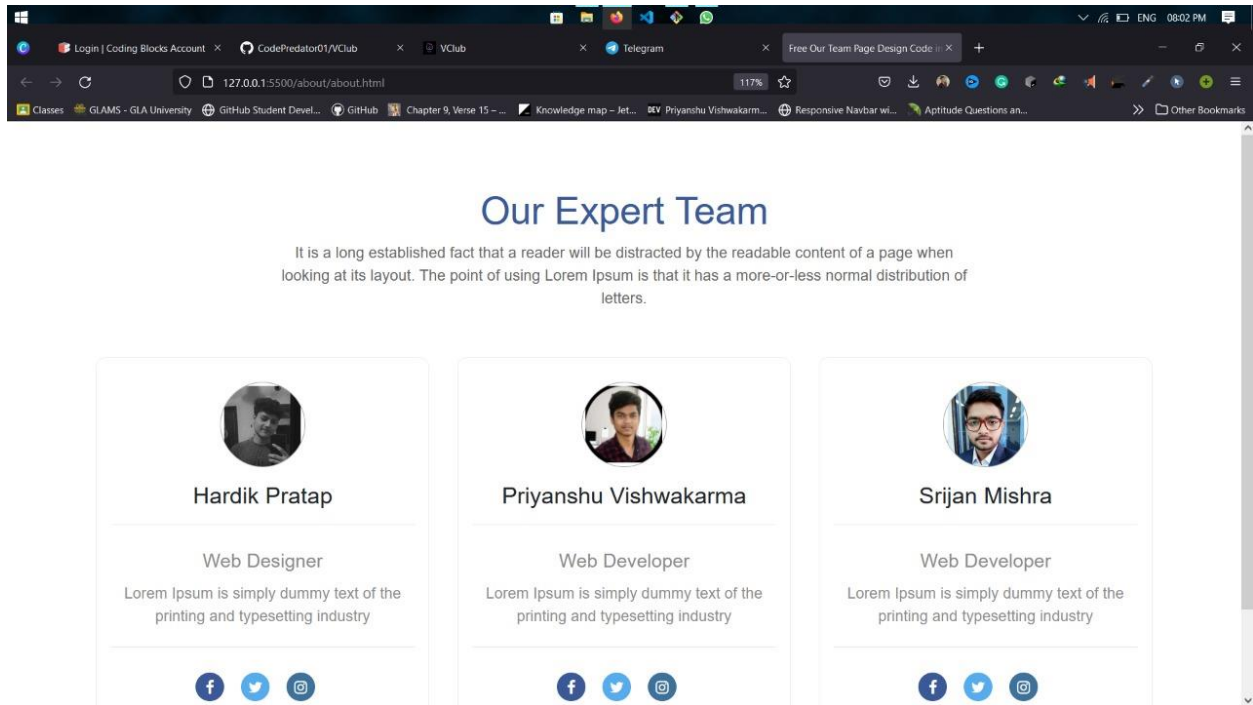
List of Figures

Interface:



After Joining the meeting:





Chapter 4

Software Testing

Once source code has been generated, software must be tested to uncover as many errors as possible before delivery. It is very important to work the system successfully and achieve high quality of software. Testing include designing a series of test cases that have a high likelihood of finding errors by applying software-testing techniques. System testing makes logical assumptions that if all the parts of the system are correct, the goal will be successfully achieved. The system should be checked logically. Validations and cross checks should be there. Avoid duplications of record that cause redundancy of data. In other Words, Testing is the process of evaluating a system or its component(s) with the intent to find whether it satisfies the specified requirements or not. It is executing a system in order to identify any gaps, errors, or missing requirements in contrary to the actual requirements.

The preliminary goal of implementation is to write source code and internal documentation so that conformance of the code to its specifications can be easily verified, and so that debugging, testing and modifications are eased. This goal can be achieved by making the source code as clear and straightforward as possible. Simplicity, clarity and elegance are the hallmark of good programs, obscurity, cleverness, and complexity are indications of inadequate design and misdirected thinking. Source code clarity is enhanced by structured coding techniques, by good coding style, by, appropriate supporting documents, by good internal comments,

and by feature provided in modern programming languages. The implementation team should be provided with a well-defined set of software requirement, an architectural design specification, and a detailed design description. Each team member must understand the objectives of implementation.

4.1 TERMINOLOGY

Error The term error is used in two ways. It refers to the difference between the actual output of software and the correct output, in this interpretation, error is essential a measure of the difference between actual and ideal. Error is also used to refer to human action that result in software containing a defect or fault.

Fault is a condition that causes to fail in performing its required function. A fault is a basic reason for software malfunction and is synonymous with the commonly used term Bug.

Failure is the inability of a system or component to perform a required function according to its specifications. A software failure occurs if the behavior of the software is the different from the specified behavior. Failure may be caused due to functional or performance reasons.

4.2 TYPES OF TESTING

a. Unit Testing The term unit testing comprises the sets of tests performed by an individual programmer prior to integration of the unit into a larger system. A

program unit is usually small enough that the programmer who developed it can test it in great detail, and certainly in greater detail than will be possible when the unit is integrated into an evolving software product. In the unit testing the programs are tested separately, independent of each other. Since the check is done at the program level, it is also called program teasing.

b. Module Testing A module and encapsulates related component. So can be tested without other system module.

c. Subsystem Testing Subsystem testing may be independently design and implemented common problems are sub-system interface mistake in this checking we concenton it. There are four categories of tests that a programmer will typically perform on a program unit.

i Functional test

ii Performance test

iii Stress test

iv Structure test

Functional Test Functional test cases involve exercising the code with Nominal input values for which expected results are known; as well as boundary values (minimum values, maximum values and values on and just outside the functional boundaries) and special values.

Performance Test Performance testing determines the amount of execution time spent in various parts of the unit, program throughput, response time, and device utilization by the program unit. A certain amount of avoid expending too much effort on fine-tuning of a program unit that contributes little to the overall

performance of the entire system. Performance testing is most productive at the subsystem and system levels.

Stress Test Stress test are those designed to intentionally break the unit. A great deal can be learned about the strengths and limitations of a program by examining the manner in which a program unit breaks.

Structure Test Structure tests are concerned with exercising the internal logic of a program and traversing particular execution paths. Some authors refer collectively to functional performance and stress testing as “black box” testing. While structure testing is referred to as “white box” or “glass box” testing. The major activities in structural testing are deciding which path to exercise, deriving test data to exercise those paths, determining the test coverage criterion to be used, executing the test, and measuring the test coverage achieved when the test cases are exercised.

Chapter 5

Conclusion

We have completed our project within time limit with the coordination of our team members under the supervision of our mentor Mr. Akash Kumar Chaudhary.

Our project repository is available at

<https://github.com/CodePredator01/VClub>

Chapter 6

Bibliography

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