**Intended audience**

**1.Administrators:**

* **Role:** Overseeing the overall system functionality.
* **Usage:**  Accessing system management tools to monitor attendance data, manage user accounts, and ensure smooth operation.

**2. Teachers/Faculty:**

* **Role**: Responsible for class attendance.
* **Usage:** Recording and accessing attendance data for their respective classes.

**3. Students:**

* **Role:** Actively participating in classes.
* **Usage**: Viewing personal attendance records, tracking progress, and receiving timely notifications.

**4. Parents/Guardians:**

* **Role:** Concerned about their child's attendance.
* **Usage:** Accessing real-time attendance reports and staying informed about their child's academic engagement.

**5. System Developers:**

* **Role:** Involved in the design, development, and maintenance of the RFID attendance system.
* **Usage:** Implementing system requirements, addressing technical issues, and ensuring system efficiency.

**6. School/Institution Administrators:**

* **Role:** Overseeing the implementation and impact of the system at an institutional level.
* **Usage:** Analyzing attendance data, assessing system performance, and making informed decisions.

**7. Regulatory Bodies:**

* **Role**: Ensuring compliance with educational regulations.
* **Usage:** Reviewing the system to ensure adherence to standards and regulatory requirements.

**DEFINITIONS, ACRONYMS, AND ABBREVIATIONS**

|  |  |
| --- | --- |
| **RFID (RADIO-FREQUENCY IDENTIFICATION)** | A technology that uses wireless communication through radio waves to identify, track, and manage objects, individuals, or animals equipped with RFID tags. |
| **NFC (NEAR FIELD COMMUNICATION)** | A subset of RFID technology that enables short-range communication between devices, typically within a few centimeters, facilitating secure data exchange. |
| **API (APPLICATION PROGRAMMING INTERFACE** | A set of rules and protocols that allow different software applications to communicate and exchange data within the RFID system. |
| **UI/UX DESIGN (USER INTERFACE/USER EXPERIENCE DESIGN)** | The process of creating an intuitive and visually appealing interface for users interacting with the RFID system, ensuring a positive and efficient user experience. |
| **DBMS (DATABASE MANAGEMENT SYSTEM)** | Software that manages the organization and storage of RFID-related data, facilitating efficient retrieval and manipulation of information within the system. |
| **SDK (SOFTWARE DEVELOPMENT KIT)** | A collection of tools and resources that aid developers in creating applications or features within the RFID system for specific platforms or frameworks. |

**Assumptions and Dependencies**

**Assumptions:**

**1. Users Possess RFID-Enabled Cards or Devices:**

- Users are assumed to possess RFID-enabled cards or devices for effective participation in the attendance tracking system.

**2. Accurate Data Input During Registration:**

- Users are expected to provide accurate and up-to-date information during the registration process to ensure the reliability of attendance records.

**3. Willingness of Users to Engage with RFID Technology:**

- Successful system operation relies on the willingness of users, including administrators, faculty, and students, to actively engage with RFID technology for attendance tracking.

**4. Reliability of RFID Tags for Identification:**

- The assumption is that RFID tags carried by students are reliable for accurate identification and tracking within the RFID system.

**5. Adherence to Ethical Use of RFID Technology:**

- Users, including administrators and faculty, are expected to follow ethical guidelines regarding the use of RFID technology, respecting privacy and confidentiality.

**Dependencies:**

**1. Stable Internet Connectivity for Real-time Data Transmission:**

- The RFID system depends on stable internet connectivity to facilitate real-time data transmission and synchronization between RFID readers and the central system.

**2. Integration with External Services for RFID Functionality:**

- Integration with external services and APIs is crucial for RFID functionalities, such as data encryption, secure authentication, and ensuring the interoperability of RFID cards or devices.

**3. Availability of RFID Tags and Readers:**

- The availability and proper functioning of RFID tags carried by students and RFID readers installed in classrooms are essential for successful attendance tracking.

**4. Compliance with Data Protection Regulations:**

- The RFID system is dependent on strict compliance with data protection regulations to safeguard the privacy and security of user information stored within the system.

5**. Collaboration with Educational Institutions for Implementation:**

- Collaboration with educational institutions is necessary to gain necessary approvals, ensure system alignment with academic policies, and secure support for the successful implementation of the RFID attendance system.