Project Synopsis

On

# Real Time Chatting WebApp

Submitted as a part of course curriculum for

## Bachelor of Technology Computer Science

### In



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**2022-2023**

### DECLARATION

We hereby declare that this submission is our work and that, to the best of our knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgement has been made in the text.

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ABSTRACT

The purpose of chat webapp is to automate the existing manual system by the help of computerized equipments and full-fledged computer software, fulfilling the requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with. Real time chat webapp, as described above, can lead to error free, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information. The aim is to automate its existing manual system by the help of computerized equipments and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically the project describes how to manage for good performance and better services for the clients.

### INTRODUCTION

Teleconferencing or Chatting, is a method of using technology to bring people and ideas “together” despite of the geographical barriers. The technology has been available for years but the acceptance it was quit recent. Our project is an example of a chat server. It is made up of 2 applications the client application, which runs on the user’s Pc and server application, which runs on any Pc on the network. To start chatting client should get connected to server where they can practice two kinds of chatting, public one (message is broadcasted to all connected users) and private one (between any 2 users only) and during the last one security measures were taken. The “Real time chat webapp” has been developed to override the problem prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner. The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Real time chat webapp, as described above, can lead to error free, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. Every organization, whether big or small, has challenges to overcome and managing the information of Chat app, Online chat, Chat profile, Users. Every online chat application has different Online chat needs, therefore we design exclusive employee management system that are adapted to your management requirements. This is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. Also, for those busy executive who are always on the go, our systems come with remote access features, which will allow you to manage your workforce anytime, at all times. These systems will ultimately allow you to better manage resources

### PROBLEM STATEMENT

1.All the chat apps are highly encrypted so we cannot access it without having personal login credentials but here we can access it by using any remote desktop or any devices.

2.All the chat apps are two-way communications but this is an open source communication.

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### OBJECTIVE

* This is a chat webapp in which you can access it from anywhere at any instance of time. This is the live platform in which random people can come together through links and can give their opinions and share their views regarding the subjects..   
  The Idea is to give people a space where they can chat freely with more features than other applications.
* • How does sockets work?  
    
   A socket has a typical flow of events. In a connection-oriented client-to-server model, the socket on the server process waits for requests from a client. To do this, the server first establishes (binds) an address that clients can use to find the server. When the address is established, the server waits for clients to request a service. The client-to-server data exchange takes place when a client connects to the server through a socket. The server performs the client's request and sends the reply back to the client.  
    
    
  This is a typical flow of events for a connection-oriented socket:
* The socket() API creates an endpoint for communications and returns a socket descriptor that represents the endpoint. When an application has a socket descriptor, it can bind a unique name to the socket. Servers must bind a name to be accessible from the network. The listen() API indicates a willingness to accept client connection requests. When a listen() API is issued for a socket, that socket cannot actively initiate connection requests. The listen() API is issued after a socket is allocated with a socket() API and the bind() API binds a name to the socket. A listen() API must be issued before an accept() API is issued. The client application uses a connect() API on a stream socket to establish a connection to the server. The server application uses the accept() API to accept a client connection request. The server must issue the bind() and listen() APIs successfully before it can issue an accept() API. When a connection is established between stream sockets (between client and server), you can use any of the socket API data transfer APIs. Clients and servers have many data transfer APIs from which to choose, such as send(), recv(), read(), write(), and others. When a server or client wants to stop operations, it issues a close() API to release any system resources acquired by the socket

TOOLS AND TECHNOLOGY

This website entitled REAL TIME CHATTING WEBAPP has been developed on the following configurations: ➢ Hardware Used  
 ❑Pentium4 Processor or above.   
❑ 250 GB HDD or above.

❑ 1 GB RAM or above.  
 ➢ Software Used  
 ❑ Virtual Studio Code   
❑ Node.JS ❑ Javascript ❑ Socket.IO ➢ Operating System ❑ Windows 7 or above.

**Libraries Used are:**

**Pandas Streamlit**

**Regex**

**Seaborn**

**Wordcloud**

**Urlextract**

**Emoji**

LITERATURE REVIEW

1->The Role of Responsive Design in Web Development (2017)

->This paper discusses about role of responsive website.

* Responsive design allows software developers to build a Web page that can dynamically adapt to the size of the devices.

The evolution of Web paradigm: -

* The first phase of the Web, known as Web 1.0, is characterized by static content publishing, in which users had the power to only consume the content placed by companies. At that time, there was no bidirectional communication between the client and a company, and email emerged as the primary form of digital contact between these two entities. Web 1.0 is characterized by its low interactivity
* Web 2.0 includes a large and diverse panoply of services, such as social networks, blogs and wikis, that promote collaboration and the fast exchange of information among users. Andriole (2010) states that Web 2.0 has helped companies to become more competitive and position themselves in the marketplace. The main advantage associated with Web 2.0 is its potential in establishing collaboration, and the main disadvantage is the loss of control of the shared information.
* Web 3.0 emerged as a new paradigm that allowed companies to explore this information about users, to identify trends and optimize their experiences on the Web. With the appearance of the Web 3.0 has become much easier to find relevant information on a given subject. However, as a major disadvantage, it can appear security issues, such as unauthorized access and manipulation of data.
* Web 4.0 proposes a new model of interaction that is more complete, dynamic, and personalized, in which there is a symbiotic interaction between humans and machines.

2-> Journal of Engineering Design (2007)

• According to the research paper, Virtual reality (VR) is a tool that today is used by experts in the performance of mechanical engineering and industrial design. VR has especially found its use in the automotive industry. • This research paper focuses on what is needed for the use of already existing VR files as web applications with the aim of spreading the use of VR applications to a wider group of people than engineers and designers. • A natural way to reach more stakeholders is by taking advantage of the Internet and the development of so-called content management systems (CMS) for the administration of web pages with VR applications. • Technically, a CMS is placed on a web server in parallel with the public web page. Thus, the CMS is computer independent as long as an Internet connection exists to the PC/Laptop in use. • A few of the benefits from combining VR and the web are: i. When a new product concept is developed combining VR and the web, different ideas can be tested and judged faster using web technology than would otherwise be the case. ii. VR also provides us with a greater range of opportunities when presenting information. iii. By using VR applications over the web the understanding gap can be reduced as well as the transfer cost from one production situation to another iv. VR as a communication tool can also be valuable in the marketing and selling of standard products and turn-keyproducts • The research paper showed that by combining a content management system and a VR file transformed as a compressed VR file, the VR application can be used as an ordinary web application.

**3->** Research on HTML5 in Web Development. (2017)

HTML5 is everywhere these days. HTML5 is the new and elegant standard for HTML that provides web users and developers enhanced functionality. The older versions of HTML, HTML 4.01, which came in 1999, and the web development have changed notably since then. HTML 4, XHTML, CSS and the HTML DOM Level 2 are now replaced with HTML5. It was brought to deliver rich content without the need for additional plug-ins and proprietary technologies. The new power of HTML5 supplies the user everything from animation to graphics, music to movies, and can also be used to build complicated web applications and supports cross-platform. HTML5 standard initiates the development of real-time collaborations in web browsers, which leads to less work for web developers.

HTML5 introduces new elements and features that allow developers to improve interoperability, handling elements in a precise way saving time and costs. HTML5 is an awesome technology and has the possibility to make the web even more predominant and extensive as it is today from desktop computers to mobile devices and in the future maybe even domestics appliances. The potential of HTML5 will soften the line between desktop and online applications.

**4->** The Mungi Single-Address-Space Operating System (1988)

• This paper presents the Mungi system. The basic abstractions provided by Mungi are capability, object, task, thread, and protection domain. • Mungi is a pure SASOS in that it provides no inter-process communication facility other than shared memory (plus semaphores for synchronisation). Furthermore, there are no explicit system calls to support I/O in Mungi. • The Mungi API is implemented as an L4 userlevel server. The main role of the server is to maintain the Mungi attributes of tasks, threads and objects. As well, it is responsible for enforcing the Mungi protection and addressing model. • The implementation of Mungi (written almost entirely in C) is easily portable between different hardware architectures (and L4 implementations). As the number of L4 implementations increases, so do the platforms on which Mungi is available. • Experience with L4 implementations suggested high-performance approaches to issues such as context switching, scheduling, thread creation and destruction etc. This significantly reduced the time spent in developing the lowest software levels. • The paper shows that Mungi clearly outperforms UNIX operating systems on some of the most important basic operations, as well as on an IPC-intensive benchmark of database operations.

5-> New technologies for web design. (2010)

The paper gives an overview of the new features of web technologies. The general idea of the new version of HTML (Hyper Text Markup Language), i.e. HTML5, and other tools presented in this paper is the formal specification and the establishment of uniform solutions for technologies and functionalities which have already been in use through various hacks and plug-ins proposed by web developers. Many of these functionalities will now be implemented in browsers. The applications can access these functionalities through newly defined application programming interfaces. The latter include support for multimedia, dynamic graphic rendering, geolocation, multithreading, local data storage etc. HTML5 also introduces semantic markup, which can be used for marking the document structure as well as its elements and data. The new version of HTML enforces strict separation of the page content from its style. The styling can only be done using CSS (Cascading Style Sheets) language. The new CSS version, i.e. CSS3, has a modular structure, in which different modules define different styling features. The development cycles of the individual modules are independent as well as their support and implementation in various browsers.

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