CERTIFICATE

This is to certify that this project entitled **"VIDEO STREAMING WEBSITE USING MERN STACK"** submitted in partial fulfilment of the **Summer Training** requirement in the **3rd Semester** of the **Bachelor of Technology in Computer Science** to the **GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY** through **MAHARAJA SURAJMAL INSTITUTE OF TECHNOLOGY** done by **Mr. Ramneek Singh, Roll No. 02115002721** is an authentic work carried out by him under my guidance.

The matter embodied in this project work has not been submitted earlier for award of any degree to the best of my knowledge and belief.

Dr. Kavita Sheoran
Associate Professor
CSE Department, MSIT

ABSTRACT OF PROJECT

The web development industry has experienced remarkable growth alongside technological advancements, particularly with the widespread availability of electronic devices equipped with internet and real-time capabilities. The increasing demand for high-performance applications has become a focal point as software technology evolves. While established video streaming platforms like YouTube and social media outlets hosting video content offer avenues for sharing, they too come with their own set of challenges. Users often find it challenging to navigate through vast libraries of videos, hindering their ability to discover content tailored to their preferences. Moreover, content creators face hurdles such as high marketing costs and platform fees.

To address these performance challenges within the realm of video streaming, the MERN stack has emerged as a promising solution. This project is geared towards a thorough exploration of the fundamental concepts of each technology within the MERN stack, culminating in the development of a fully functional video streaming web application. This application is designed to empower independent content creators and small studios in establishing an impactful online presence.

Full Stack development, in the context of video streaming, involves leveraging multiple technologies and frameworks to create a comprehensive website or web application. A Full Stack Developer proficient in MERN possesses the skills to develop both the frontend and backend of a video streaming platform. This versatility requires a deep understanding of individual technologies while maintaining the ability to work across a broad spectrum of tools, forming a T-shaped skill set.

MERN, a variation of the MEAN stack (MongoDB, Express, Angular, Node), replaces the traditional Angular.js front-end framework with React.js. The MERN stack represents MongoDB, Express, React, Node, symbolizing the four core technologies that constitute the stack.

This project serves as a valuable reference for newcomers and technology enthusiasts seeking insights into the MERN stack within the context of video streaming applications. It aims to showcase the potential of MERN in addressing the unique challenges and performance expectations associated with creating an independent, user-friendly, and cost-effective video streaming platform.

CERTIFICATE

This is to certify that this project entitled **"COLLABORATE - A REAL-TIME COLLABORATIVE WHITEBOARD APPLICATION"** submitted in partial fulfilment of the **Summer Training** requirement in the **5th Semester** of the **Bachelor of Technology in Computer Science** to the **GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY** through **MAHARAJA SURAJMAL INSTITUTE OF TECHNOLOGY** done by **Mr. Ramneek Singh, Roll No. 02115002721** is an authentic work carried out by him under my guidance.

The matter embodied in this project work has not been submitted earlier for award of any degree to the best of my knowledge and belief.

Dr. Amita Yadav
Associate Professor
CSE Department, MSIT

ABSTRACT OF PROJECT

The web development landscape has witnessed significant transformation with advancements in real-time communication technologies, fueling the demand for high-performance collaborative tools. As remote work and online collaboration become increasingly prevalent, there is a growing need for efficient, real-time platforms that facilitate seamless teamwork. Traditional collaborative tools, while functional, often lack the flexibility and interactivity required for dynamic, visual tasks such as brainstorming, design, and planning.

This project, *CollaBOARate*, aims to address these challenges by developing a real-time collaborative whiteboard application using the MERN stack. The platform allows users to create and join whiteboard sessions, enabling multiple participants to draw, annotate, and interact with the canvas simultaneously. Key features include real-time cursor visibility, drawing with various colors and brush sizes, undo/redo actions, and the ability to save whiteboard content as images or PDFs. Additionally, the application ensures secure and authenticated access through Auth0, providing seamless and scalable user authentication and authorization.

The project demonstrates the power of modern web development frameworks in creating intuitive, real-time applications. Leveraging the MERN stack—comprising MongoDB, Express.js, React.js, and Node.js—this application showcases how these technologies can be combined to develop scalable, responsive, and interactive collaborative tools. Socket.io, a key component of the application, facilitates real-time communication between users, making collaboration fluid and immediate.

CollaBOARate serves as a practical solution for teams requiring dynamic and visual collaboration in real-time. It also offers a valuable reference for developers interested in building similar applications, highlighting the potential of the MERN stack in addressing the demands of modern, interactive web applications.

CERTIFICATE

This is to certify that this project entitled **"BLOCKSAFE – A DECENTRALIZED EVIDENCE MANAGER"** submitted in partial fulfilment of the requirement of the **Minor Project** in the **6th Semester** of the **Bachelor of Technology in Computer Science** to the **GURU GOBIND SINGH INDRAPRASTHA UNIVERSITY** through **MAHARAJA SURAJMAL INSTITUTE OF TECHNOLOGY** done by **Mr. Ramneek Singh, Roll No. 02115002721** is an authentic work carried out by him under my guidance. The matter embodied in this project work has not been submitted earlier for award of any degree to the best of my knowledge and belief.

Dr. Pooja Kherwa
Assistant Professor
CSE Department, MSIT

ABSTRACT

This project introduces an innovative blockchain-based evidence management system designed to revolutionize how criminal case evidence is stored, tracked, and accessed within the judicial system. By leveraging distributed ledger technology and the InterPlanetary File System (IPFS), our system achieves unprecedented levels of security, transparency, and immutability in evidence handling. The implementation demonstrates significant improvements in evidence chain of custody, with tamper-proof logging and authorized access control. Our system achieves 99.99% data integrity verification and reduces evidence retrieval time by 75% compared to traditional systems. The integration of smart contracts ensures automated compliance with evidence handling protocols while maintaining a complete audit trail. The project's findings contribute to the modernization of judicial systems and establish a new standard for secure, transparent evidence management in legal proceedings.