**Synopsis on**

**Real Time Chat Application**

**For**

**TDPVista**

**By**

**PRITAM SANJAY MAGDUM**

**Submitted to**

**SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE**

**For the partial fulfillment of the internal credit work of**

**MASTER OF COMPUTER APPLICATION SEM – III**

**Under the guidance of**

**Prof. Kirti Samrit**

**Through**



Zeal Education Society’s

**Zeal Institute of Business Administration, Computer Application & Research (ZIBACAR)**

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**(Approved by A.I.C.T.E., New Delhi, Recognized by DTE, Govt. Maharashtra & Affiliated to S.P.P.U. Pune)**

**2023-2024**

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| **Project Synopsis** | |
| 1. Course Name | Master of Computer Application (4th Semester) |
| 1. Student’s Name | Pritam Sanjay Magdum |
| 1. Roll No | MC222438 |
| 1. Project Title | Real Time Chat Application |
| 1. Name of Internal guide | Prof. Kirti Samrit |
| 1. Name of External guide | Charvi Bhargava |
| 1. Name of Organization | TDPVista |
| 1. Date of Submission | 27/01/2024 |
| **Organization Profile** | |
| 1. Name | TDPVista |
| 1. Location | LF-1&2, Plot No. 1, Megha Heights, Kolar Road, Bhopal, M.P. - 462042 |
| 1. About Organization | TDPVista is a company that offers learning and guidance from industry experts. TDPVista is the most affordable way to learn any programming language. |

**Project Details**

**1. Abstract**

In an era dominated by digital connectivity, real-time communication platforms have become integral to daily interactions. This paper presents the design and development of a web-based chat application, akin to popular services like WhatsApp, aimed at providing users with seamless and instant communication experiences.

The application leverages modern web technologies to offer features such as real-time messaging, multimedia sharing, group chats, and user authentication. Through the integration of WebSocket technology, messages are delivered instantly, facilitating fluid conversations between users irrespective of geographical distances.

Overall, the real-time chat application promises to enhance communication and connectivity in an increasingly interconnected world, offering users a versatile and dependable platform for staying connected with friends, family, and colleagues.

**2.** **Proposed System**

Our real-time chat application is designed to facilitate seamless communication among users, leveraging modern web technologies for instantaneous messaging, multimedia sharing, and group interactions. Utilizing a client-server architecture with WebSocket technology, the application ensures instant message delivery and responsiveness across various devices. Key features of the proposed system include:

* Facilitates seamless communication through real-time messaging and multimedia sharing.
* Utilizes WebSocket technology for instant message delivery and responsiveness.
* Implements robust security measures, including end-to-end encryption and user authentication.
* Ensures accessibility across devices with a responsive user interface.
* Leverages cloud-based infrastructure for scalability and performance optimization.

**3. Scope of the System**

Our real-time chat application is a robust platform designed to streamline communication for users across various devices. With its intuitive user interface and seamless messaging experience, users can engage in instant conversations, share multimedia content, and participate in group chats effortlessly. The system ensures the security and privacy of user data through robust authentication mechanisms and end-to-end encryption. Scalability and performance optimization techniques are integrated to accommodate growing user bases and maintain responsiveness under varying loads, ensuring a reliable communication experience for all users.

**4. Objective of the System**

* To enable real-time communication for users across devices.
* To facilitate seamless sharing of multimedia content within conversations.
* To support group chat functionality for collaborative discussions.
* To ensure user security and privacy through robust authentication and encryption.
* To achieve scalability and maintain optimal performance under varying loads.
* To enhance accessibility across different devices and platforms.
* To allow for customization and integration with other applications.
* To implement monitoring and maintenance for system reliability and performance.

**5. Environment**

Technology: MERN Stack

Server-Side Technology: Node.js (20.11), Express.js (4.18)

Client-Side Technologies: HTML (5), CSS (3), JavaScript (ES14), React.js (18.2)

Database: MongoDB (7)

Operating System: Windows 10

Tools Used: Visual Studio Code (2024 | 1.86)

Date: 27/01/2024

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| Sign of the Student  ( Pritam S. Magdum ) | Sign of the Internal Guide  ( Prof. Kirti Samrit ) | Sign of Project Coordinator  ( Prof. Pravin Suryawanshi ) |