RANI CHANNAMMA UNIVERSITY, BELAGAVI



B.V.V.Sangha’s

BASAVESHWARA SCIENCE COLLEGE,

BAGALKOTE – 587101

SYNOPSIS ON

**“SMART ATTENDANCE”**

BACHELOR OF COMPUTER APPLICATIONS

of

RANI CHANNAMMA UNIVERSITY, BELAGAVI

**Internal guide:**

Girish M K

**Submitted by:**

U15JP21S0215 Shravan H. Jampanagoudra

U15JP21S0186 Riteshsingh P. Killedar

U15J021S0278 Vaishakh Koti

**INDEX**

|  |  |  |
| --- | --- | --- |
| **Sl No** | **Content** | **Page No** |
| **1** | **Abstract** | **1** |
| **2** | **Existing System** | **1** |
| **3** | **Proposed System** | **1** |
| **4** | **Modules** | **2** |
| **5** | **Software and Hardware Requirements** | **3** |
| **6** | **Future Enhancement** | **3** |
| **7** | **Conclusion** | **3** |

**Abstract**

Implementing biometric fingerprint authentication ensures robust security by accurately verifying student identities. Provides administrators with a centralized dashboard for real-time monitoring and management of attendance records across multiple lab sessions. Provides administrators with a centralized dashboard for real-time monitoring and management of attendance records across multiple lab sessions.

**Existing System**

Manual methods: paper-based registers. Prone to errors, proxy attendance, and administrative overhead

**Proposed System**

The proposed system introduces a biometric authentication mechanism using a SecuGen fingerprint scanner integrated into a Flask-based web application. Key features include:

* **Automated Attendance Capture**: During lab sessions, the system automatically records attendance based on fingerprint scans, reducing manual effort and errors.
* **Accuracy and Efficiency**: Improves attendance accuracy compared to traditional methods like paper registers, reducing administrative overhead.
* **Scalability**: Designed to scale with the institution's needs, accommodating multiple labs and growing student numbers.
* **Data Integrity:** Utilizes MySQL database to maintain data integrity and reliability, crucial for academic record-keeping and compliance.
* **User Experience:** Provides a user-friendly interface for both students and administrators, enhancing usability and adoption.

**Modules**

1. **Attendance Module:** Records attendance during lab sessions using biometric fingerprint authentication.
2. **Admin Module:**
   * **User Management**: Manages and adds staff and student profiles, including their details and access permissions within the system.
   * **Attendance Reporting**: Views comprehensive attendance reports across all labs and sessions.
   * **Staff Module:**
   * **Student Management**: Adds and manages student details, including enrollment information and updates to student records.
   * **Attendance Reports**: Views detailed attendance reports for lab sessions they oversee, enabling monitoring of student attendance.
   * **Batch Management**: Adds new lab batches, defines session timings, and manages student allocations for efficient lab management.
   * **Student Module:**
   * **Self-Registration**: Registers for lab sessions, confirming their participation and allowing administrators to plan and manage resources effectively.
   * **Attendance Tracking**: Views personal attendance records, including absences and attendance percentages across lab sessions.

**Software and Hardware Requirements:**

**Software Requirements:**

* PHP Backend
* MySQL database
* SecuGen Web Driver
* Web browser(Chrome, Firefox)
* Windows/Linux

**Hardware Requirements:**

* SecuGen fingerprint scanner
* Compatible server environment
* User device (Desktop/Laptop)

**Future Enhancements:**

* **Real-time Notifications:** Implement notifications for absentees and late arrivals to administrators and students.
* **Mobile App Support:** Develop a mobile application for convenient student and teacher access to attendance records and notifications.

**Conclusion**

Implementation of the SecuGen fingerprint scanner system has significantly improved attendance accuracy and efficiency in educational laboratories. The system reduces administrative workload by automating attendance capturing and data processing. Enhanced security measures ensure reliable identification and recording of student attendance, minimizing errors and fraudulent activities.