**Visit Logging and Access Management System**

**Overview**

The **Visit Logging System** is a secure, digital platform designed to **track and manage entries and exits of both permanent users and temporary visitors** within a facility. It leverages **QR code-based access** to streamline the check-in/check-out process and maintain accurate logs for auditing and security purposes.

**User Types**

1. **Permanent Users**
   * These are registered individuals (e.g., employees, staff, residents) with **long-term access** to the premises.
   * Upon registration, each user is issued a **unique QR code** for entry/exit.
   * QR codes are **persistent** and reused during every visit.
2. **Visitors**
   * Temporary users granted **time-limited access** for specific purposes.
   * Visitor accounts include **validity periods** (e.g., 1-day, specific hours).
   * QR codes are **generated per visit** and expire automatically after the allowed timeframe.
   * Must provide a **reason for visit** during access creation.

**Core Features**

**1. User Management**

* Create and manage **permanent users**.
* Generate and assign **QR codes** per user.
* Store profile details: name, department, or role.

**2. Visitor Access Creation**

* Register **one-time or short-term visitors**.
* Capture and store:
  + Visitor name
  + Reason for visit
  + Start and end time/date (access duration)
* Generate **temporary QR code** valid only within the specified period.

**3. QR Code Scanning / Logging System**

* Scan QR codes at **entry and exit points**.
* Log the following data:
  + **Name**
  + **Date**
  + **Time-in**
  + **Time-out**
  + **User type** (Permanent or Visitor)
  + **Reason for visit** (for visitors only)

**4. Visit Log Database**

* Centralized record of all logs.
* Support for filtering/searching by:
  + Name
  + Date range
  + User type
  + Reason of visit

**5. Access Expiry Handling**

* System **prevents expired visitor QR codes** from being used.
* QR code scanner validates current date/time against visitor access window.

**Security Considerations**

* QR codes should use **encrypted tokens** or **UUIDs** to prevent duplication.
* Time-based expiration for visitor codes.
* Optional authentication for administrators managing user/visitor data.

**Scalability**

* Can scale to multiple entry points.
* Extendable to include facial recognition or biometric integration.
* Future-proof: integrate with access control systems or mobile ID passes.