Kush Shah, Stephen Wang

Project Description

Project Name: Employee Shift Management System

The Employee Shift Management System is a full-stack web application built to simplify how organizations schedule employees, manage work availability, and track time-off requests. Designed with a focus on practicality, clarity, and reliability, it provides both managers and employees with a centralized interface to plan, review, and adjust work schedules efficiently.

This system eliminates the need for manual spreadsheets and disconnected communications, offering a real-time scheduling workflow that automatically prevents double-bookings, overlapping shifts, and violations of employee availability or approved leave. This application will improve administrative efficiency.

Tech Stack: React.js, HTML, CSS3, Bootstrap, Node.js, Express, MongoDB, Render, Docker

Objectives

- **Build a reliable and easy-to-use platform for managing employee schedules.**

- **Eliminate conflicts caused by manual scheduling and communication gaps.**

- **Improve workforce visibility across multiple roles and locations.**

- **Provide a scalable foundation for analytics and performance tracking.**

Design Principles

Visual hierarchy

- **Big page titles → section titles → labels → helper text.**

- **Primary buttons are visually strongest; secondary actions are toned down.**

Consistency

- **Same card style on login, employees, shifts, etc.**

- **Inputs, buttons, and tables share spacing and border radius.**

- **Same primary blue used for all main actions.**

Affordance & feedback

- **Buttons look clickable (rounded, filled).**

- **Errors are clearly shown in red text under the relevant sections.**

- **Disabled buttons (e.g., "Add Employee" when invalid) are visually muted.**

Whitespace & alignment

- **Nice padding in cards, evenly spaced form fields.**

- **Form labels aligned, tables column-aligned → easier scanning.**

Separation of concerns

- **"Shell" (nav bar, gradient background) vs. "content cards" makes it clear where the main interactive area is.**

- **Manager-only actions (like "Add Employee") are grouped in the roster card.**

Role clarity

- **Badge showing "MANAGER" next to the logged-in name → reinforces who the current user is and what they can do.**

Core Features

Employee Management

- **Create, read, update, and delete (CRUD) employee records.**

- **Store employee details such as name, email, role, hourly rate, and assigned location.**

- **Activate or deactivate employees to control scheduling eligibility.**

- **Search and filter employees by name, role, or site location.**

Shift Scheduling

- **Full CRUD operations for shift assignments.**

- **Automatically checks for overlapping shifts, unavailable employees, or approved time-off conflicts.**

- **Supports multiple locations and job roles.**

- **Shift status tracking: scheduled, completed, missed, canceled.**

- **Allows managers to modify or cancel shifts at any time.**

Availability & Time-Off Tracking

- **Employees can define their weekly availability using day and time windows.**

- **Managers can view availability when assigning shifts.**

- **Employees can submit time-off requests with start/end dates and reasons.**

- **Approved time off automatically blocks scheduling for that employee during the selected dates.**

User Stories

Manager

- ***As a manager, I want to create and edit shifts easily, so scheduling errors are minimized.***

- ***As a manager, I want to view staffing coverage per hour, so I can identify under-scheduled periods.***

- ***As a manager, I want to approve or reject employee time-off requests directly from the dashboard.***

Employee

- ***As an employee, I want to see my assigned shifts and time-off approvals, so I can plan my work week.***

- ***As an employee, I want to submit my availability, so I am only scheduled during my preferred hours.***

- **Provides actionable insights for optimizing labor allocation.**

Design Mockup

Sign In

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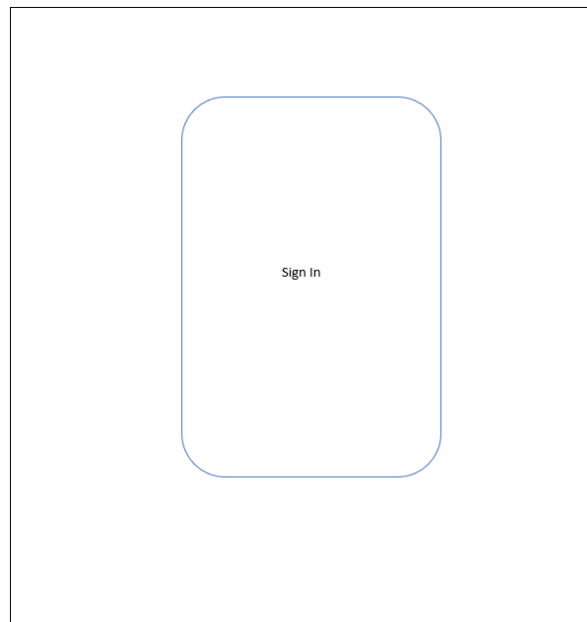
Manager Scope

Tabs (Employees | Availabilities | Shift Management | Settings)

Description

Add Employees

Employees Information

Manager Scope And Employee Scope

Tabs (Employees | Availabilities | Shift Management | Settings)

Description

Weekly View of Availability

Calendar View

Manager Scope and Employee Scope

Tabs | Employees | Availabilities | Shift Management | Settings

Description

Information

Shifts / Time-off Requests