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MINI PROJECT REPORT

OF

ATTENDENCE BOT

Submitted by

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Under the Guidance

of

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Mini Project Guide

Dept. of ISE, AIET

HOD

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CERTIFICATE

Certified that the mini project work entitled ***"ATTENDENCE BOT"*** *is a bonafide work carried out by*

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in partial fulfilment for the award of **BACHELOR OF ENGINEERING** in **INFORMATION SCIENCE AND ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM** during the year 2022-2023 It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

The "Attendance Bot" is a mini IoT project that aims to streamline attendance management in a laboratory environment using modern technologies. The project utilizes the ESP8266 Wi-Fi module as a communication medium to interact with a fingerprint scanner, which serves as the input device for capturing attendance data. The attendance records are stored and managed in a MongoDB database via a Node.js runtime server.

The system's architecture involves the ESP8266 module acting as a client that sends login and logout requests to the Node.js server, along with the corresponding fingerprint data from the scanner. The Node.js server processes these requests, validates the fingerprint data, and records the relevant attendance details into the MongoDB database. By adopting MongoDB, the system gains the flexibility to handle large amounts of attendance data efficiently.

The user interface (UI) for the Attendance Bot is designed using static HTML, CSS, and vanilla JavaScript, creating a straightforward and user-friendly experience for both administrators and students. The UI displays attendance records, allowing authorized personnel to review attendance data and generate reports.

The key features of the Attendance Bot include real-time attendance tracking, reduced administrative workload, enhanced accuracy through fingerprint authentication, and seamless integration with modern web technologies.

Overall, this mini-project demonstrates an efficient and scalable solution for attendance management in a laboratory setting, showcasing the capabilities of IoT, ESP8266, fingerprint scanning technology, and the power of a NoSQL database like MongoDB, all orchestrated through Node.js.