

Project Report: BarCodeScanApp

Overview

This project is a barcode scanning mobile application built using React Native with a Node.js and MongoDB backend. The goal was to allow scanning of product/location barcodes, storing those scans in a database, and displaying the data in real time.

Technologies Used

Frontend:

- React Native (Expo)
- React Navigation
- Barcode Scanner from expo-barcode-scanner

Backend:

- Node.js with Express
- MongoDB (via Mongoose)
- dotenv for environment config
- CORS

App Features

1. Scan Barcode - Uses mobile camera to scan.
2. Store Data - Sends data to backend API and stores in MongoDB.
3. View Reports - Displays scanned barcode history with time.
4. Navigation - Smooth screen transitions using React Navigation.

Workflow

HomeScreen: App entry with buttons to scan or view data.

LocationScreen: Handles barcode scanning and API call to store data.

BatchScreen: Fetches all scanned records from database and lists them.

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Backend Highlights

Uses Mongoose schema (Scan.js) to structure barcode + timestamp.

REST API routes: /scan (POST), /scans (GET)

MongoDB connection managed with environment variable (.env)

Learning Outcome

Integrated full-stack flow from mobile to database.

Practical use of REST APIs and async fetch in mobile app.

Modular file structuring and clean UI design.

Conclusion

The app is ready for scanning operations in small businesses, warehouse entry, or academic use cases. It can be further extended with user authentication, export to Excel, or filtering by date range.