# **Project 1 – React Frontend Progress Report**

**App Name**: Smart Parking Lot  
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The main idea of this smart parking lot app is to let users find nearby parking lots, check which slots are available, and book a slot by entering their information.

The frontend includes:

* A clean homepage with a welcome message and a start button
* A real, interactive map using Leaflet that shows parking lot markers
* When a user clicks on a marker, the available and booked slots show up on the side of the screen
* Clicking on an available slot takes the user to a reservation form
* After filling in their name, license, email, and time, the user sees a confirmation screen
* The confirmation page includes a QR code for their reservation, which they can also download

Everything is responsive and styled using Bootstrap and custom CSS. I kept the layout user-friendly and made sure all screens are smooth and clear.

### **Screenshots**

I’ve included screenshots of each major part of the app:

* Homepage with my name visible in the footer
* Map view with parking lot markers
* Slot list showing availability
* Reservation form with input fields
* Final confirmation screen with QR code and a download button

You’ll find them in the screenshots/ folder inside my submission ZIP file.

### **Running the App**

The project runs perfectly on localhost:3000 using npm start.  
All components are working properly, and navigation between screens is smooth using React Router.

### **Components I Built**

* Home.jsx: Welcome screen
* MapView.jsx: Map on the left, slot viewer on the right
* SlotSelector.jsx: (Integrated into MapView)
* ReservationForm.jsx: Collects user input
* Confirmation.jsx: Displays submitted info and QR code
* QRCodeDisplay.jsx: Handles QR generation and download

### **Tools & Libraries Used**

* React 18 (with functional components and hooks)
* React Router DOM (for page navigation)
* Leaflet (for interactive map and markers)
* qrcode.react (for generating QR codes)
* Axios (installed, will be used in backend integration)
* Bootstrap (for layout and responsiveness)
* Custom CSS files for styling

### **What’s Included in the ZIP**

* /src folder with all React component code
* All required CSS files (one for each component)
* screenshots/ folder showing the UI
* This documentation as a .docx file