

# 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.