Real-Time One-to-One Chat Platform

A Minor Project Report Submitted To

SAGE UNIVERSITY, INDORE

Towards Partial Fulfillment for the Award of
Bachelor of Technology
in
Computer Science & Engineering

Submitted By
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Under the Supervision of
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May-2025

SAGE University, Indore

CERTIFICATE

This is to certify that the project work entitled “Real-Time One-to-One Chat Platform

” has been carried

Out by Bahadur Ninama ,Digpal Singh, students of B.Tech III year, VI Semester under our supervision and guidance. They have submitted this project report towards partial fulfillment under the minor project work of the **Bachelor of Engineering in Computer Science and Engineering degree by Institute of Advance Computing Core, SAGE University, during the academic year 2024-25.**

Date:

Prof. Garima Hardia
Project Guide

Dr. Manoj Ramaiya
Head of Department

Dr. Rajat Bhandari
Head of Institute
Institute of Advance Computing Core

SAGE University, Indore

Minor Project Approval Sheet

The project entitled “Real-Time One-to-One Chat Platform” submitted by,

Bahadur Ninama , Digpal Singh is approved as partial fulfillment under minor project work, for the award of the **Bachelor of Engineering** (**Computer Science and Engineering**) degree by IAC core, SAGE University, Indore, during academic year 2024-25.

Internal Examiner	**External Examiner**
Name:	**Name:**
Date:	**Date:**

Acknowledgement

First and foremost, we would like to express our thankfulness towards **Prof.** Garima Hardia , Institute of advance computing core for extending all the facilities needed to carry out this work. We take pride in saying that we have successfully completed our major project under his proficient guidance. He was a major support to us throughout projects, being available at odd hours with his ideas, inspiration and encouragement. It is a through his masterful guidance that we have been able to complete our major project.

I want to convey my heartfelt thanks to **Hon'ble Chancellor, Hon'ble pro chancellor, Hon'ble Managing Director, Hon'ble Vice-chancellor, Hon'ble Pro Vice-chancellor, Registrar & Director General & Dean Academics** of SAGE University, Indore who gave me the opportunity to do my research work in the university and provided me all the necessary facilities.

We are also thankful to **Dr. Rajat Bhandari, HOI, IET & IAC Core, Dr. Manoj Kumar Ramaiya**, **HOD CSE & Dr. Atul Nandwal, HOD Diploma CSE** for giving his guidance throughout the project phase.

We are also thankful to **Project coordinator Prof. Garima Hardia, IAC Core** for extending all the facilities needed to carry out this work.

BAHADUR NINAMA [22ADV3CSE0035]
DIGPAL SINGH [22ADV3CSE0040]

Candidate Declaration

We hereby declare that the work which is being presented in this project report entitled **"**Real-Time One-to-One Chat Platform**"** in partial fulfillment, under Major project, for the award of **B.Tech (Computer Science and Engineering)** is an authentic record of my own work, carried out under the supervision and guidance of **Prof. Garima Hardi**, Institute of advance computing core, **SAGE University, Indore.**

We are fully responsible for the matter embodied in this report and it has not been submitted elsewhere for the award of any other degree.

Date: **Student Signature**
Place: Indore

BAHADUR NINAMA (22ADV3CSE0035)

DIGPAL SINGH (22ADV3CSE0040)

Abstract

In the age of digital transformation, real-time communication has become an essential feature of modern web applications. This project, titled **"Real-Time One-to-One Chat Platform"**, presents a simple yet efficient web-based chat system enabling two users to communicate privately and instantly. Unlike conventional messaging applications that store conversations permanently, this platform emphasizes **user privacy** by implementing **ephemeral messaging**—all chat data is deleted once both users disconnect from the session.

The backend of the application is developed using **Java Spring Boot**, while the frontend utilizes **React**, ensuring a responsive and interactive user interface. Real-time communication is facilitated via **WebSocket technology**, using **STOMP** for message formatting and **SockJS** to provide compatibility across various browsers. Temporary data storage is managed through **MongoDB Atlas**, a cloud-based NoSQL database, configured to delete messages automatically after a session ends.

The platform is scalable, lightweight, and designed for educational as well as real-world use cases, such as customer support, private consultations, and privacy-conscious communication. The modular structure of the system ensures ease of maintenance and future enhancements like group chat, multimedia sharing, or AI chatbot integration.

This project demonstrates not only the implementation of real-time communication but also the importance of **data minimization and privacy by design** in modern applications.

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