

# Installation and User Guide

## 1. Installation Guide

### 1.1 Resource Acquisition

- Clone this repository: <https://github.com/csgen/IRS-PM-2025-10-01-ISY5001FT-GRP14-IntelligentRentingRecommendationSystem>

代码块

```
1 git clone https://github.com/csgen/IRS-PM-2025-10-01-ISY5001FT-GRP14-  
IntelligentRentingRecommendationSystem.git
```

- Open `config_secret.zip`, which contains two files:
  - `irrs-sql-key.json`
  - `secret.txt`

### 1.2 Establishing a Secure Cloud Connection

- Download and authorize the Cloud SQL Auth Proxy:

Refer to the official documentation for instructions:

<https://docs.cloud.google.com/sql/docs/mysql/sql-proxy?hl=zh-cn#install>

- Launch the Cloud SQL Auth Proxy:

Execute the following command in the terminal. Ensure it is run in the directory where the Cloud SQL Auth Proxy has been installed and authorized.

Note: Replace `/xxx/xxx/irrs-sql-key.json` with the absolute path to the `irrs-sql-key.json` file.

代码块

```
1 // Windows  
2 ./cloud-sql-proxy.exe --credentials-file "/xxx/xxx/irrs-sql-key.json" --port  
5433 compact-harbor-475309-h1:asia-southeast1:irrs-db  
3  
4  
5 // macOS / Linux  
6 ./cloud-sql-proxy --credentials-file "/xxx/xxx/irrs-sql-key.json" --port 5433  
compact-harbor-475309-h1:asia-southeast1:irrs-db
```

## 1.3 Starting the Backend

- Open a new terminal window and navigate to the `SystemCode/backend` directory:

代码块

```
1 cd SystemCode/backend
```

- Configure environment variables

- Create the `.env` file:

代码块

```
1 // Windows
2 Copy-Item .env.example .env
3
4 // macOS / Linux
5 cp .env.example .env
```

- Edit the `.env` file:

Open `secret.txt` and replace the corresponding content in `.env` with reference to its contents.

- Launch:

Ensure you are in the `backend` directory and that Docker Desktop is running, then execute the following command:

代码块

```
1 docker-compose up --build -d
```

## 1.4 Starting the Frontend

- Open a new terminal window and navigate to the `frontend` directory:

代码块

```
1 cd SystemCode/frontend
```

- Install dependencies and launch:

## 代码块

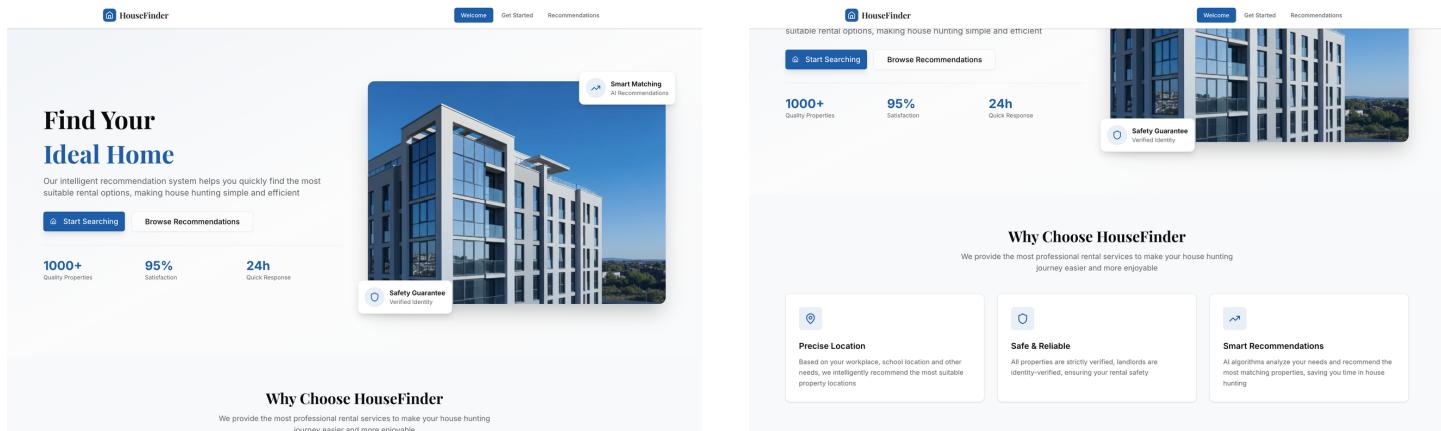
```
1 pnpm install && pnpm build && pnpm dev
```

## 1.5 Getting Started

- Ensure the cloud proxy, backend, and frontend are all running (as per steps 2, 3, and 4). Open a browser and visit <http://localhost:3000> or <http://127.0.0.1:3000> to start using the system!

## 2. User Guide

### 2.1 System Homepage



Welcome to the HouseFinder Intelligent Rental Recommendation System. We are committed to making the rental process more efficient and hassle-free for international students in Singapore. Please let us know your rental requirements, and HouseFinder wishes you to quickly find your ideal accommodation!

### 2.2 Preference Collection

You can share your rental requirements with us in two ways: filling out a questionnaire or describing them in natural language.

#### 2.2.1 Questionnaire

- Our questionnaire gathers your requirements from three dimensions: price range, location & commute, and amenities. You may fill in the information selectively.
- Please note that some information is mandatory, such as your expected price range and your school.
- Additionally, you can indicate the importance of each of these three dimensions to you (rated on a 1–5 star scale). This enables us to recommend suitable rental properties more accurately and efficiently.

## 2.2.2 Natural Language Description

- You may also enter a text paragraph to share your requirements with us.
- Please note that, consistent with the questionnaire requirements, your description must include at least your expected price range and your school information.
- If not, the system will prompt you to supplement the details—this ensures we can leverage the system's language understanding capability to recommend rental properties for you accurately and efficiently.

## 2.3 Recommended Rental Listings

- After you submit your requirements, we will intelligently filter and present a list of the most matching rental properties based on your preferences, allowing you to quickly browse and compare them.
- In the recommendation list, each property clearly displays key information, such as price, address, property configuration, distance to the nearest station, surrounding amenities, and more.
- Most importantly, for each property recommended to you, we will provide corresponding recommendation reasons. This helps you understand how well the property matches your requirements in the shortest time.
- You can also click the "View Map" button to check the property's location on the map, or click "View Details" to access more detailed information about the property.

## 2.4 Property Details

**HouseFinder**

Welcome Get Started Recommendations

**Location Information**

District: Ang Mo Kio South  
Detailed Address: 108 Ang Mo Kio Avenue 4  
To School: 52min  
To MRT Station: 350m

**Nearby Facilities**

Ang Mo Kio Ave 4 Blk 160/162 (Mayflower Market)	400m	Ang Mo Kio Public Library	923m
MAYFLOWER CRESCENT PO	344m	COLD STORAGE SINGAPORE (1983) PTE LTD	388m

**Map Location**

**HouseFinder**

Welcome Get Started Recommendations

**Recommendation Reason**

While the property at 108 Ang Mo Kio Avenue 4 fits well within your budget of \$1,300 against a max of \$4,000, it is an HDB which might not fully meet your higher preference for facilities rated as important.

[View on PropertyGuru](#)

[View Map in New Window](#)

- On the recommended property details page, we display comprehensive information for each rental property, as shown in the figure.
- The left side presents the property's detailed information, including real photos of the property, configuration details, location information, estimated commute time, surrounding amenities, and more.
- The right side shows the complete reasons for recommending the current property. This allows you to quickly assess how well it matches your requirements.
- You can click the "View Map in New Window" button to open a new page and check the property's location on the map in greater detail.