Product Overview Document

eQuickRide Platform

April 2025

Version 1.0

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1. Introduction

1.1 Overview of eQuickRide

eQuickRide is an innovative, tech-driven ride-hailing platform that provides efficient, transparent, and safe transportation services. The system is built to support a full ecosystem involving **taxi drivers**, **administrators**, and **support staff** through integrated mobile apps and web-based management tools with multi-role access and scalable architecture.

Unlike traditional ride-hailing systems focusing primarily on the passenger app experience, eQuickRide emphasizes **real-time driver monitoring, emergency response, operational control, financial tracking, and seamless driver lifecycle management**. The platform combines three tightly integrated components:

- **Taxi Driver Mobile App**—This app enables drivers to manage trips, view a real-time digital taximeter, calculate fares in real time, accept ride requests, and access earnings.
- **Admin Tablet App** – A field-level application offering real-time trip monitoring, SOS intervention, and live driver tracking from Android tablets.
- **Admin Web Portal** – A browser-based system for centralized management of drivers, vehicles, live bookings, garages, operational, and financial reporting.

1.2 Purpose

The purpose of this document is to provide a **high-level technical and functional understanding** of the eQuickRide ecosystem, breaking it down module-wise and outlining the major components, their interrelations, and the core features within each system.This document serves as a strategic reference aimed at enabling the business to scale efficiently and sustainably by ensuring that the platform's design supports growth in users, regions, and operational complexity.

It is intended to guide:

- Product managers, business analysts, and project stakeholders seeking feature alignment and clarity on business scalability.
- Developers and QA teams needing a clear grasp of the functional scope to build a robust, scalable system.
- Operational teams planning rollout, usage, and emergency workflows with scalability in mind.

This document also includes a block diagram that visually represents the interaction between components, helping stakeholders identify system boundaries, dependencies, and data flows.

1.3 Key Objectives of eQuickRide

The platform has been engineered with the following high-level objectives:

- Enhance Operational Control: Provide admins with live driver visibility, trip monitoring, and enforcement tools such as meter pausing and remote camera access.
- Streamline Driver Experience: Empower drivers with automated ride handling, digital meters, payout transparency, and flexible availability options.
- Increase Rider Safety & Trust: Incorporate real-time SOS features, GPS tracking, and admin alerts to manage critical incidents quickly.
- Support Scalable Fleet Management: With garage-based capacity control and role-permission models, the system is built for scaling across regions.
- Enable Data-Driven Decision Making: Through real-time dashboards, live bookings, and downloadable reports, the platform supports analytical insights and compliance tracking.

Maintain Security & Compliance: Enforce role-based access, communication, and audit logging to ensure data privacy and regulatory adherence.

2. Module Breakdown

2.1 Taxi Driver App (Mobile Ride Interface)

Purpose: Empower taxi drivers to manage ride requests, trips, earnings, safety, and availability.

Modules & Features:

1. **Ride Management**
   - Accept/reject rides
   - Start/pause/end trips
   - General, Hourly, and Shared modes

2. **Taxi Meter**
   - Real-time fare calculation (time + distance)
   - The digital meter is visible to both the rider and the driver for fare transparency.
   - Drivers can control the meter directly through the mobile app (start, pause, stop), ensuring synchronization between physical and digital meters.

3. **Trip Completion**
   - Payment options: cash, card
   - Extras: tolls, airport fee, telephone dispatch

4. **Earnings & Wallet**
   - Daily/weekly/monthly summaries
   - QR receipt generator
   - Payout visibility

5. **Availability Toggle**
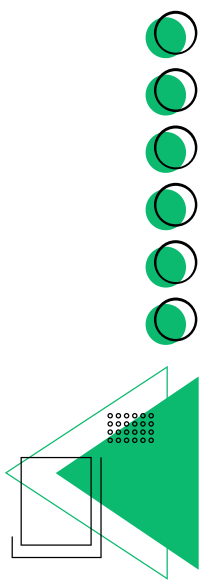   - Online/Offline status

6. **Safety & SOS**
   - Emergency button
   - App warnings (e.g., pause meter alerts)
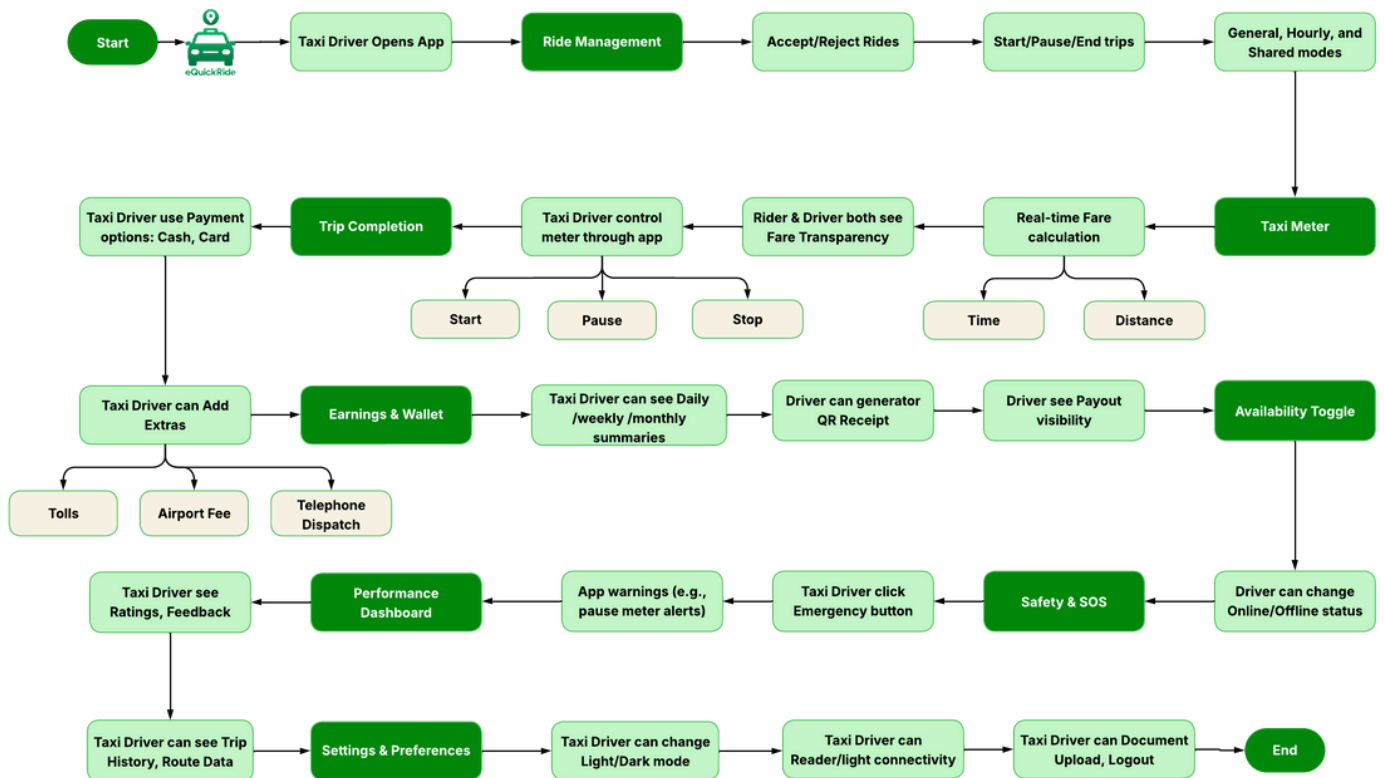
7. **Performance Dashboard**
   - Ratings, feedback
   - Trip history, route data

8. **Settings & Preferences**
   - Light/Dark mode
   - Reader/light connectivity
   - Document upload, logout

2.1.1 Taxi Driver App Diagram

2.2 Admin Mobile App

Purpose: Real-time on-ground monitoring of driver behavior, trips, and incidents via Android.
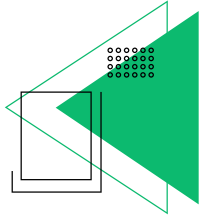
Modules & Features:

1. **Dashboard**
   - Driver statuses (Hired, Vacant, On-Call, Off-Duty)
   - Graphs & visual summaries
2. **Live Monitoring**
   - GPS map view of active drivers
   - Detailed modal with: Face ID, PVIN, Meter, Trip Info
3. **Trip Tracking**

- Real-time fare, distance, time
- Trip logs, passenger info

1. **Exception Handling**
   - SOS triggers
   - Offline trips, data corruption alerts
2. **Camera & Emergency Tools**
   - Remote access to front/back driver cameras
   - Capture screenshots during SOS
3. **Offline Mode (Local DB Cache)**
   - Auto-sync on internet reconnect
   - Cached trip data integrity
4. **Admin Actions**
   - Real-time tracking of driver status and trip activity
   - Ability to review driver behavior and detect violations
   - Capability to take appropriate enforcement actions(pause meter, disable driver) in response to violations.
   - Delete/restore driver data

2.2.1 Admin Mobile App Diagram
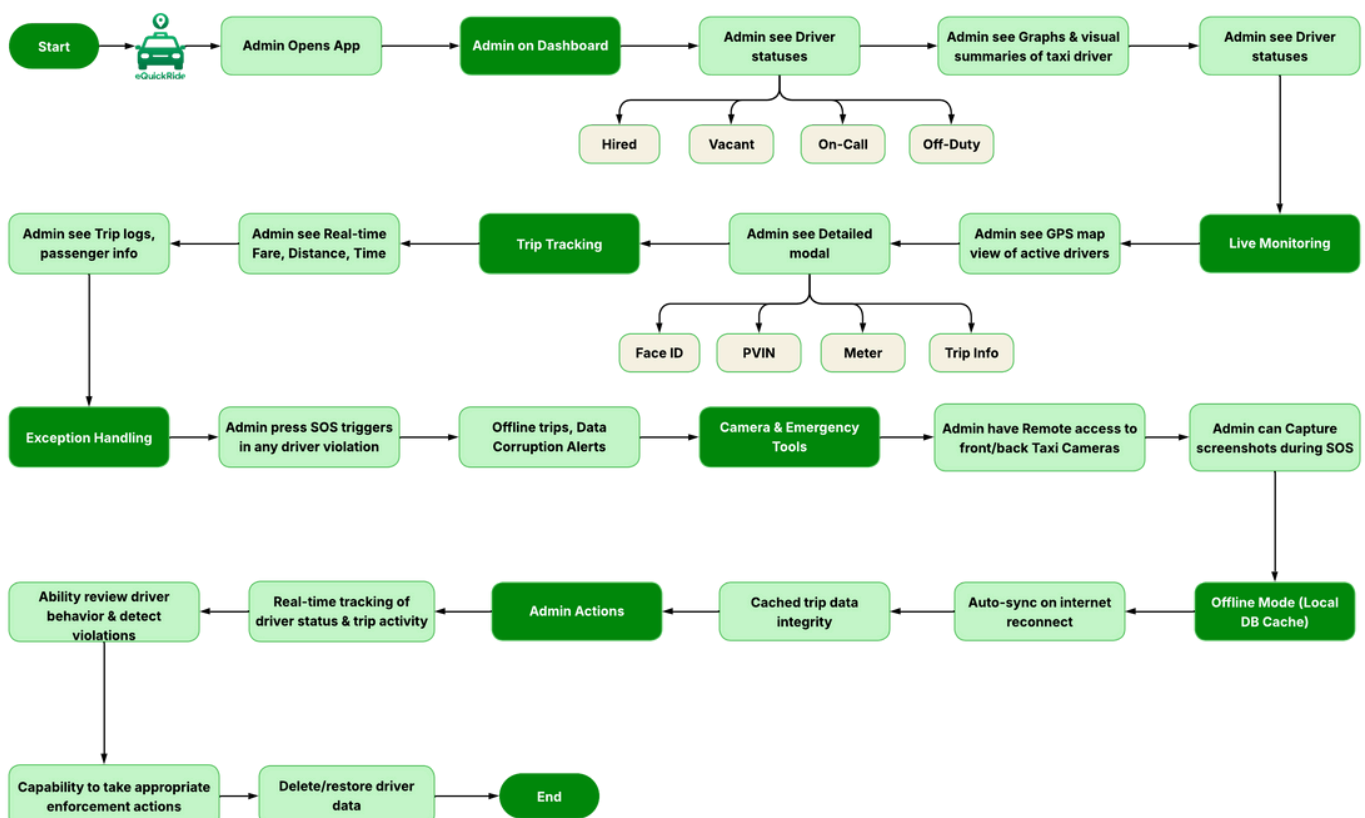
2.3 Admin Web Panel (Browser-Based)

Purpose: Centralized admin control for driver onboarding, trip management, garage assignment, financial auditing, and report generation.

Modules & Features:

1. **Authentication & Role Control**
   - Super/Sub Admin login
   - Role assignment and granular permission control
2. **Dashboard & KPIs**
   - Real-time stats: drivers, trips, revenue
   - Leaderboards (top drivers by trips, revenue, mileage)
   - Night/Day UI Mode toggle
3. **Live Booking Management**
   - Live map with driver statuses (Green, Yellow, Red, Blue)
   - Vehicle detail cards
   - Manual booking form
4. **Driver & Vehicle Management**
   - Approvals (KYC, license, docs)
   - Edit/lock driver profiles
   - Car-driver lock (FaceID mapping)
   - Driver search and filtering options
5. **Garage System**
   - Garage creation
   - Driver-garage assignments
   - 300-driver capacity per garage (Square API integration)
6. **Financial Reports**
   - Trip Receipts & Extra Fare Reports
   - Surcharge & Payment Summaries
   - Driver earnings & trip manifests
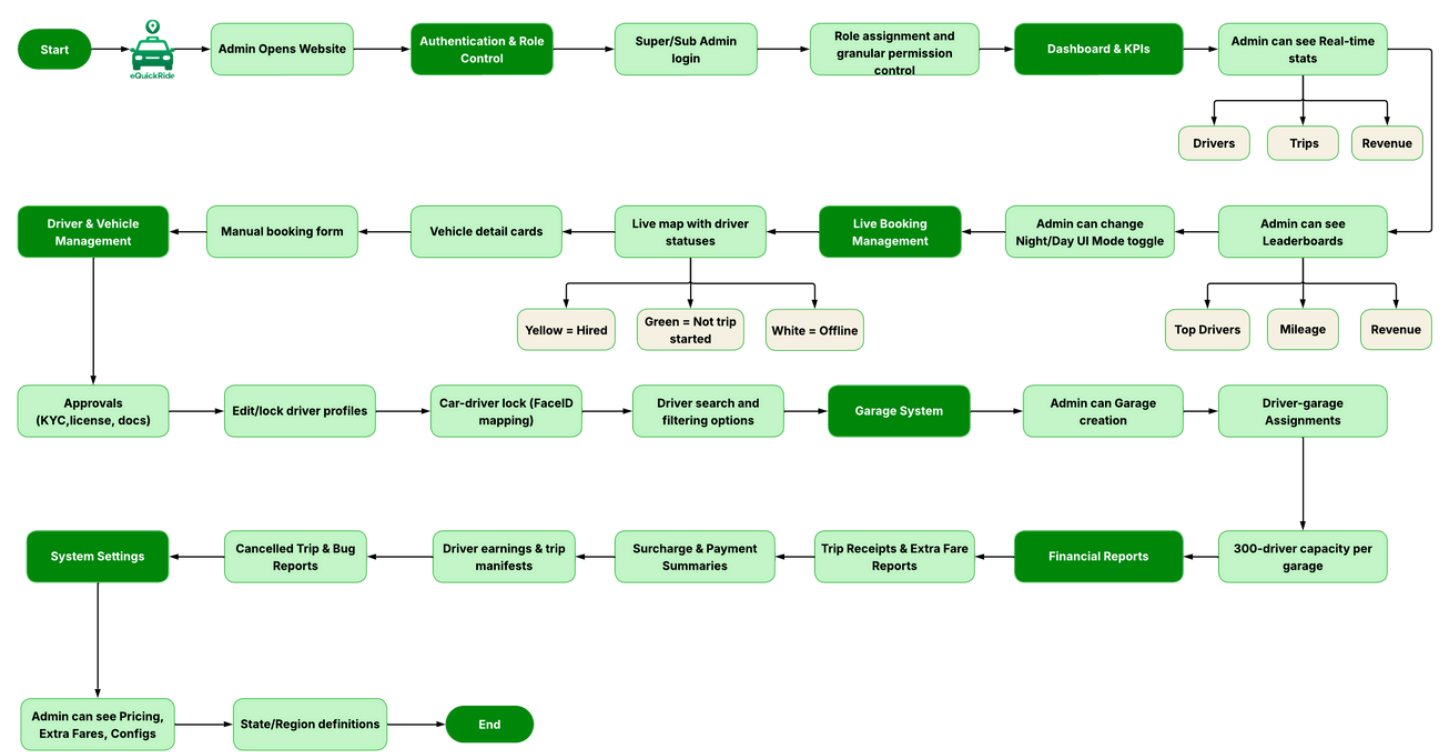   - Cancelled Trip & Bug Reports
7. **System Settings**
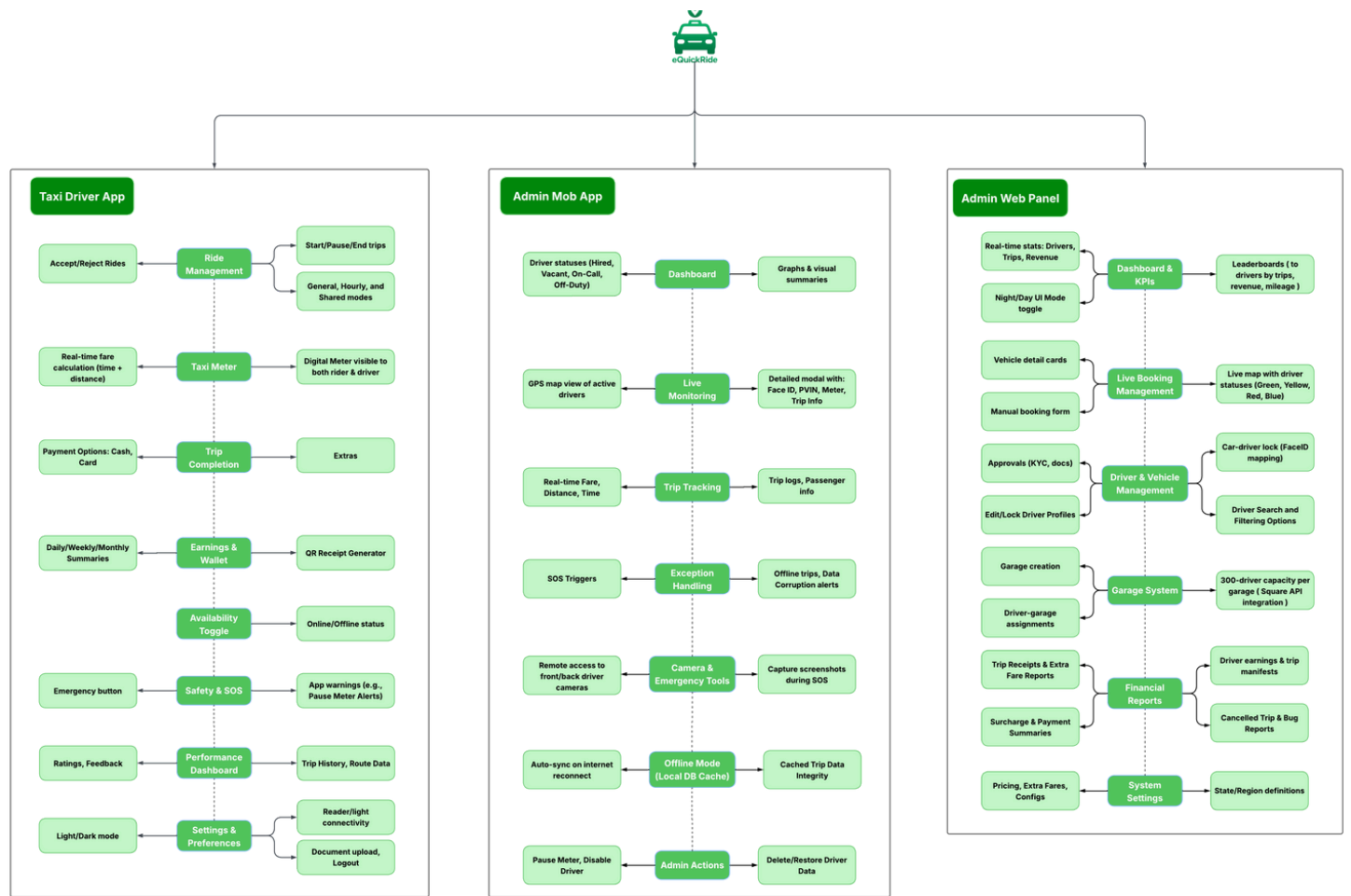   - Pricing, Extra Fares, Configs
   - State/Region definitions

2.3.1 Admin Web Panel Diagram

3. High-Level Block Diagram

4. System Flow Highlights

- **Real-Time Sync:** All modules communicate via secured APIs to ensure up-to-date trip, earnings, and driver data.
- **Offline Resilience:** Admin and Driver apps cache trip data locally and auto-sync once connected.
- **Role-Based Access:** Critical actions (like camera access, pause meter, and garage assignment) are secured via admin roles.
- **Compliance & Auditing:** All actions (approvals, earnings edits, SOS triggers) are logged.

5. Conclusion

The eQuickRide system is architected to offer seamless integration across operational, financial, and safety domains for a real-time ride-hailing business. With modular interfaces tailored for admins and drivers, the platform supports high scalability, regulatory compliance, real-time operations, and future growth across cities and services.