

Developer Guide

- Custom Development Board Adaptation Guide - Pin configuration, driver development, and compatibility testing for new hardware
- Intelligent Agent Docking Tutorial - Third-party agent access, function expansion, and interaction optimization
- Firmware Upgrade Development Guide - Custom OTA process, firmware signing, and version management
- Multilingual Extension Tutorial - Adding language packs, voice model adaptation, and translation function configuration

System Configuration

Server Configuration

- **Test Environment**

WebSocket Connection Address: <wss://api.apsets.com/agentTestWS/v2/chat>

- **Production Environment**

WebSocket Connection Address: <wss://api.apsets.com/agentWS/v2/chat>

Related Open-Source Projects

Server-Side Projects

- [future-explore/iot-ws-server](#) - Golang-based WebSocket streaming dialogue service
- [future-explore/iot-management-backend](#) - Device management backend service

Client-Side Projects

- [future-explore/iot-ios-client](#) - iOS device control APP
- [future-explore/iot-linux-client](#) - Linux device client

About the Project

This project is an open-source IoT intelligent dialogue solution by Next-Big-Seek, released under the MIT License. It allows free use, modification, and secondary

development for personal and commercial purposes. We are committed to lowering the development threshold for IoT intelligent interaction, providing standardized protocols and a modular architecture to help developers quickly achieve intelligent device upgrades.

Technical Support

- Official QQ Group: 1056381308 For any ideas or questions, please add WeChat or join the QQ group for communication.
- Documentation Center:
- Business Cooperation: nextbigseek@nextbigseek.com

Hardware Adaptation List

Hardware Model	Core Chip	Key Hardware Parameters	Pin Mapping (Core Functions)	Supported Functions	Adaptation precautions	Reference Link
Lichuang · Practical ESP32-S3 Development Board	ESP32-S3-WROOM-1	4MB Flash + 2MB PSRAM 1.14-inch LCD (240*135) Mono microphone + Speaker interface	- Audio Input: GPIO34 (Microphone) - Audio Output: GPIO21 (DAC) - LCD Driver: SPI2 (GPIO12/13/14/15) - Buttons: GPIO0 (Reset), GPIO1 (User Button)	<ul style="list-style-type: none"> ✓ Wi-Fi Connection ✓ Offline Voice Wake-up ✓ Streaming ASR/LLM/TTS ✓ LCD Expression Display ✓ Volume Control ✓ Scheduled Task 	1. The speaker requires an external 3.3V power amplifier module; direct connection to the DAC pin will result in no sound. 2. Pull down the BOOT pin (GPIO9) during flashing, and	Lichuang Open-Source Platform Project Page

				Reminder	release it after reset.	
Espressif ESP32-S3-BOX3	ESP32-S3-N16R8	16MB Flash + 8MB PSRAM 2.4-inch IPS LCD (320*240)) Dual-microphone array + 2W speaker Integrated PIR motion sensor	- Audio Input: I2S0 (GPIO42/41/40, Dual Mics) - Audio Output: I2S1 (GPIO17/18, Speaker) - LCD Driver: SPI3 (GPIO5/6/7/8) - PIR Sensor: GPIO21	✓ Wi-Fi / Bluetooth 5.0 ✓ Voiceprint Recognition (3D Speaker) ✓ Multimodal Interaction (Voice + Display) ✓ Human Motion Sensing Wake-up ✓ OTA Online Upgrade ✓ Smart Home Control ✓ Battery Monitoring	1. The factory-default firmware is Espressif's official firmware; erase the Flash first before flashing this project's firmware. 2. The PIR sensor is disabled by default; enable the GPIO21 interrupt function in the code.	Espressif Official Documentation