**1. Project Overview**

* **Title**: Trackable/Dynamic QR Code Generator and Analytics Webpage
* **Objective**: To create a web application that allows users to generate dynamic QR codes linked to vCard data, track scans, and analyze user interactions.

**2. Features**

* **User Registration/Login**: Allow users to create accounts and log in to manage their QR codes.
* **VCard Form**: A form for users to input their contact details, which will be converted into a vCard 3.0 format.
* **QR Code Generation**: Generate a QR code that links to the vCard data.
* **Profile Image Upload**: Allow users to upload a profile image that will be included in the vCard.
* **Analytics Dashboard**: Display analytics data on QR code scans, including timestamps, locations, and user agents.
* **Error Handling**: Provide user-friendly error messages for form submissions and QR code generation.
* **Phone App**: QR Code automatically triggers the phone app.
* **Landing Pages/ShortLinks**: Generates QR Codes for Landing Pages and makes URL shorter while generating QR for the same.
* **QR Code Customization**: After generation, the QR Code can be customized for color and design. Templates can be saved and used in the future.

**3. User Stories**

* As a user, I want to create a vCard with my contact information so that I can share it easily.
* As a user, I want to generate a QR code for my vCard so that others can scan it.
* As a user, I want to view analytics on how many times my QR code has been scanned.

**4. Technical Requirements**

* **Frontend**: React with TypeScript
* **Backend**: FastAPI with Python
* **Database**: MongoDB/PostgreSQL for storing vCard data and analytics
* **Cloud Storage**: For storing profile images and QR code images
* **Deployment**: Docker for containerization, deployed on a cloud platform (e.g., AWS, Heroku)

**5. Success Metrics**

* Number of users registered
* Number of QR codes generated
* User engagement metrics (e.g., number of scans per QR code)
* User feedback and satisfaction ratings