**SECURE CHAT API: ENCRYPTED CHAT APPLICATION PROGRAM INTERFACE WITH BLOCK-CHAIN AUTHENTICATION**

**PROJECT REPORT**

***Submitted by***

**G. GOKUL 812420104027**

**M. PREMSRIDEV 812420104071**

**A. RAHMATHULLAH 812420104073**

**T. SHAIK MOHAMED FAHAD 812420104083**

***In partial fulfillment for the award of the degree of***

# BACHELOR OF ENGINEERING

# in

# COMPUTER SCIENCE AND ENGINEERING

# M.I.E.T. ENGINEERING COLLEGE, TRICHY – 620007

# ANNA UNIVERSITY :: CHENNAI – 600 025

# MAY 2024

**SECURE CHAT API: ENCRYPTED CHAT APPLICATION PROGRAM INTERFACE WITH BLOCK-CHAIN AUTHENTICATION**

**PROJECT REPORT**

***Submitted by***

**G. GOKUL 812420104027**

**M. PREMSRIDEV 812420104071**

**A. RAHMATHULLAH 812420104073**

**T. SHAIK MOHAMED FAHAD 812420104083**

***In partial fulfillment for the award of the degree of***

# BACHELOR OF ENGINEERING

# in

# COMPUTER SCIENCE AND ENGINEERING

# M.I.E.T. ENGINEERING COLLEGE, TRICHY – 620007

# ANNA UNIVERSITY :: CHENNAI – 600 025

# MAY 2024

**ANNA UNIVERSITY: CHENNAI 600 025**

# BONAFIDE CERTIFICATE

Certified that this project report “**SECURE CHAT API: ENCRYPTED CHAT APPLICATION PROGRAM INTERFACE WITH BLOCK-CHAIN AUTHENTICATION”** is the Bonafide of “**G. GOKUL” (812420104027), “M. PREMSIDEV” (812420104071), “A. RAHMATHULLAH” (812420104073) and “T. SHAIK MOHAMED FAHAD” (812420104083)** who carried out the project under the supervision.

**SIGNATURE SIGNATURE**

Mr. P.MANIKANDAN, M.E., Mr. P. MANIKANDAN, M.E,.

**HEAD OF THE DEPARTMENT SUPERVISOR**

Assistant Professor

Department of Computer Science and Department of Computer Science Engineering and Engineering

M. I. E. T. Engineering College, M. I. E. T. Engineering College,

Trichy – 620007 Trichy – 620007

Submitted for the viva-voce held on

**INTERNAL EXAMINER EXTERNAL EXAMINER**

# ACKNOWLEDGMENT

First of all we thank God for this shower of blessing and his divine help which enables us to complete the project successfully.

We extend our sincere thanks to **Alhaj. Janab. Er. A. MOHAMED YUNUS, B.E., M.Sc. (Engg.)** Founder & Chairman of M.I.E.T. Engineering College, Trichy for offering the means of attaining our most cherished Goal Environment.

We extend our deepest gratitude to Principal **Dr. A. NAVEEN SAIT, M. E., Ph. D.,** M. I. E. T. Engineering College, Trichy, for giving us permission to do the project work successfully.

We are grateful to express our profound thanks to **Mr. P. MANIKANDAN, M.E.,** Head of the department, CSE who has been the source of encouragement and moral strength throughout our study period.

It gives immense pleasure to extend my sincere and heartfelt gratitude to our project guide **Mr. P. MANIKANDAN, M.E.,** Assistant Professor for him untiring valuable and timely suggestions in dispensable situation during the period of study.

We are extremely thankful to our parents for enlightening us by providing Professional education and for their prayerful support that makes us to complete.

Also heartfelt thanks to our friends, Teaching and Non-teaching staff members who helped us to finish the project successfully

# ABSTRACT

To construct a Chat API of unparalleled security and reliability, engineered to facilitate encrypted communication within a Chat Application. The endeavor encompasses a multifaceted approach, integrating robust encryption protocols and Block-chain Authentication mechanisms to fortify user identity verification and authentication. Initially, extensive research explores encryption techniques and Block-chain Authentication, scrutinizing their suitability and efficacy for the project's objectives. Subsequently, meticulous design and development ensue, crafting the architecture of the Chat API to seamlessly incorporate advanced encryption protocols, notably Fernet, and Block-chain Authentication via smart contracts. The implementation phase is characterized by a commitment to coding excellence, ensuring optimal performance, and maintainability of the Chat API. By prioritizing security without compromising usability, the Chat API aspires to empower users with a trustworthy platform for confidential communication, safeguarding their digital interactions in the face of evolving cybersecurity challenges.