

# Assignment: Build a Visitor Pass Management System (MERN)

## Objective

Develop a Visitor Pass Management System using the MERN stack (MongoDB, Express, React, Node.js). The system should allow organizations to register, issue, and verify visitor passes digitally.

## Problem Statement

Many offices and institutions still rely on manual visitor entry registers. This project aims to digitize the visitor management process, enabling features like pre-registration, QR-code based passes, and secure check-in/check-out.

## Core Requirements

### User Roles

- Admin: Manages system, staff, and analytics
- Security/Frontdesk: Issues passes, scans visitors in/out
- Employee/Host: Can invite or approve visitors
- Visitor: Can pre-register, view digital pass

### Features

1. Authentication & Authorization (JWT, role-based)
2. Visitor Registration (details + photo)
3. Appointments / Pre-Registration (invite, approve, notify)
4. Pass Issuance (QR code + PDF badge)
5. Check-In / Check-Out (QR scan logs)
6. Notifications (Email/SMS)
7. Dashboard & Reports (search, filter, export)

## Technical Requirements

Backend: Express + MongoDB with JWT, QR code, PDF, email, SMS integration.

Frontend: React with Router, forms, QR scanner, dashboard UI.

Database: MongoDB with collections for Users, Visitors, Appointments, Passes, CheckLogs.

## Deliverables

1. Source Code in GitHub
2. Setup Guide in README.md
3. Demo Data (seed script)
4. Screenshots / Demo Video

## Evaluation Criteria

Criteria	Description	Marks
----------	-------------	-------

Functionality	Features implemented as per requirements	40
Code Quality	Clean, modular, documented code	20
UI/UX	Usability, clarity of design	20
Extra Features	Bonus implementations like multi-location, audit logs	10
Presentation	README, screenshots, video demo	10
Total		100

## Bonus Challenges

- Add OTP-based verification
- Multi-organization support
- Deploy with Docker + Nginx
- Analytics dashboard

## Submission

Deadline: 2 weeks from assignment date.

Deliverables: GitHub repo link + short demo video