Acquisition of VC Series' SDK

Offline Voice Module Series 2: The Use of Ai-Thinker Voice Open Platform- Acquisition of VC Series' SDK

Preface

Our offline voice open platform provides users with an SDK generation function that requires almost zero development effort. For simple control functions and serial port output, it can even directly generate firmware for burning and testing.

Major Functions of the Voice Open Platform

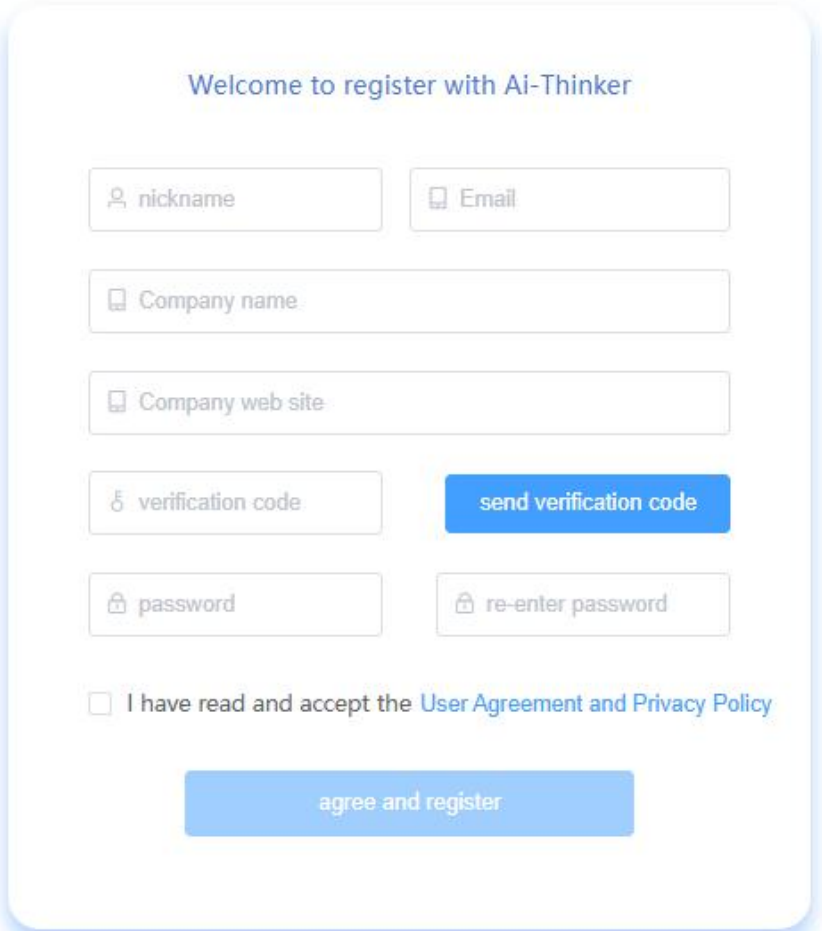
1. Customize wake-up words and command words.
2. Customize response phrases.
3. Generate SDK based on functions, with the configured logic already implemented in the SDK.
4. Compile Firmware Online.

Try it here: http://voice.ai-thinker.com/#/

I. Account Registration

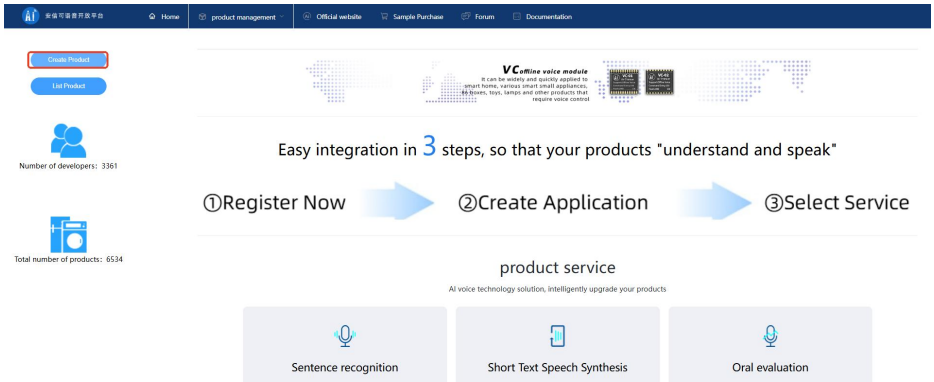
- Click the "Register Now".

- Fill in the relevant information and complete the registration.



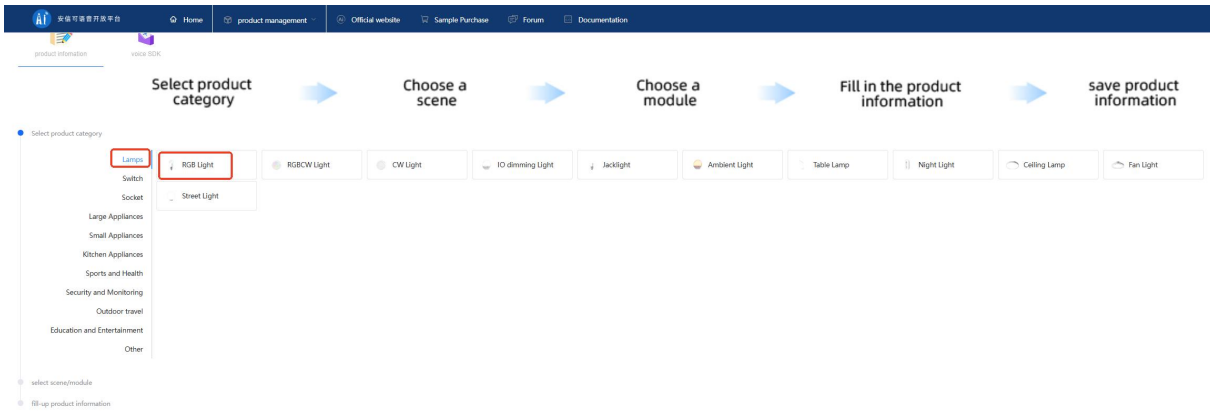
II. Product Creation

- After registration, log in, and then click “Create Product” :



1. Product Information Selection

- The following takes “RGB Light” as an example to demonstrate how to fill in product information:



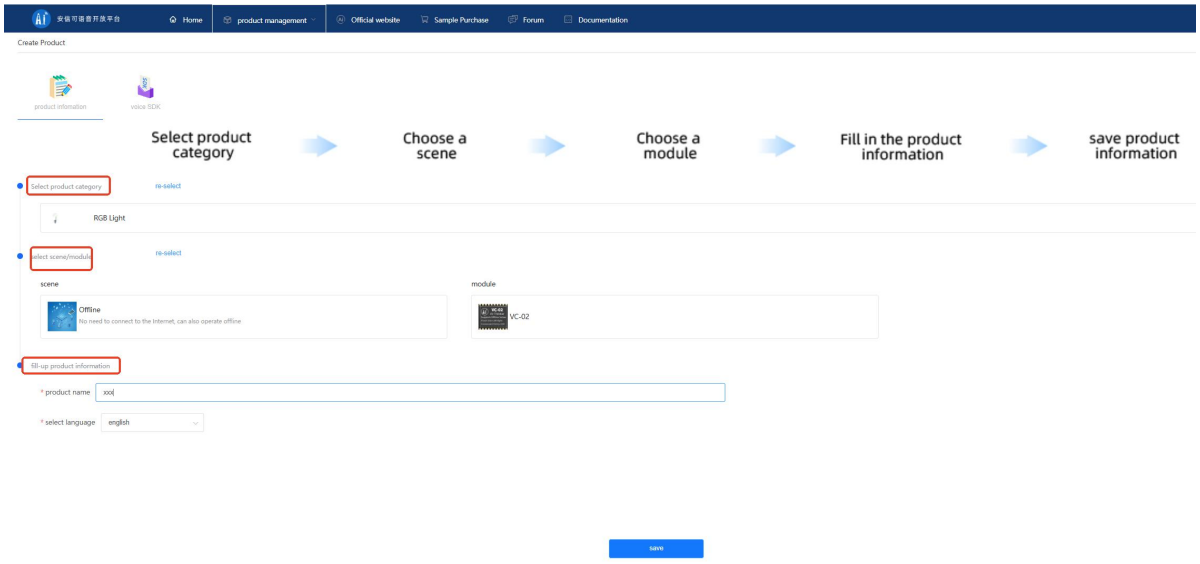
2. SDK Customization

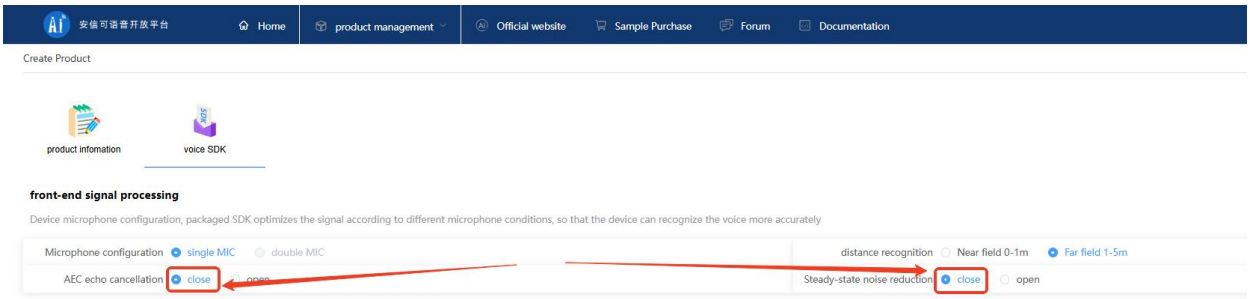
(1) Front-end Signal Processing

Two functions that need attention in front-end signal processing:

- **AEC Echo Cancellation**: After enabling, it can filter out the interference of the sound played by the module itself.
- **Steady-state Noise Reduction**: After enabling, it can improve the resistance to environmental noise.

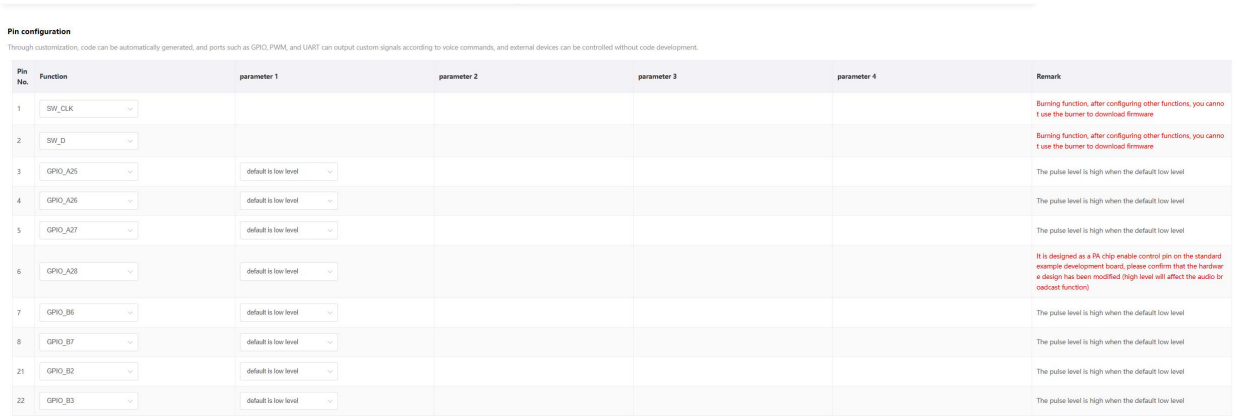
Note: These two functions cannot be enabled simultaneously.





(2) **Pin Configuration (Note: A28 needs to be set to low level)**

Pin configuration is the pin state set after the SDK initializes these pins:



Several pins in the list can be multiplexed as PWM or UART outputs:

Pin	Function	Description
GPIO_27	GPIO/PWM3	None
GPIO_28	GPIO/PWM4	Chip enable pin, but needs to be kept at low level
GPIO_B6	GPIO/UART1_RXD	Default UART input of the factory firmware and development board
GPIO_B7	GPIO/UART1_TXD	Default UART output of the factory firmware and development board
GPIO_B2	GPIO/UART1_TXD/PWM3	Factory firmware of the development board is used as a common IO output, the control pin of the warm light of the development board
GPIO_B3	GPIO/UART1_RXD/PWM4	Factory firmware of the development board is used as a common IO output, the control pin of the cold light of the development board

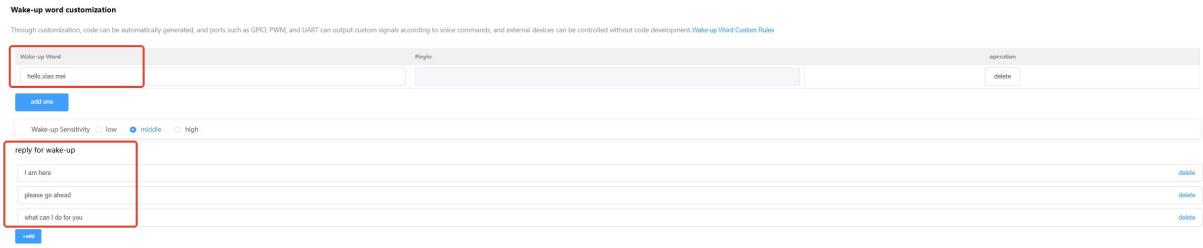
The A28 pin needs to be configured to low level.

For ordinary IO requirements, the default can be maintained;

- for UART output, it is recommended to configure B6/B7 to the UART state;
- for PWM output, it is recommended to configure B2/B3 to the PWM state.

(3) **Wake-up Word Customization**

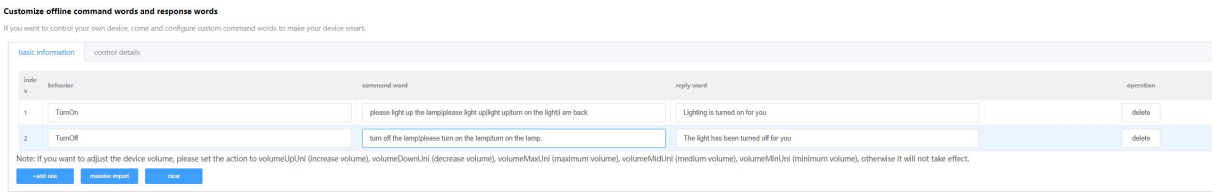
Multiple wake-up words can be added.



The wake-up response phrases are randomly played and do not correspond to a specific wake-up word.

(4) **Command Word and Response Phrase**

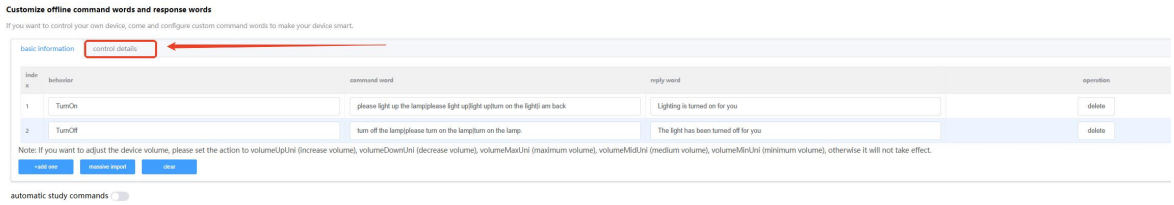
Command words are the instructions recognized by the VC module, such as: “Turn on the desk lamp.”



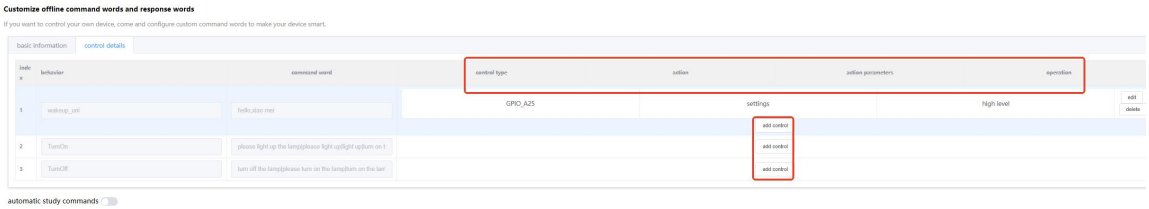
Multiple command words for one function need to be separated by " | ", and the response phrases are the same.

(5) **Control Details**

The configuration of control details can configure the IO control or UART output executed by the command.



For example:



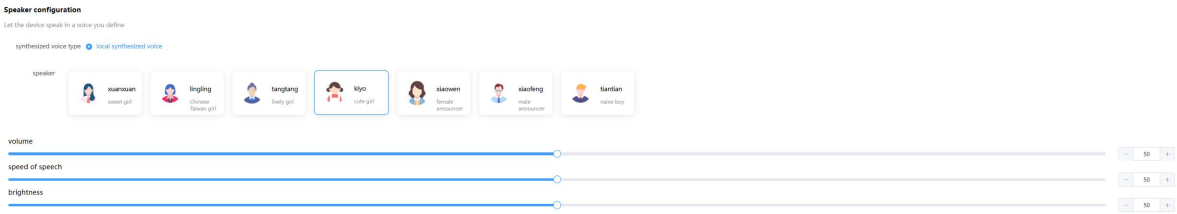
UART transmission can only be configured as 16-bit hexadecimal output. If string output is required, secondary development is needed.

(6) **Wake-up-free Command Word Selection**

Wake-up-free command words are instructions that can be recognized without saying the wake-up word.

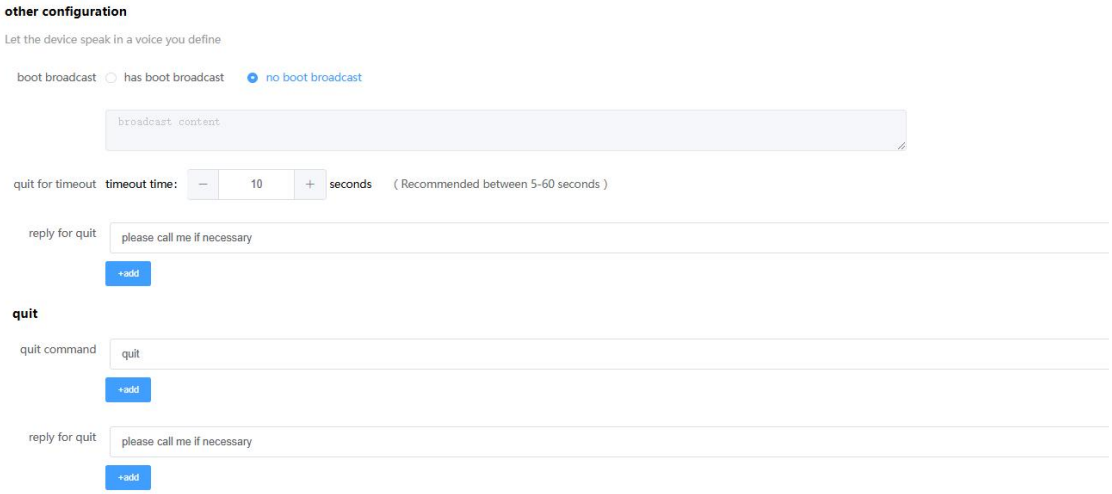
(7) **Speaker Selection**

You can select the response phrase speaker set by the platform. The platform currently does not support previewing the pronunciation effect.



(8) **Other Configurations and Active Exit Commands**

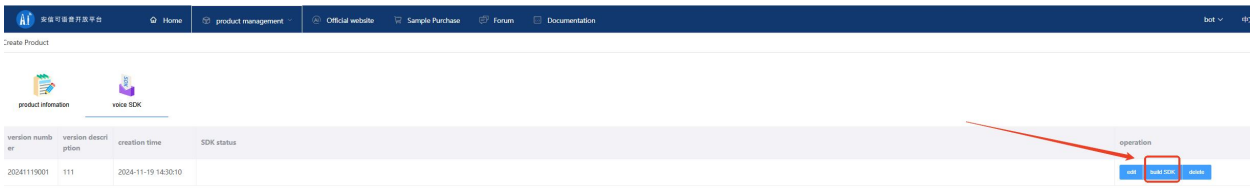
Other configurations mainly configure the power-on broadcast and can also customize the power-on broadcast content:



The active exit command does not need to be added if there are no special requirements.

III. Generate SDK

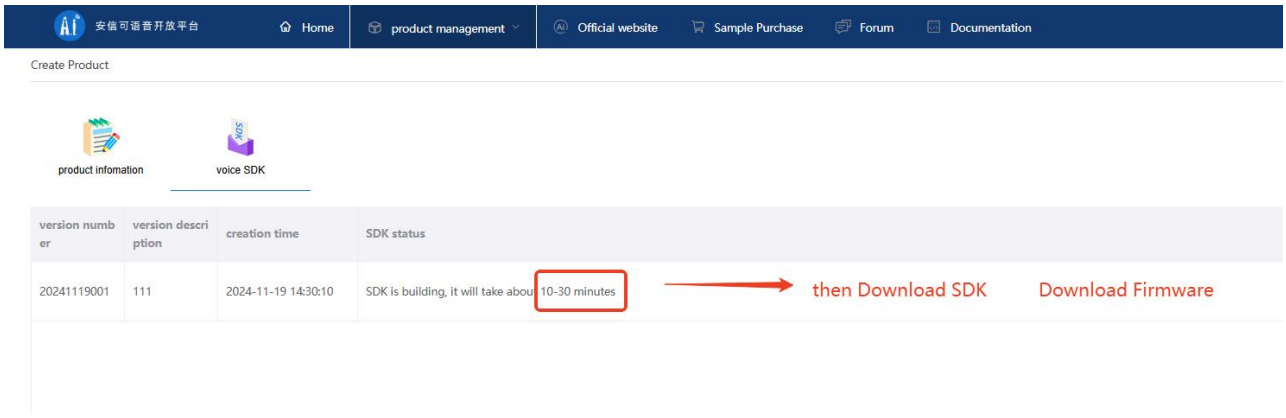
- After completing all configurations, click “Generate New Version” at the bottom of the page to execute the SDK generation:



- The generation of the SDK takes some time. You can go get a glass of water or go to the restroom at this time.
- The generation of the next SDK can only be started 5 minutes later.

IV. Download Firmware

- After the firmware is successfully generated, you can download the SDK and firmware on the same page:



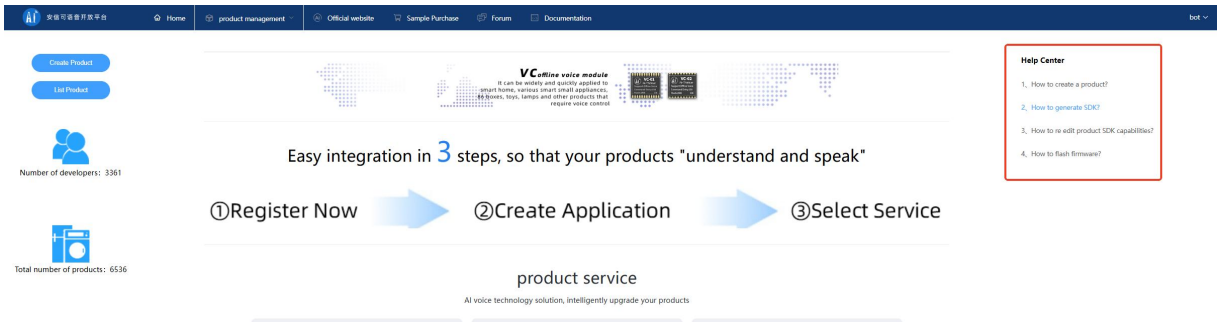
V. Other Functions

1. Product List

The product list can view all products of the current account.

2. Help Documentation

You can find some usage guides of the platform here.



3. **Personal Information**

The user's basic information can be modified here, and the password can be changed.

VI. Contact Us

Official Website: http://en.ai-thinker.com/
Development DOCS: https://docs.ai-thinker.com/en/welcome
Sales Support: overseas@aithinker.com
Technical Support: support@aithinker.com
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