

User Manual for Intelligent Recipe Assistant

VI.0



Copyright © AI Group 7 Eta. All rights reserved.

The content contained in this material is protected by the copyright law, and the copyright is owned by AI Group 7 or its licensor, except for the content indicated to quote other parties. Without the prior written permission of AI Group 7 or its licensors, no one is allowed to copy, distribute, reprint, play, connect or transmit with a hyperlink, store any content in this material in an information retrieval system or use it for any other commercial purposes.

Note.

This document is only used as a guide, and all statements, information and suggestions in the document do not constitute any express or implied warranty.



01

Introduciton

02

Instruction

- 1) System Requirement
- 2) Installation Instructions

03

Using Recipe System

- 1) User Interface Overview
- 2) How to use specific features
- 3) Frequently Asked Question
- 4) Trouble Shooting

04

Support contact details

Introduction

Welcome to the Intelligent Recipe Assistant User Manual.

Using Intelligent Recipe Assistant allow you make the most of the ingredients in your kitchen and get creative inspiration for today's dinner, making cooking easier, more enjoyable, and healthier.

This **user manual** helps you understand how to use the Intelligent Recipe Assistant and its related services. You can read the manual from start to finish or use it as a reference. By following this manual, you will:

- Get a comprehensive **overview** of the Intelligent Recipe Assistant's **features and functionalities** so that you can easily navigate and use the software.
- Understand how to **correctly install the software** on your device.
- Step-by-step instructions on **how to use** the core features of the software.
- Access **troubleshooting** advice and **solutions to common problems**.



Recipe Picture Produced by Using Stable Diffusion API

Instruction

Intelligent Recipe Assistant is a powerful tool designed to generate high-quality images of recipes using the *Stability Stable Diffusion AI API* and *ChatGPT API*. It displays these images using a user-friendly *PyQt5 GUI*.

1. System Requirements

Hardware Specifications

Processor: Dual-core 2 GHz or faster processor.

Memory: 4 GB RAM minimum (8 GB recommended).

Storage: At least 2 GB of free disk space for installation.

Graphics: A graphics card that supports OpenGL 3.3 or higher.

Operating System

Windows: Windows 10 or later.

macOS: macOS 10.15 Catalina or later.

Linux: Ubuntu 20.04 LTS or later.

Software Requirements

Python: Python 3.9

Anaconda: Anaconda distribution for managing the Python environment (recommended).

2. Installation Instructions

Source Code

Step 1: Create and Activate the Virtual Environment

```
conda create --name recipe python=3.9  
conda activate recipe
```

Step 2: Install the Required Packages

```
pip install -r requirements.txt
```

Step 3: Run the Main Application

```
python main.py
```

Step 4: Configuration of the API key

Stability AI API Key:

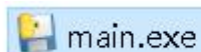
- Open `sd.py`.
- Update the `Authorization` header in the `generate_image` function with your Stability AI API key.

OpenAI API Key:

- Open `respond.py`.
- Update the `Authorization` header in the `respond` function with your OpenAI API key.

exe.

All the programs are packaged into one exe file. You can start the whole programme by opening “`exe\dist\main.exe`” in the file



Using Recipe System

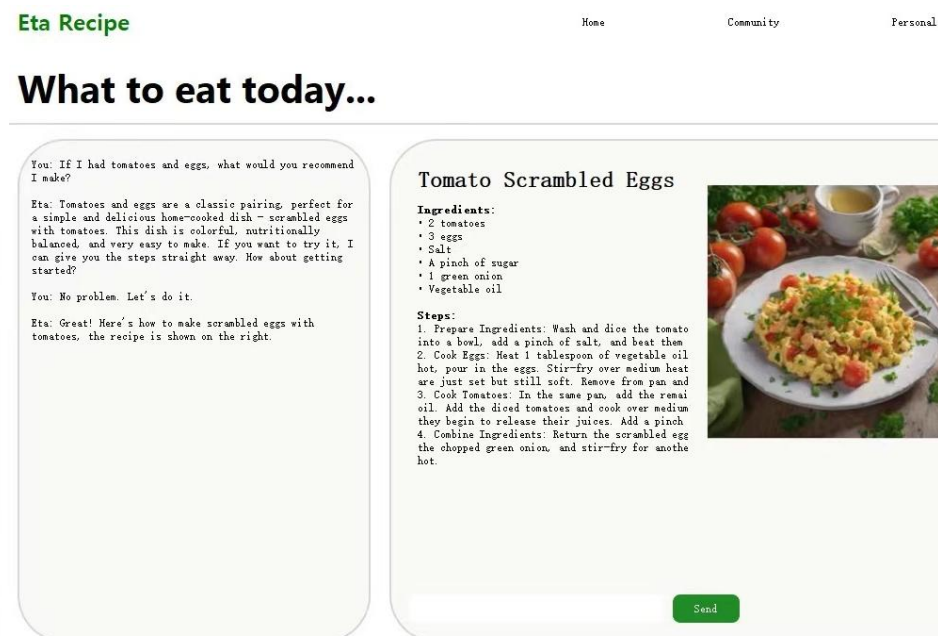
1. User Interface Overview

Recipe Text Display

Located in the main frame, this area displays the detailed recipe text. The text is wrapped and aligned to the top-left corner.

Recipe Image Display

Located in a separate frame, this area shows the generated image of the recipe. The image is aligned to the top-left corner.



Recipe Assistant UI Overview

Input Area

Users can input their ingredients or ask for specific recipes. The system will then process the input and provide relevant suggestions.

Output Area

Displays the results based on user input, including suggested recipes and their images.

2. How to use specific features

Generating Recipe Suggestions

Input Ingredients: Enter the ingredients you have in the input field (e.g., "I have tomatoes and eggs, what can I do to eat?").

Receive Suggestions: The system will provide several recipe suggestions based on the input ingredients.

What to eat today...

User: I have tomatoes and eggs what can i do to eat

Assistance: Hi there! There are many delicious ways to eat tomatoes and eggs together. Here are a few ideas:

1. Tomato and Egg Scramble - Scramble eggs in a pan and add chopped tomatoes towards the end. Season with salt, pepper, and your choice of herbs. Serve with toast or on top of rice for a hearty meal.
2. Tomato and Egg Salad - Hard boil eggs and chop them up. Combine with chopped tomatoes, diced onions, and a simple

Generate Recipe

Viewing Detailed Recipe and Image

Select a Recipe:

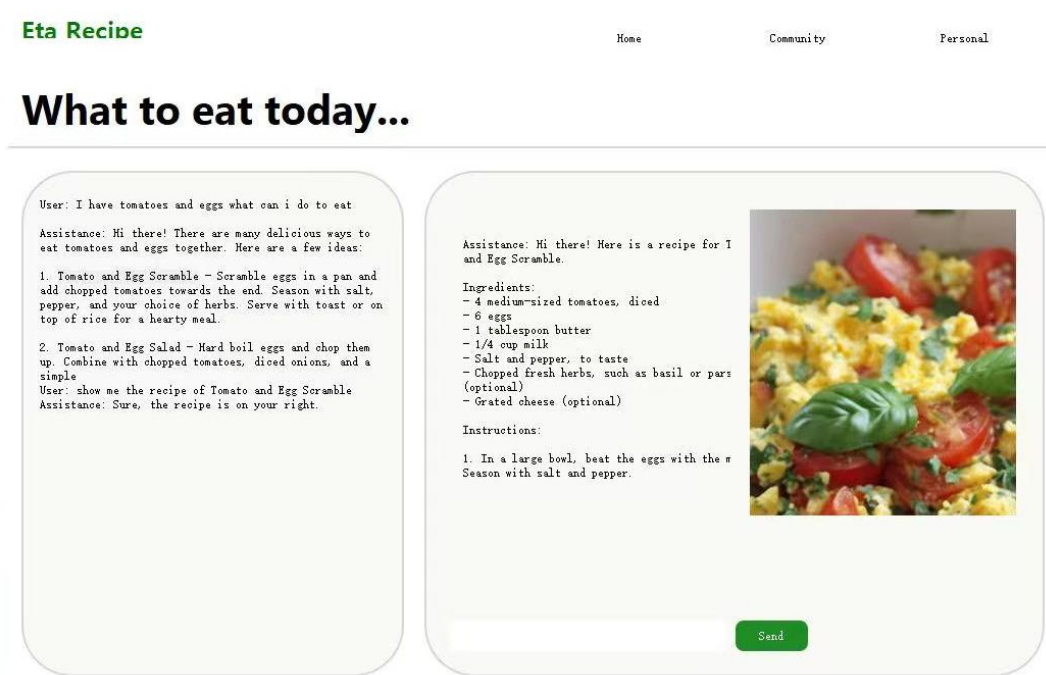
From the suggestions, choose a recipe you are interested in (e.g., "Tomato and Egg Scramble").

View Recipe Details:

The system will display the detailed recipe in the text display area.

Generate and View Recipe Image:

The system will generate a high-quality image of the selected recipe and display it in the image display area. When you want to generate an image, you need to type “show me the recipe of xxx” in the dialogue box to activate the function.



Generate Recipe Image

3. Frequently Asked Question

User's manual

Q: How do I register and log in to the smart recipe agent?

A: You can quickly register and log in through an email or social media account through the smart Recipe proxy application or website.

Q: What is the Smart Recipe Agent?

A: The Smart Recipe Agent is an AI-driven app that helps users plan meals and discover new recipes based on existing ingredients and personal preferences.

Q: If I have a problem, how do I get support?

A: You can contact our technical support team through the help center within the application, online customer service or email.

Basic function

Q: How did the smart recipe agent help me plan my meals?

A: By analyzing your input ingredients and diet preferences, the smart recipe agent provides personalized recipe suggestions to simplify your meal planning process.

Q: How to generate a picture of the desired meals?

A: In the dialogue box in the program type “show me the recipe of xxx” in this language format so that the program will generate the picture.

Q: How do I search for specific recipes or ingredients in a smart recipe agent?

A: Use the search function, enter the recipe name or ingredients, and the system will display the list of relevant recipes.

Q: What recipe formats are supported by smart recipe agents?

A: The Smart Recipe Agency supports multiple recipe formats, including text descriptions, pictures, and videos.

Q: Does the smart recipe agent support custom diet plans?

A: You can enter dietary goals in your personal setting, and the system will provide corresponding recipe recommendations based on these goals.

Q: Can a smart recipe agent handle recipes for special dietary requirements?

A: The Smart recipe agent can provide corresponding recipe recommendations based on your specific dietary requirements, such as vegetarian, gluten-free, or low-carbs.

Q: Can the smart recipe agent help me buy the ingredients?

A: Based on the recipe you choose, the smart recipe agent can help you generate a shopping list and help you select the ingredients.

Q: When I need to query the recipe content I sought before, can the intelligent recipe agent help me query?

A: The Smart recipe agent allows users to save their favorite recipes and view history in their personal accounts.

Q: Does the Smart Recipe Agency provide the cooking time estimate of the recipes?

A: The smart recipe agent estimates the approximate cooking time of each dish, helping you plan your cooking and meal times.

Process-related and operation-related

Q: How do I use the personalized recipe recommendation function of the smart recipe agent?

A: After logging in, enter your existing ingredients, and the system will analyze and recommend personalized recipes containing these ingredients.

Q: How to upload and share my recipes to the community?

A: You can find the upload function in the community section, enter the name of the recipe, ingredients, cooking steps, and upload A photo or video.

Q: Can the smart recipe agent integrate with my smart refrigerator?

A: Yes, the smart recipe agent can be integrated with A smart refrigerator to help you manage your food inventory and recommend recipes based on existing ingredients.

Other problems

Q: How do I customize the shortcut keys for smart recipe agents?

A: You can find the shortcut options in the Settings and customize the favorite shortcut keys to improve efficiency.

Q: Why does the configuration of the smart recipe proxy be reset by itself?

A: Configuration reset may be due to application updates or device storage issues. Ensure that the application is updated to the latest version, and check the device storage space.

Q: What types of smart kitchen devices does the smart recipe agent support?

A: The smart recipe agent is compatible with A variety of smart kitchen devices, including smart refrigerators, stoves and slow cookers.

Q: How do I become a contributor to the smart recipe agency project?

A: You can participate in code development, provide feedback, contribute recipes or help translate. Please visit our developer website.

Q: Can I use the smart recipe proxy in my own language?

A: Yes, the Smart recipe Agent supports multiple languages. You can choose your preferred language in your settings.

Q: Does the smart recipe agent support offline use?

A: Some features may require Internet connectivity, but we will try to use features such as recipe browsing and viewing offline.

Q: How do I report a problem or error found in the smart recipe proxy?

A: You can report through the error reporting function in the application or create Q questions in our GitHub warehouse.

Q: Where can I find more resources and information about smart recipe agents?

A: You can access the smart Recipe Agency's official website, community forums and help centers for more resources and information.

Q: Is there a mobile app version for the smart recipe agent?

A: The Smart Recipe agent provides mobile applications for iOS and Android platforms, which you can download in the corresponding app store.

Q: On Windows, the Smart cookbook agent user interface is playing too big on my screen.

A: You can adjust the scale of the user interface in the settings to fit your screen size.

Q: In full-screen mode, why is there a thin slit at the bottom of the smart recipe agent window?

A: This may be due to the operating system or the display set Q question. Try to adjust the screen resolution or update the graphics card driver.

Q: Does the smart recipe agent support multi-device synchronization?

A: You can log in with the same account on multiple devices and enjoy the personalized experience of synchronization.

Q: When I have missing ingredients, can the intelligent recipe agent still complete the task requirements?

A: When users say that certain ingredients are missing, the intelligent recipe agent can provide alternative suggestions to help users adjust their recipes.

4. Trouble Shooting

In using the Intelligent Recipe Assistant, you may encounter several technical issues. Below are common problems and their solutions:

Connection Issues with VPNs in China

Problems:

- **Proxy Switching:** Using VPNs can cause proxy switching complications that disrupt connectivity to OpenAI's API. This issue is heightened because the OpenAI package doesn't natively support flexible proxy configurations.
- **Package Customization:** Altering the OpenAI package to accommodate dynamic proxy settings would require maintaining a custom package version, complicating updates.

Solution:

- **Dynamic Proxy Configuration via OS Module:** We addressed these challenges by using Python's os module to dynamically configure proxy settings at runtime. This approach avoided modifying the OpenAI library directly and provided a stable connection without manual intervention.

Frequent API Updates by OpenAI

Problems:

- **Unexpected Changes:** API updates can deprecate features our application relies on, leading to errors.

- **Maintaining Service Continuity:** Constantly adapting to new API changes requires resources and can disrupt service.

Solution:

- **Version Control:** We managed API updates through strict version control and dependency management, ensuring changes are systematically tested before being rolled out.
- **Automated Testing and Continuous Monitoring:** We established automated testing within a continuous integration pipeline to detect and adapt to changes swiftly. Additionally, team members actively monitor OpenAI's updates to stay ahead of changes.

Application Fails to Launch

Problems:

- **Dependency Issues:** Missing or improperly configured dependencies can prevent the application from launching.
- **System Configuration:** Incorrect system settings or outdated software may cause launch failures.

Solution:

- Ensure all necessary dependencies (Python 3.8 or higher, PyQt5) are installed and properly configured.
- Restart your computer and try launching the application again.
- Check for software updates and install any available updates.
- If the problem continues, reinstall the application.
- Contact technical support if the issue is not resolved.

API Errors or Slow Responses

Problems:

- **Connectivity Issues:** Unstable internet connections can lead to API errors or slow responses.
- **Service Outages:** API services such as ChatGPT or Stable Diffusion may experience rate limits or outages.

Solution:

- Verify your internet connection is stable and functioning.
- Check if there are any rate limits or outages reported for the API services used (ChatGPT, Stable Diffusion).
- Restart the application to refresh the connection.
- If the problem persists, try again later or contact technical support.

Support contact details

If you need any additional help, or have a question not covered in this user manual, our support team will be happy to assist you. Please contact us via one of the following methods:

Email Support

General Inquiries: For any general questions or support, please email us at: u10hz21@abdn.ac.uk

Technical Support: If you encounter technical issues or need assistance with installation and setup, email: u04jx21@abdn.ac.uk

Support Hours: Monday to Friday, 9 AM to 5 PM (CST)

Feedback and Suggestions

We value your feedback and suggestions for improving the Intelligent Recipe Assistant. Please send your comments to u09hz21@abdn.ac.uk