

Jivhala Motors - Mobile App Documentation

Overview

Jivhala Motors is a comprehensive vehicle dealer management mobile application designed for small to mid-sized car dealerships. It tracks the entire vehicle lifecycle—from intake (Vehicle In) to sale (Vehicle Out)—and includes buyer management, PDF generation, notifications, data export, and full user profile capabilities. Designed and developed by **5techG**.

Tech Stack

Frontend (Mobile)

- **Framework:** Flutter
- **Language:** Dart
- **Architecture:** MVVM with Provider
- **UI/UX:** Cupertino + Material hybrid, Dark/Light Mode

Backend

- **Framework:** Node.js + Express.js
- **Database:** MongoDB (Atlas)
- **Authentication:** JWT with email OTP
- **File Upload:** Multer
- **PDF Generation:** PDFKit / html-pdf
- **Security:** Password hashing with bcrypt, rate limiting, token expiration

Hosting & DevOps

- **Backend Hosting:** Render or Railway
 - **Database Hosting:** MongoDB Atlas
 - **CI/CD:** GitHub Actions
 - **Testing:** Postman + Flutter integration tests
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Authentication Module

- **Splash Screen:** Branded loading screen
 - **Onboarding Screens:** App intro with swipeable walkthrough
 - **Login Page:**
 - Username + Password
 - "Remember Me" checkbox (uses `SharedPreferences`)
 - "Forgot Password" sends OTP via email
 - **Persistent Login:** Auto login if token is valid until manual logout
 - **Logout:** Button in profile clears token and returns to login
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Profile Management

- Editable Profile (Name, Username, Password)
- Shows app version
- Additional pages:
 - About Us
 - Privacy Policy
 - Terms & Conditions

- Footer: *Designed and Developed by 5techG*
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Vehicle Management

Vehicle In Form

- `vehicleInDate` (DatePicker)
- `vehicleNumber`, `vehicleHP`, `chassisNo`, `engineNo` (Text)
- `vehicleName`, `modelYear` (Dropdown or CupertinoSlider)
- `ownerName`, `ownerType` (1st/2nd/3rd - Checkbox)
- `mobileNo`, `insuranceDate`, `challan` (Text)
- Checkboxes: `RC`, `PUC`, `NOC`
- Upload up to 6 vehicle photos
- Unique Vehicle ID auto-generated

Vehicle Out Form

- Pre-filled In details
- Buyer fields:
 - `buyerName`, `address`, `mobileNo`
 - `price`, `rtoCharges`, `commission`, `token`, `receivedPrice`, `balance`
 - `aadharCard`, `panCard`, `dlNumber`
 - ID Proof Type: Dropdown (Aadhaar, PAN, DL)
 - Buyer photo
 - `outDate` (DatePicker)

- Buttons: Print, Mark as Out (locks editing)
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Vehicle Details Page

- View full vehicle and buyer info
 - Buttons:
 - **Edit:** Edit all fields (if status is In)
 - **Print PDF:** All fields + photos (PDF named after vehicle number)
 - **Vehicle Out:** Go to Vehicle Out form
 - **Delete:** Swipe to delete or delete button
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Dashboard

- Total Vehicles, Vehicles In, Vehicles Out
 - Search & Filter: by vehicle number, date, owner name, status
 - Monthly Line Graph:
 - X-axis: Months
 - Y-axis: Number of vehicles
 - 2 Lines: Vehicle In vs Vehicle Out (uses `fl_chart` or `syncfusion_flutter_charts`)
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Data Export

- Export Button:
 - Download PDF/CSV of vehicle data

- Fields: Unique ID, Vehicle No, In Date, Out Date, Status
 - Endpoint: `/api/vehicles/export`
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Notifications

- Local notifications (via `flutter_local_notifications`):
 - Insurance or PUC expiry
 - Incomplete Vehicle Out entries
 - Custom reminders
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PDF Format

- **Header:** Jivhala Motors logo, tagline, contact
 - **Body:**
 - Box 1: Vehicle In details
 - Box 2: Buyer details
 - **Footer:**
 - Buyer Signature
 - Owner Signature
 - Quote: "Thank you for trusting Jivhala Motors"
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Flutter Package List

- `provider`, `shared_preferences`

- flutter_local_notifications, image_picker
 - pdf, printing, path_provider
 - dio, http, flutter_bloc
 - google_fonts, cupertino_icons, fl_chart
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Backend API Summary

Authentication

- POST /api/login
- POST /api/forgot-password (sends email)

Vehicles

- POST /api/vehicles/in - Add vehicle
- GET /api/vehicles - List/search/filter
- GET /api/vehicles/:id - Vehicle details
- PUT /api/vehicles/:id - Update
- DELETE /api/vehicles/:id - Delete
- POST /api/vehicles/:id/out - Mark as out

Export

- GET /api/vehicles/export
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Backend Code Structure

/backend

|— server.js

|— config/

|— controllers/

|— models/

|— routes/

|— utils/

|— uploads/

Flutter Code Structure

/lib

|— main.dart # App entry point

|— config/ # Theme, constants

|— screens/

| |— auth/ # Login, onboarding

| |— dashboard/ # Home with chart

| |— vehicle/ # In, Out, Details

| |— profile/ # Profile, Settings

| |— common/ # Privacy, About

|— models/ # Vehicle, Buyer, User models

|— providers/ # App state providers

|— services/ # API services

|— widgets/ # Reusable components

|— utils/ # Helpers, formatters

|— routes.dart # App routing

Deliverables

- Fully functional Flutter app
 - Node.js backend with API & MongoDB
 - Postman collection
 - PDF template
 - Deployment on Render/MongoDB Atlas
 - User and technical documentation
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