

User Guide for the Property Information Viewer Application

Prerequisites

1. Python Requirements

Ensure Python 3.8 or above is installed on your system. You can download it from python.org.

2. Install Dependencies

Install the required Python libraries by running the following command in your terminal:

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

3. Access Key Tokens

- **HomeSage.AI Access Key:** Create an access key token from [HomeSage.AI](https://homesage.ai). A 14-day free trial is available.
- **OpenAI Access Key:** Generate an OpenAI access key token. More details can be found in the [OpenAI API Reference](https://openai.com/api-reference).

4. OpenAI Model Selection

This application uses the gpt-4o-mini model, which offers a cost-effective pricing structure. More information on model selection can be found in the [OpenAI Models Guide](https://openai.com/api-reference).

Running the Application

1. After creating your access tokens, update the .env file
2. Run the application using the following command:
`streamlit run streamlit_ui.py`
3. Open the URL displayed in your terminal to access the application in your browser.

Application Overview

Default Homepage

Upon successfully running the application, you will see the default homepage.

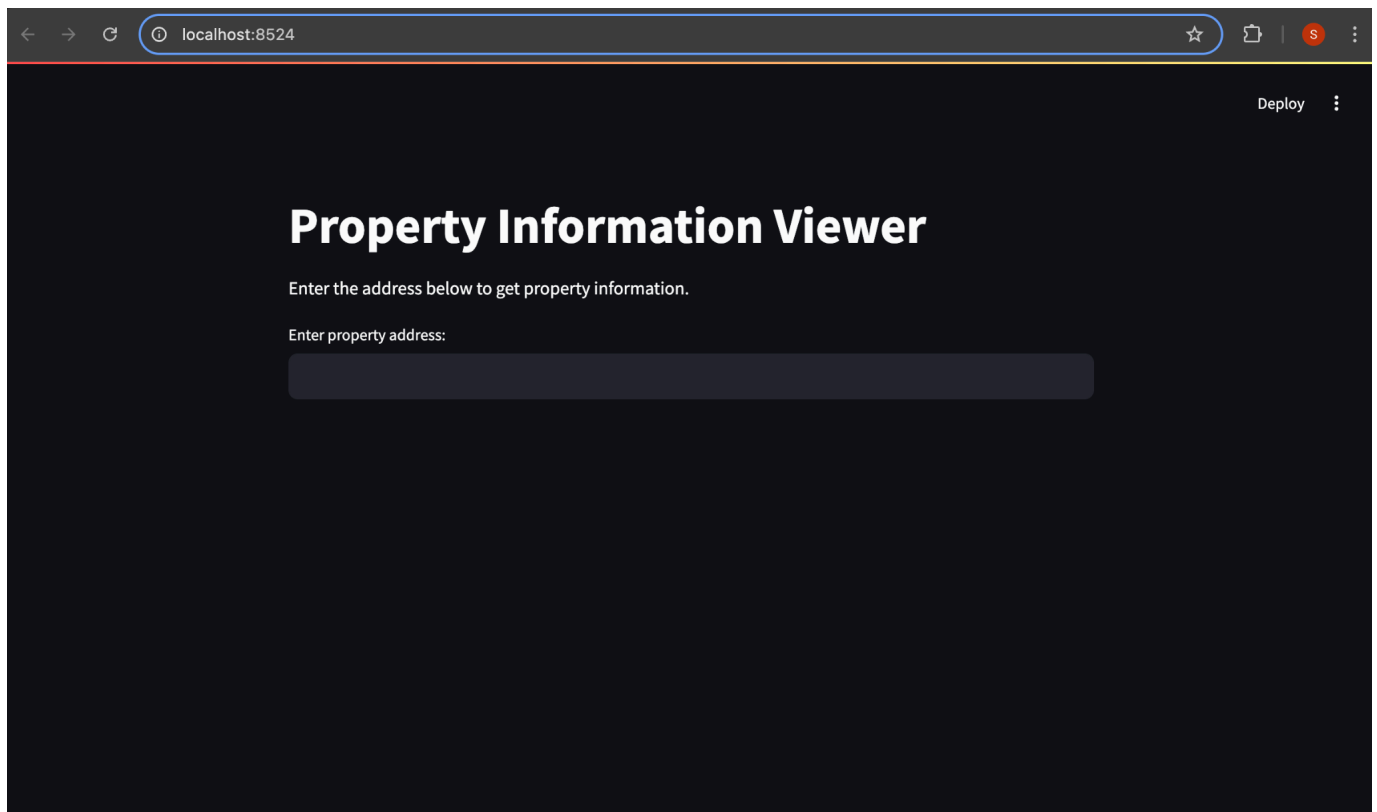


Figure 1: Default Homepage

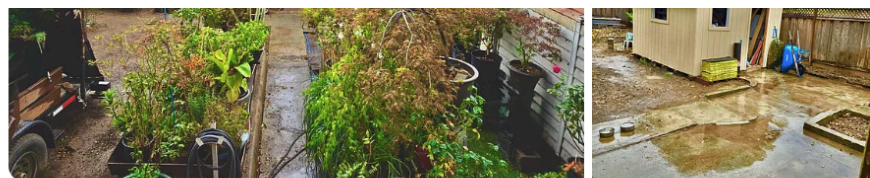
The homepage includes a search box where you can input a property address (partial or complete).

Valid Address Input

After entering a valid address, the application:

1. Uses the HomeSage.AI API to find and display the complete address.
2. Extracts basic property information such as location, price (if listed on the market), estimated value, year built, and property type.
3. Passes this information to OpenAI to generate a property overview using the gpt-4o-mini model.

Here is an example of an active listing taken from [Zillow](#)



\$935,000

55 Pickford Ave, San Jose, CA 95127

2 beds
2 baths
991 sqft

Est.: N/A [Get pre-qualified](#)

Single Family Residence,

Built in 1930

10,000 sqft lot

\$982,000 Zestimate®

\$943/sqft

\$-- HOA

What's special

11 days on Zillow | **1,210** views | **39** saves

Zillow last checked: 36 minutes ago

Listing updated: December 12, 2024 at 09:36am

Listed by: John E Williams Williams 02065707 408-234-6540, Alliance Bay Realty

Source: MLSListings Inc, MLS#: ML81988436

Facts & features

Interior

Bedrooms & bathrooms

- Bedrooms: 2
- Bathrooms: 2
- Full bathrooms: 1
- 1/2 bathrooms: 1

Dining room

- Features: DiningArea

Family room

- Features: SeparateFamilyRoom

Heating

- None

Cooling

- None

Features

- Fireplace features: Family Room

Interior area

- Total structure area: 991
- Total interior livable area: 991 sqft

Property

Parking

- Total spaces: 1
- Parking features: Attached
- Attached garage spaces: 1

Features

- Stories: 1

Lot

- Size: 10,000 sqft

Details

- Parcel number: 60110011
- Zoning: R1
- Special conditions: Standard

Construction

Type & style

- Home type: SingleFamily
- Property subtype: Single Family Residence,

Condition

- New construction: No
- Year built: 1930

Figure 2: Example of Active Zillow Listing

Property Information Viewer

Enter the address below to get property information.

Enter property address:

55 Pickford Ave, San Jose, CA 95127

Property Overview

Property Address: 55 Pickford Ave, San Jose, CA, 95127

Welcome to this charming single-family home in Santa Clara, listed at \$935,000. This lovely residence features 2 bedrooms and 1.5 bathrooms, all situated on a spacious 991 sq ft lot. Built in 1930, it offers classic character with modern potential. Enjoy the convenience of a single-story layout, complemented by a one-car garage. Located within the East Side Union High School District, this property is perfect for families seeking a blend of comfort and community. Don't miss your chance to make this your new home!

[View Detailed Information](#)

Figure 3: Generated Address and Overview

The property overview is concise and user-friendly. For detailed information, click the **"View Detailed Information"** button.

The generated detailed information is real-time and matches the actual listing data.

[View Detailed Information](#)

Property Details

Status: Active

Listing Price: \$935,000.00

Days on Market: \$11

Estimated Value: \$946,374.41

Size: 991 sq ft

Property Type: Single Family

County: Santa Clara

School District: East Side Union High

Property Features:

- Bedrooms: 2
- Full Bathrooms: 1
- Half Bathrooms: 1
- Stories: 1
- Year Built: 1930
- Garage Spaces: 1

Estimated Single Family Home Value at zip code 95127: \$1,134,655.51

Estimated Condo Value at zip code 95127: \$548,983.86

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Nearby Schools:

- **James Lick High School:**

Rating: 4, Distance: 0.2 miles, Grades: 9, 10, 11, 12, Type: Public

- **Linda Vista Elementary School:**

Rating: 5, Distance: 0.6 miles, Grades: K, 1, 2, 3, 4, 5, Type: Public

- **Joseph George Middle School:**

Rating: 3, Distance: 0.6 miles, Grades: 6, 7, 8, Type: Public

- **St. John Vianney:**

Rating: None, Distance: 0.2 miles, Grades: PK, K, 1, 2, 3, 4, 5, 6, 7, 8, Type: Private

Figure 4: Detailed Information View

Partial Address Input

The screenshot displays a web application titled "Property Information Viewer" on a dark background. At the top, it prompts the user to "Enter the address below to get property information." Below this, a text input field contains the partial address "29360 Dixon".

The application then displays a "Property Overview" section. It shows the "Property Address: 29360 Dixon St, Hayward, CA, 94544". Below this, a heading "Charming Apartment for Rent in Alameda" is followed by a descriptive paragraph about the apartment's location and amenities. A call to action "For more details or to schedule a viewing, please inquire today!" is present, along with a red-outlined button labeled "View Detailed Information".

The "Property Details" section lists the following information:

- Status: For Rent
- Property Type: Apartment
- County: Alameda

The "Property Features:" section provides estimated values:

- Estimated Single Family Home Value at zip code 94544: \$896,019.17
- Estimated Condo Value at zip code 94544: \$560,528.21

The "Nearby Schools:" section lists:

- Cesar Chavez Middle School:

Figure 5: Testing with Partial Address

For partial addresses, the application:

Matches the input to a complete address (e.g., '29360 Dixon', '29360 Dixon St', "29360 Dixon Hayward" would all resolve to "29360 Dixon St, Hayward, CA, 94544").

Estimated Single Home Value and Condo Value by ZIP Code

- Uses [zillow's housing data for research](#), updated monthly, to provide research-backed estimated values for ZIP codes. Moreover this data is free to use.
- Extracts the ZIP code from the property address and calculates estimated values.

Useful as a backup for properties with incomplete details. Also note that if the property is for rent, no listing price or days-on-market data is shown.

Invalid Address Input

Property Information Viewer

Enter the address below to get property information.

Enter property address:

Address?

Error fetching data: {"error": "Property not found"}

Debugging Address Issues

The provided address "Address?" does not follow the required format of "Street Number Street Name, City, State (abbreviated), Zip Code."

Here are the reasons why it is invalid:

1. Missing Components:

- There is no street number or street name.
- There is no city specified.
- The state is not mentioned, and it should be in abbreviated form (e.g., CA for California).
- There is no zip code included.

2. Invalid Format:

- The placeholder "Address?" does not represent a real address and does not include any valid address elements.

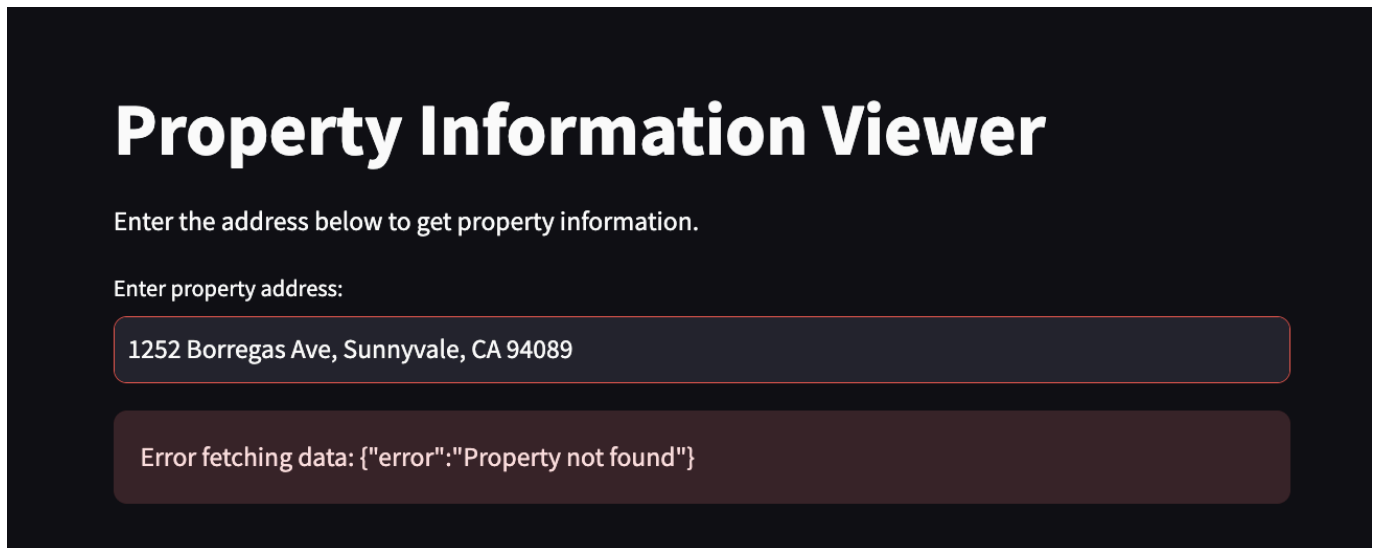
Suggested Corrections:

To transform "Address?" into a valid address, you need to provide the following components:

1. **Street Number:** A numeric value indicating the building or house number.
2. **Street Name:** The name of the street (e.g., Main St).
3. **City:** The name of the city (e.g., San Francisco).
4. **State:** The two-letter abbreviation for the state (e.g., CA for California).
5. **Zip Code:** A five-digit postal code (e.g., 94103).

Figure 6: Invalid Address Handling

- Displays an error message: **"Property not found"**.
- Attempts to suggest corrections using the gpt-4o-mini model, guiding the user to input the correct address format.



The screenshot shows a dark-themed web application titled "Property Information Viewer". Below the title, there is a prompt: "Enter the address below to get property information." followed by a label "Enter property address:". A text input field contains the address "1252 Borregas Ave, Sunnyvale, CA 94089". Below the input field, a dark red error message box displays the text: "Error fetching data: {"error": "Property not found"}".

Figure 7: Non-home address

The application is effective in handling non home addresses. The above address corresponding to eGain's location in Sunnyvale is marked as 'Property not found'.

Features and Benefits

1. **Real-Time Data Fetching:** Integrates with HomeSage.AI for live updates.
2. **Text Generation:** Integrates OpenAI to generate property overview and suggest user corrections for invalid addresses
3. **Flexible Input:** Handles both complete and partial addresses effectively
4. **Error Handling:** Suggests corrections for invalid inputs.
5. **Research Data:** Leverages Zillow's free datasets for additional insights.