

Voice-First Unified Automation Platform



NEXUS AI

Speak. Automate. Simplify.

SMART AUTOMATION

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Problem Statement

The Fragmented Digital Ecosystem



Disconnected Platforms

Users juggle smart home systems, email, business tools, and navigation apps independently, leading to constant app switching.



Operational Friction

Each system requires separate dashboards, manual configuration, and technical setup, creating a disjointed user experience.



High Entry Barrier

Existing automation tools like Home Assistant demand technical knowledge and rule-based setup, lacking a unified voice-first interface.

WHO IS IMPACTED

Smart Home Users

Working Professionals

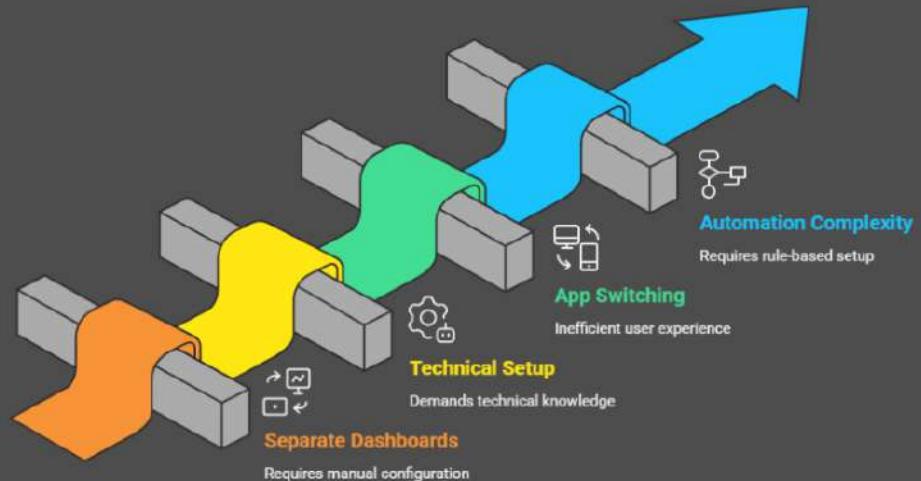
Small Businesses

Non-technical Users

Energy-conscious Households



Fragmented Digital Ecosystem



Made with Figma

NEXUS AI - Voice-First Unified Automation Platform

Proposed Solution

Unified Automation Platform

NEXUS AI connects smart homes and digital tools under a single intelligent AI interface. Users simply connect credentials and give voice commands.
No dashboards. No workflow rules. No YAML configuration.

CORE FUNCTIONALITY

Smart Home Intelligence Layer

- Connects via Home Assistant API for direct voice device control.
- Analyzes usage patterns to rank device-level energy contribution.
- Provides intelligent, consent-based automation suggestions.
- Example : "These 2 devices contribute to 60% of your total energy usage."

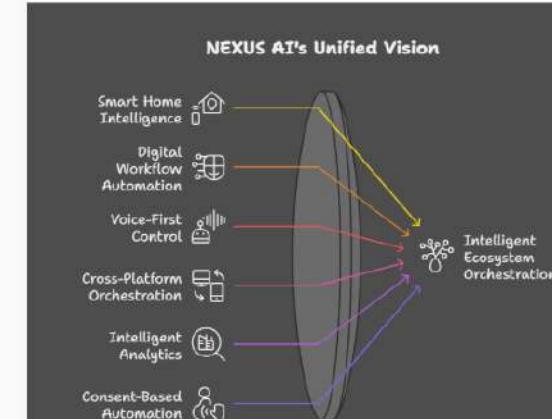
Digital Workflow Automation Layer

- Integrates Gmail, Calendar, Sheets, Maps, WhatsApp, etc.
- Executes predefined AI workflows using n8n via voice commands.
- Examples: "Summarize today's emails", "Generate invoice", "Navigate to office".

KEY DIFFERENTIATORS

- ✓ Voice-first unified control
- ✓ Intelligent usage analytics

- ✓ Cross-platform orchestration
- ✓ Energy contribution ranking



UNIFIED VISION & ECOSYSTEM



Technical Overview

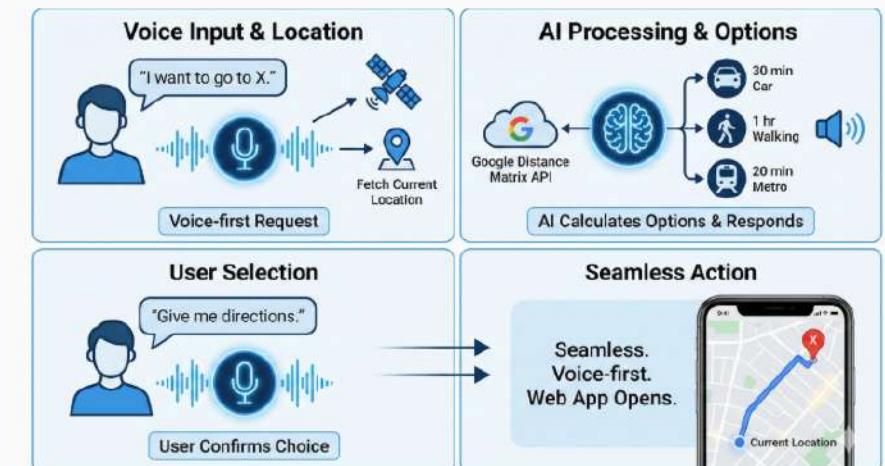
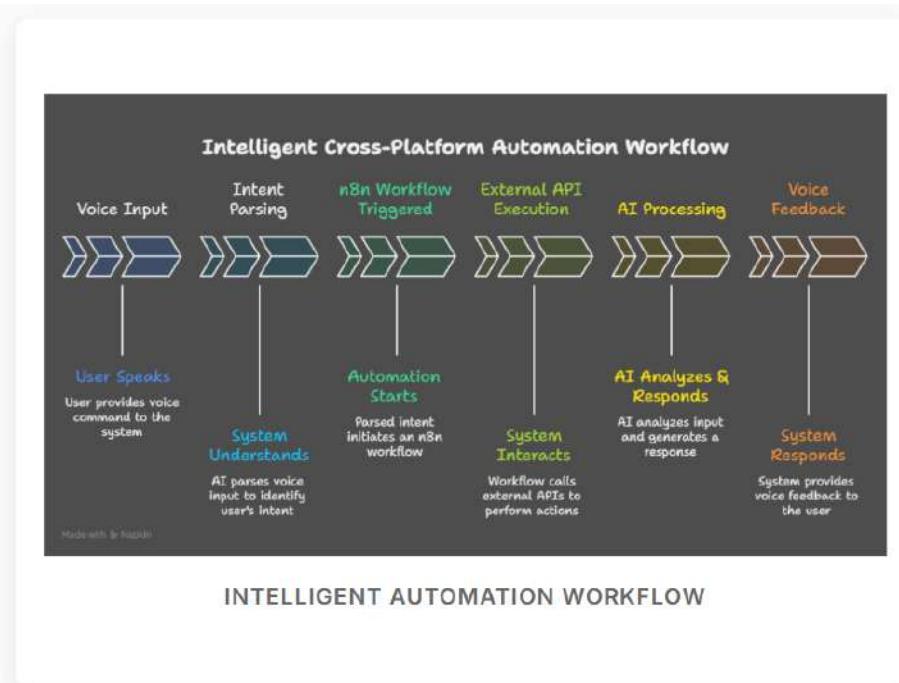
Architecture & Workflow Logic

TECH STACK

- Frontend & Backend: HTML, CSS, JS / FastAPI (Python)
- Automation Engine: Self-hosted n8n (AI workflows)
- Voice Stack: LiveKit / VAPI, Deepgram (STT)

- Database: SQLite (Prototype), PostgreSQL (Scale)
- External Integrations: Home Assistant, Gmail, G-Calendar, G-Sheets, G-Maps, WhatsApp, Spotify

SYSTEM WORKFLOW LOGIC



Feasibility & Plan

Execution Strategy

TECHNICAL FEASIBILITY

- ✓ Documented API integrations
- ✓ Webhook-based execution (n8n)
- ✓ FastAPI orchestration logic
- ✓ Real-time voice processing
- ✓ Lightweight SQLite analytics
- ✓ Modular expansion design

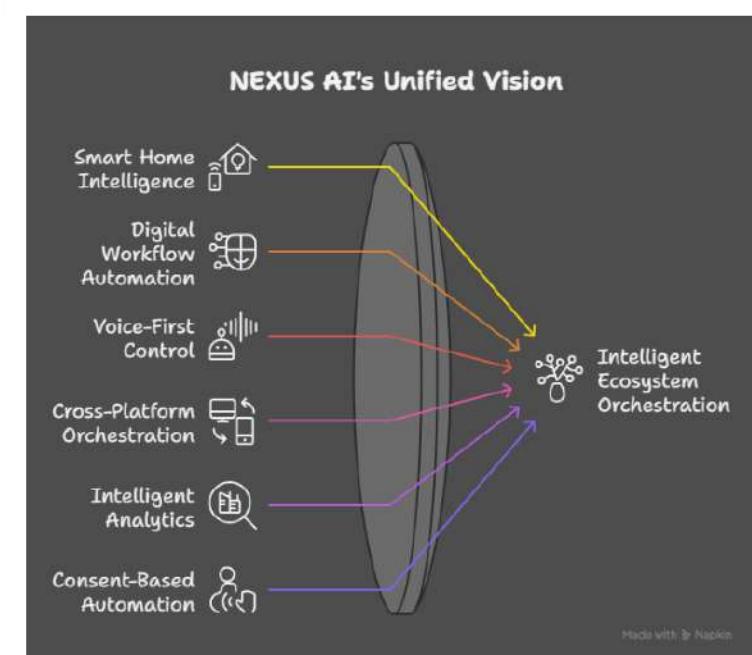
Prototype Scope

- Home Assistant Integration
- Gmail Automation
- Calendar Assistant
- Invoice Workflow
- Energy Demo

EXECUTION ROADMAP

- 1 **Core Setup**
Deploy FastAPI, n8n, Voice Pipeline, DB
- 2 **Smart Home Module**
Voice Control, Energy Tracking logic
- 3 **Digital Automation**
Gmail/Calendar, Stripe-to-Sheet flow
- 4 **Demo Integration**
Real-time execution, Consent, Testing

Scalability: Ready for PostgreSQL migration, n8n instance scaling, new API integrations, and multi-user SaaS expansion.



"Why open ten applications when one intelligent voice can orchestrate your entire smart and digital environment?"

- NEXUS AI transforms automation into intelligence.