SECURITY & SURVEILLANCE FOR TEACHERS AND STUDENTS

A PROJECT REPORT

Submitted by,

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Under the guidance of,

Ms. SOUMYA

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING (CYBERSECURITY)

At

PRESIDENCY UNIVERSITY

BENGALURU

JANUARY 2025

PRESIDENCY UNIVERSITY

SCHOOL OF COMPUTER SCIENCE ENGINEERING

CERTIFICATE

This is to certify that the Project report **"SECURITY & SURVEILLANCE FOR TEACHERS AND STUDENTS"** being submitted by "CHANDRASHEKHAR S, SHUBHA K A, AUGUSTIAN P B, KAVYA JAISHREE J" bearing roll numbers "20211CCS0065, 20211CCS0067, 20211CCS0104, 20211CCS0131" in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering (Cybersecurity) is a bonafide work carried out under my supervision.

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DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **SECURITY & SURVEILLANCE FOR TEACHERS AND STUDENTS** in partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering (Cybersecurity)** is a record of our own investigations carried under the guidance of **Ms. Soumya,** Assistant Professor, School of Computer Science Engineering & Information Science, Presidency University, Bengaluru.

We have not submitted the matter presented in this report anywhere for the award of any other Degree.

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ABSTRACT

The rapid digitization of education necessitates the creation of secure online environments for students and educators. This report introduces a user-friendly web-based application designed to streamline the management of URL filtering policies, ensuring enhanced cybersecurity in educational institutions. The system leverages pfSense as a firewall, LDAP for authentication and directory services, and MongoDB for efficient database management. The administrator interface offers an intuitive platform where educators can add, remove, or modify URL filtering policies without requiring advanced technical expertise.

By abstracting the complexities of firewall configuration, the application updates policies in real-time through REST APIs with pfSense, enabling seamless integration and improved efficiency. LDAP-based role-based authentication ensures that only authorized users can access and modify policies, while MongoDB serves as a centralized repository for user and policy information.

This approach eliminates the need for direct interaction with the pfSense GUI or command-line interface, making URL policy management accessible to non-technical users. The project demonstrates the integration of these technologies into a scalable, secure, and adaptable solution tailored for educational institutions. It addresses the growing need for simplified yet effective cybersecurity measures, promoting a safer digital environment for students and educators alike.