

ORAN Smart Home Automation Platform

Complete Product Requirements Document (PRD)

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This document defines the full product requirements, architecture, features, technical specifications, and implementation roadmap for the ORAN Smart Home Automation Platform.

1. Executive Summary

Product Overview: ORAN is a comprehensive smart home automation platform that streamlines the process of converting homes, offices, and estates into intelligent spaces.

Core Value Proposition: AI-driven quotations, flexible payments, end-to-end project tracking, site inspection management, and real-time technician coordination.

2. Product Architecture

System Components: Client Web App, Technician Dashboard, Admin Backend, AI Quotation Engine, Payment System, Document Management System.

User Roles: Customer, Technician, Admin, AI System.

3. Onboarding & Feature Selection

Customers classify project status (new, ongoing, finished), optionally schedule inspections, enter building specifications, and select automation features including lighting, climate, access control, surveillance, gate automation, and staircase lighting.

4. AI Quotation Generation

The AI generates three quote tiers (Economy, Standard, Luxury) using project inputs and a structured product catalog.

Each quote includes itemized products, installation costs, service fees, warranty details, timeline estimates, and terms.

5. Post-Onboarding Dashboard

Customers access a centralized dashboard showing project status, analytics, quick actions, operations tracking, billing, documents, and an AI chat assistant.

6. Document Signing & Contracts

Customers digitally sign Service Agreement, Terms & Conditions, and Installation Authorization.

Documents are securely stored and shared with all parties.

7. Payment Systems

Two payment models are supported: Milestone-based payments and the 80/10/10 structure.

Payments are tightly integrated with project progression and technician scheduling.

8. Operations & Technician Management

Projects include predefined site trip allocations based on complexity.

Technicians update progress in real time with check-in/out, photos, notes, and task tracking.

9. Wallet & Billing System

Customers manage a wallet for payments, top-ups, trip purchases, and extra services.

Invoices, transaction history, auto-pay, and receipts are available.

10. AI Chat Assistant

A context-aware AI assistant answers project, payment, scheduling, and product questions based on real-time project data.

11. Technical Specifications

Frontend: Next.js, Tailwind, Shadcn/UI.

Backend: Node.js or Python, PostgreSQL, Redis.

AI: LLM integration with vector search.

Payments: Paystack, Flutterwave, Stripe.

Security: RBAC, encryption, PCI compliance.

12. Implementation Roadmap

16-week delivery plan covering planning, backend, frontend, integration, testing, and launch.

Defined team structure including product, engineering, AI, QA, and DevOps.

13. Business Considerations

Revenue from service fees, installations, site trips, product markup, and maintenance.

KPIs include conversion rates, project timelines, margins, and customer satisfaction.

14. Status & Next Steps

This PRD serves as the definitive blueprint for ORAN's smart home automation platform.

Next steps include stakeholder review, UI design, development setup, and AI testing.