Here’s a **detailed breakdown** of the complete app architecture — including all the **pages (screens)** and **modules** — tailored for your **Android logistics app** with:

* Support for individuals, companies, and construction companies
* Sacco-based lorry management
* Multi-lorry requests
* Real-time tracking
* Role-based user access

**📚 Full App Structure: Pages & Modules**

**1. 🧑‍💼 Authentication Module**

**Pages:**

* **Splash Screen**
* **Login Page**
* **Signup Page** (select: Individual, Company, Construction Company)
* **Forgot Password Page**

**Key Functions:**

* Role-based authentication
* Save user type during signup
* Secure login via Firebase Auth or OAuth

**2. 🏠 Dashboard Module *(Role-Based)***

**Pages:**

* **Individual Dashboard**
* **Company Dashboard**
* **Construction Company Dashboard**
* **Admin Dashboard**
* **Sacco Manager Dashboard**
* **Driver Dashboard**

**Key Functions:**

* Show relevant stats (orders, tasks, tracking, reports)
* Shortcut buttons (Create Order, Track Lorry, Assign Driver, etc.)

**3. 📦 Order Management Module**

**Pages:**

* **Create New Order Page**
  + Single or multiple lorry request
* **Order List Page**
  + Filters: Pending, Ongoing, Delivered
* **Order Details Page**
  + Summary, status, assigned lorries
* **Order Edit/Cancel Page**

**Features:**

* Multi-lorry selection
* Parcel details, attachments
* Pickup/drop-off time scheduling

**4. 🚚 Lorry Management Module**

**Pages:**

* **Lorry Registration Page**
  + Add lorry, assign Sacco
* **Lorry List Page**
  + Filter by Sacco, availability
* **Lorry Detail Page**
  + Status, location, current order

**5. 🧑‍🔧 Driver Management Module**

**Pages:**

* **Driver Registration Page**
* **Driver List Page**
* **Driver Profile Page**

**Driver App Pages:**

* **Assigned Deliveries**
* **Delivery Detail Page**
* **Mark as Picked/Delivered**
* **Upload Delivery Proof**

**6. 🏢 Sacco Management Module**

**Pages:**

* **Sacco List Page** (Admin only)
* **Sacco Registration Page**
* **Sacco Dashboard** (for managers)
* **Sacco Detail Page**
  + Show lorries & drivers

**7. 📍 Real-Time Tracking Module**

**Pages:**

* **Live Tracking Map Page**
  + Show multiple lorries for an order
* **Lorry Location Detail Page**
  + Driver name, ETA, route

**Features:**

* Google Maps SDK
* Driver location updates
* Cluster view for multi-lorry jobs

**8. 📊 Reports & Analytics Module**

**Pages:**

* **Admin Report Dashboard**
* **Sacco Performance Page**
* **Company Order History Page**
* **Invoice Generation Page**

**Features:**

* Delivery stats
* Performance by Sacco or driver
* Download PDF or CSV invoices

**9. 🔔 Notification Module**

**Pages:**

* **Notification Inbox**
* **Push Notification Settings**

**Features:**

* Alerts for:
  + Order status updates
  + Lorry assignments
  + Delivery issues
* Firebase Cloud Messaging (FCM)

**10. ⚙️ Settings & Profile Module**

**Pages:**

* **User Profile Page**
* **Edit Profile Page**
* **Company Profile Settings**
* **Change Password Page**
* **Logout**

**11. 🧾 Billing & Invoicing Module *(for businesses)***

**Pages:**

* **Invoice List**
* **Invoice Detail View**
* **Billing Preferences Page**

**🧱 Optional Advanced Modules**

**📅 Scheduling Module**

* Recurring deliveries (for companies)

**💬 Chat/Support Module**

* Live chat with dispatch/admin

**📎 Document Upload Module**

* Upload documents (delivery forms, receipts, permits)

**🔄 Navigation Flow Overview (Simplified)**

sql

CopyEdit

Splash → Login → Role-Based Dashboard

↓

┌────────────┬────────────┬────────────┬────────────┐

│ Create Order │ Track Lorry │ View Orders │ View Profile │

└────────────┴────────────┴────────────┴────────────┘

↓

Admin/Sacco Only:

┌──── Lorry Management ────┐

│ Driver Management │

│ Sacco Management │

└──────────────────────────┘

**✅ Summary of Modules**

| **Module** | **Key Roles Involved** |
| --- | --- |
| Authentication | All users |
| Dashboard | All users (role-based) |
| Order Management | Individual, Company |
| Lorry Management | Admin, Sacco Manager |
| Driver Management | Admin, Sacco Manager |
| Sacco Management | Admin, Sacco Manager |
| Real-Time Tracking | Admin, Customer, Dispatcher |
| Notifications | All roles |
| Reports & Analytics | Admin, Company |
| Billing & Invoicing | Company, Construction |
| Settings/Profile | All users |

**🎯 PROJECT PROPOSAL PPT OUTLINE: Logistics App**

**🖼️ Slide 1: Title Slide**

**Title:**  
🚛 *SmartLogix: Mobile Logistics App with Sacco Integration*

**Subtitle:**  
A modern logistics platform for individuals, companies, and construction firms

**Presented by:**  
Your Name / Team Name  
Date

**🧭 Slide 2: Project Overview**

* A mobile logistics platform for managing transport orders
* Supports multi-lorry requests
* Integrates Saccos for fleet management
* Real-time tracking and role-based dashboards

**🧑🏽‍💼👷🏾‍♂️🏢 Slide 3: Target Users**

* **Individuals:** Personal deliveries (furniture, goods)
* **Companies:** Business-to-business deliveries
* **Construction Firms:** Heavy machinery/material transport
* **Saccos:** Vehicle and driver cooperatives
* **Dispatchers/Admins:** Logistics coordination and analytics

**🛠️ Slide 4: Core Features**

* User registration by type (Individual, Company, Construction)
* Create orders with 1+ lorries
* Assign lorries via Sacco integration
* Real-time GPS tracking
* Notifications, reporting, and invoicing
* Multi-role access (Driver, Admin, Sacco Manager)

**🧱 Slide 5: System Architecture**

* **Frontend:** Kotlin (Android native)
* **Backend:** Firebase / Node.js / Django REST
* **Database:** Firestore / PostgreSQL
* **Maps:** Google Maps SDK
* **Notifications:** Firebase Cloud Messaging  
  *(Include a simple system flow diagram if possible)*

**🗺️ Slide 6: App Modules & Pages**

* **Authentication**
* **Role-based Dashboard**
* **Order Management**
* **Lorry & Driver Management**
* **Sacco Management**
* **Tracking & Notifications**
* **Reports & Invoicing**

**📲 Slide 7: Sample User Flow (Customer to Delivery)**

1. Customer signs up (selects role)
2. Places a delivery request (1+ lorries)
3. Admin/Dispatcher assigns lorries from available Saccos
4. Drivers deliver items with live tracking
5. Customer receives updates and invoice

**📊 Slide 8: Admin & Sacco Features**

* Add/edit Saccos, lorries, drivers
* View lorry utilization & driver performance
* Assign orders to Sacco fleets
* Generate delivery reports

**💼 Slide 9: Business Benefits**

* Efficient delivery management for all user types
* Automated fleet assignment through Sacco
* Customizable for SMEs, construction firms
* Strong accountability and tracking

**🧪 Slide 10: Development Roadmap**

**Phase 1:** UI/UX design + core features  
**Phase 2:** Sacco integration + GPS tracking  
**Phase 3:** Notifications, reporting, invoices  
**Phase 4:** Testing & deployment

**💰 Slide 11: Budget & Resources**

* Estimate of time, team size, tools
* Backend costs (Firebase, server)
* Map API and notification usage  
  *(Add real values if available)*

**🎯 Slide 12: Next Steps / Call to Action**

* Finalize feature scope
* Approve development plan
* Begin UI/UX and backend setup

**✅ Slide 13: Thank You / Q&A**

* Contact info
* Invite questions or input

# Pepea Logistics: Mobile Logistics App with Sacco Integration

**Project Proposal**

## 1. Project Overview

Pepea Logistics aims to revolutionize goods transportation across Africa by providing a seamless mobile platform that connects customers with lorry owners and drivers efficiently. The platform addresses the common challenges faced in the logistics industry such as scarcity of available lorries, inefficient coordination, and lack of real-time delivery visibility.

This app will allow various users — individuals, companies, and construction firms — to place requests for one or multiple lorries, while integrating with Saccos (registered transport cooperatives) to manage fleets and drivers effectively. The app will also support real-time GPS tracking, notifications, and detailed reporting to improve transparency and operational efficiency.

## 2. Target Users

* **Individuals:** Customers requiring transportation of personal goods, including furniture, electronics, and household items.
* **Companies:** Small to medium enterprises needing regular or bulk logistics solutions for business operations.
* **Construction Firms:** Companies that need heavy machinery, building materials, and equipment transported safely and on time.
* **Saccos:** Cooperatives that own and manage fleets of lorries and drivers, responsible for vehicle registration, compliance, and driver assignment.
* **Dispatchers and Admins:** Personnel managing orders, assigning vehicles, monitoring deliveries, and generating reports.

## 3. Problem Statement

Transporting goods in Africa is often cumbersome due to:

* **Difficulty finding available lorries** suited for specific cargo or urgent timelines.
* **Fragmented transport systems** with many small-scale operators lacking centralized coordination.
* **Manual booking and communication processes** leading to delays, errors, and lack of accountability.
* **Poor tracking and visibility** of goods in transit, resulting in lost or delayed deliveries.
* **Limited support for complex orders**, such as those requiring multiple vehicles or specific fleet management by Saccos.
* **Inefficient communication between customers, drivers, and fleet managers**, leading to operational bottlenecks.

These challenges cause delays, increase transport costs, and reduce reliability — negatively impacting businesses and individuals alike.

## 4. Core Objectives

* Build a **user-friendly mobile application** for Android devices enabling customers to book transport services quickly and easily.
* Support **multi-lorry requests** to accommodate large shipments or multiple deliveries.
* Integrate **Sacco fleet management** features to register and manage lorries and drivers under cooperative organizations.
* Provide **real-time GPS tracking and delivery status updates** to customers and dispatchers.
* Enable **role-based access control**, offering tailored dashboards for drivers, Sacco managers, customers, and administrators.
* Automate **notifications** for order confirmations, status changes, and delivery completion.
* Implement **invoicing and reporting tools** to streamline business operations and payment processes.
* Enhance **operational transparency, efficiency, and accountability** across all users.

## 5. System Architecture

* **Frontend:** Native Android app developed using Kotlin for optimal performance and user experience.
* **Backend:** Cloud-based RESTful APIs developed with Node.js or Django to handle business logic, authentication, and data processing.
* **Database:** Firestore or PostgreSQL to store user data, orders, vehicle and driver info, and transaction history securely.
* **Mapping and Tracking:** Integration of Google Maps SDK for accurate real-time vehicle tracking and route optimization.
* **Notifications:** Firebase Cloud Messaging (FCM) to send push notifications and alerts to users.

An architectural diagram illustrating the interaction between the mobile app, backend services, and third-party APIs (maps, notifications) is recommended for visual clarity.

## 6. App Modules and Key Features

* **Authentication Module:** Secure signup and login with role selection (Individual, Company, Construction, Sacco Manager, Driver, Admin).
* **Dashboard Module:** Role-specific dashboards displaying relevant metrics such as order status, fleet availability, and alerts.
* **Order Management Module:** Allows users to create, edit, and track delivery orders; supports multi-lorry booking and scheduling.
* **Lorry & Driver Management Module:** Admin and Sacco managers can register vehicles, assign drivers, and monitor fleet status.
* **Sacco Management Module:** Manage Sacco profiles, vehicle fleets, driver rosters, and order assignments.
* **Real-Time Tracking Module:** Live GPS tracking on interactive maps with ETA calculations and route displays.
* **Notifications Module:** Automated updates sent via push notifications for order confirmation, dispatch, arrival, and delivery.
* **Reports & Invoicing Module:** Generate delivery performance reports and invoices; export data for accounting.
* **Settings & Profile Management:** Users can update profiles, payment details, and preferences securely.

## 7. Sample User Flow

1. **User Registration:** Customer downloads the app, signs up, and selects user type (individual, company, construction).
2. **Placing an Order:** The customer creates a delivery request, specifying item details, pickup and drop-off locations, and the number of lorries required.
3. **Order Assignment:** Dispatchers or Sacco managers assign available lorries and drivers from registered Saccos.
4. **Delivery Execution:** Drivers accept assignments and begin deliveries, updating status and location in real-time.
5. **Tracking and Notifications:** Customers monitor delivery progress via GPS and receive notifications at key milestones.
6. **Completion and Invoicing:** Upon delivery, customers receive proof of delivery and invoices generated by the system.

## 8. Admin and Sacco Manager Features

* Manage Sacco registrations and vehicle fleets.
* Add, update, or remove driver profiles and assign orders.
* Monitor real-time fleet usage, delivery statuses, and driver performance metrics.
* Access detailed reports for operational insights and billing purposes.
* Configure notifications and communication channels with drivers and customers.

## 9. Business Benefits

* **Increased Efficiency:** Streamlines the booking and dispatching processes, reducing wait times.
* **Improved Transparency:** Real-time tracking and status updates foster trust among all parties.
* **Enhanced Coordination:** Sacco integration provides centralized fleet management.
* **Better User Experience:** Tailored dashboards and notifications keep users informed and engaged.
* **Scalability:** The platform supports a wide range of users and cargo types, adaptable to future growth.
* **Cost Reduction:** Optimized route planning and fleet utilization reduce operational costs.

## 10. Development Roadmap

* **Phase 1:** UI/UX design and core feature development (authentication, order creation, dashboards).
* **Phase 2:** Integration of Sacco management and real-time GPS tracking.
* **Phase 3:** Implementation of notifications, reporting, and invoicing modules.
* **Phase 4:** Testing, bug fixing, performance optimization, and deployment to Google Play Store.

Each phase includes milestones, deliverables, and user testing cycles.

## 11. Budget and Resource Estimates

* **Development Team:** 1-2 Android developers, 1 backend developer, 1 UI/UX designer, 1 QA engineer.
* **Infrastructure Costs:** Cloud hosting (Firebase or AWS), Google Maps API, notification services.
* **Licensing and Tools:** Development IDEs, collaboration tools, testing devices.
* **Miscellaneous:** Marketing, deployment fees, and ongoing maintenance.

(Detailed cost breakdown will be provided after finalizing scope and timelines.)

## 12. Next Steps

* Review and finalize feature requirements and project scope.
* Approve budget and resource allocation.
* Begin UI/UX design and backend architecture setup.
* Establish project timeline and assign team roles.
* Schedule regular progress reviews and stakeholder updates.

## 13. Conclusion and Contact

Pepea Logistics seeks to transform goods transport across Africa by leveraging technology to solve long-standing inefficiencies. This platform promises to deliver convenience, transparency, and enhanced coordination among all logistics stakeholders.

For further inquiries or collaboration, please contact:

[Your Name]  
[Your Email Address]  
[Your Phone Number]