

AERO : Software Design Documentation

(Automated Execution and Response Orchestrator)

Date: Sunday, February 16

Hackathon: TreeHacks 2025

Document Overview:

→ Outlines design, architecture, tech stack, API structure, deployment strategy, and scalability considerations for AERO, an AI-powered voice assistant that executes tasks seamlessly.

Commitment:

AERO - Always On, Always Ready

Effortless, Hands-Free Operation

Efficiency at your command. Intelligence at your fingertips. This is AERO.

Project Overview:

AERO is built to streamline digital workflow management by:

1. Understanding natural language
2. Executing commands instantly
3. Automating complex tasks
4. Seamlessly integrating with applications

AERO isn't just another AI assistant—it's an orchestrator of actions, built for speed, precision, and hands-free efficiency.

Key Features:

Features	Description
Instant Application Control	Open, close, and control applications via voice or text.
Smart Note-Taking	Dictate notes, draft documents, and save ideas hands-free.
Web Automation & Summarization	Extract key insights and navigate efficiently.
Seamless Communication	Open WhatsApp, send messages, and call contacts instantly.
Virtual Meeting Management	Set up Zoom meetings with auto-generated links.
Smart Scheduling	Manage Google Calendar events via simple voice commands.
Entertainment Control	Control Spotify, adjust volume, and switch tracks easily.
System & Screen Controls	Adjust brightness, optimize settings dynamically.
Therapy Mode	AI-powered mental wellness conversations.
Vision Processing	Reads on-screen data and generates visualizations.
Real-Time Translation	Converts any foreign language content into English.
Code Assistance	Analyzes problems, writes code, and executes within VS Code.

Hackathon Goal:

1. Build a **functional MVP** showcasing AERO's **voice activation & automation**.
2. Deploy the website & AI model to showcase capabilities.
3. Gather early user interest via a waitlist signup.

Future Expectations:

1. Expand multi-modal AI capabilities (Gemini Vision Integration).
2. Add 11Labs voice synthesis for realistic responses.
3. Improve app control (Zoom meeting auto-creation).
4. Optimize cross-device synchronization for a seamless user experience.

Project Structure:

AERO has two main repositories within TreeHacks25 GitHub Organization:

1. Website: The frontend for AERO, featuring a demo, waitlist signup, and product overview.
2. Model V1.0: The core AI voice recognition and automation system.

→ The Python-based AI system will be deployed as an API service.

The frontend will be a Next.js-based website, connected to the AI model. [Initially we utilized JavaScript]

AERO's executables will integrate directly with startup files for persistent background activation.