

E Motorad

Architecture Choices & Feature Implementation

Architecture Choices

- **State Management:** Used **BLoC (Business Logic Component)** for managing app state efficiently.
- **Backend & Database:** **Google Sheets API** used as the primary data storage instead of Firebase.
- **UI Framework:** Built using **Flutter** for cross-platform compatibility.
- **Authentication:** Google authentication is used for user sign-in.

Feature Implementation

- **Attendance Tracking:** Users clock in/out, with timestamps stored in Google Sheets.
- **Admin Panel:** Admins can **edit clock-in/out times** using an intuitive UI.
- **Real-Time Data Refresh:** Refresh button fetches the latest attendance records.
- **Sorting & Filtering:** Attendance records are sorted in **descending order of date**.
- **Error Handling:** Proper **validation for email inputs** and handling of invalid data.
- **Overtime Calculation:** Displays overtime if work hours exceed 9 hours.
- **User-Friendly UI:** Icons, gradients, and meaningful labels for better UX.
- **Logout Feature:** Ensures session management and security.