**Tech stack**

Frontend: React, Material-UI (UI components), React-Leaflet (maps), @mui/x-date-pickers, Dayjs.

Backend: Node.js, Express.

Database: PostgreSQL.

ORM: Prisma.

Real-time (optional): Socket.IO.Others: Axios (API calls), dotenv (environment variables).

### **🌐 General UI Layout**

* **Fixed Sidebar (Left-Aligned):**
  + **Heading:** Menu
  + **Navigation Buttons:**
    - Dashboard
    - Scheduling

## **🧭 1. Dashboard Screen**

### **📌 Sidebar → Dashboard (Loads Main Content Area)**

#### **🟦 Dashboard Pre-Header (Top Bar in Main Area):**

* **Zone Dropdown:**
  + Populated from the database.
* **Zipcode Dropdown:**
  + Disabled by default.
  + Becomes enabled once a zone is selected.
  + Populated based on selected zone from the database.
* **Start Date Picker**
* **End Date Picker**
* **Submit Button**

### **🗺️ Live Map of Texas:**

* **Map Properties:**

Centered and bounded to Texas using:  
  
 ts  
CopyEdit  
maxBounds={[

[25.8371, -106.6456], // Southwest corner

[36.5007, -93.5083], // Northeast corner

]}

* + The map is always visible and:  
    - Shows **all active users** from the database as user icons.
    - On **hovering over an icon**, an info card displays:  
      * User ID (unique)
      * First Name
      * Last Name
      * Email
      * Zone
      * Zipcode
    - **Texas boundary** is highlighted with a soft, lighter color from the palette.
    - **Zone Highlight:** Selected zone area is highlighted in a soft color.
    - **Zipcode Highlight:** Selected zipcode is similarly highlighted.
    - The **user icons remain visible at all times** and update dynamically based on filters.
* **Filtering on Submit:**
  + When a user selects:  
    - Zone
    - Zipcode
    - Start Date
    - End Date
  + And clicks Submit, the map filters and shows only active users **matching** all selected criteria.

### **📊 User Data Table Below Map:**

* **Only appears when Submit is clicked.**
* Contains:  
  + User ID
  + Name
  + Zone
  + Zipcode
  + Start Date
  + End Date
* **Hides automatically** if a new zone is selected without resubmission.

💡 **Active User Info Source:** All active user data (User ID, name, email, zone, zip, activity info) is fetched from the **database** for display on the **map and table**.

## **📅 2. Scheduling Screen**

### **📌 Sidebar → Scheduling (Loads Scheduling Interface)**

#### **🟦 Scheduling Pre-Header Buttons:**

* Add Shift
* View Shift
* Delete Shift
* Add Leave
* **Add Zone** button is located at the **top-right corner** of the pre-header.

### **🔸 Add Shift**

* On Click: Shows editable table with:  
  + ID (Editable) → **User ID is unique**
  + First Name (Auto-filled from DB using ID)
  + Last Name (Auto-filled)
  + Email (Auto-filled)
  + Zone (Dropdown)
  + Zipcode (Dropdown)
  + Start Date (Date Picker)
  + End Date (Date Picker)
  + **Action Column**: Submit Button
* Functionality:  
  + Entering an ID auto-fills name and email from the database.
  + Zone & Zipcode selected via dropdowns.
  + Start/End date selected using date pickers.
  + On Submit: Shift is saved in the database and shown in UI table.

### **🔸 View Shift**

* On Click:  
  + Displays table of current shift data for entered user ID.
  + Shows:  
    - ID, Name, Zone, Zipcode, Start Date, End Date, Action
* **Action Column Options:**
  + Edit: Allows editing zone, zipcode, start/end date → updates DB and UI.
  + Delete: Deletes entry from DB → removes from UI.

### **🔸 Delete Shift**

* Works from within **View Shift**:  
  + Deletes selected shift from the database.
  + Table updates in real time (record removed from UI).

### **🔸 Add Leave**

* On Click:  
  + Shows leave-entry table:  
    - Enter User ID → auto-fills name and email
    - Input Start Date and End Date (date pickers)
    - Action: Add Leave button
* On Submit:  
  + Stores leave record in the database.
  + Displays entry in the UI table.

### **🔸 Add Zone**

* **Located at the top-right corner of the Scheduling screen pre-header.**
* On Click: Navigates to a **separate page**.  
  + **Sidebar stays fixed.**
  + **Main Area Includes:**
    - Zone Name input field
    - Multi-select dropdown to choose multiple Zipcodes (from DB)
    - Add Zone button → saves zone with associated zipcodes to DB
* **View Zone Button:**
  + On click:  
    - Shows table listing:  
      * Zone Names
      * Associated Zipcodes