

# RE/MAX CHAT BOT PROJECT

**INSY 660 - Coding Foundations for  
Analytics**

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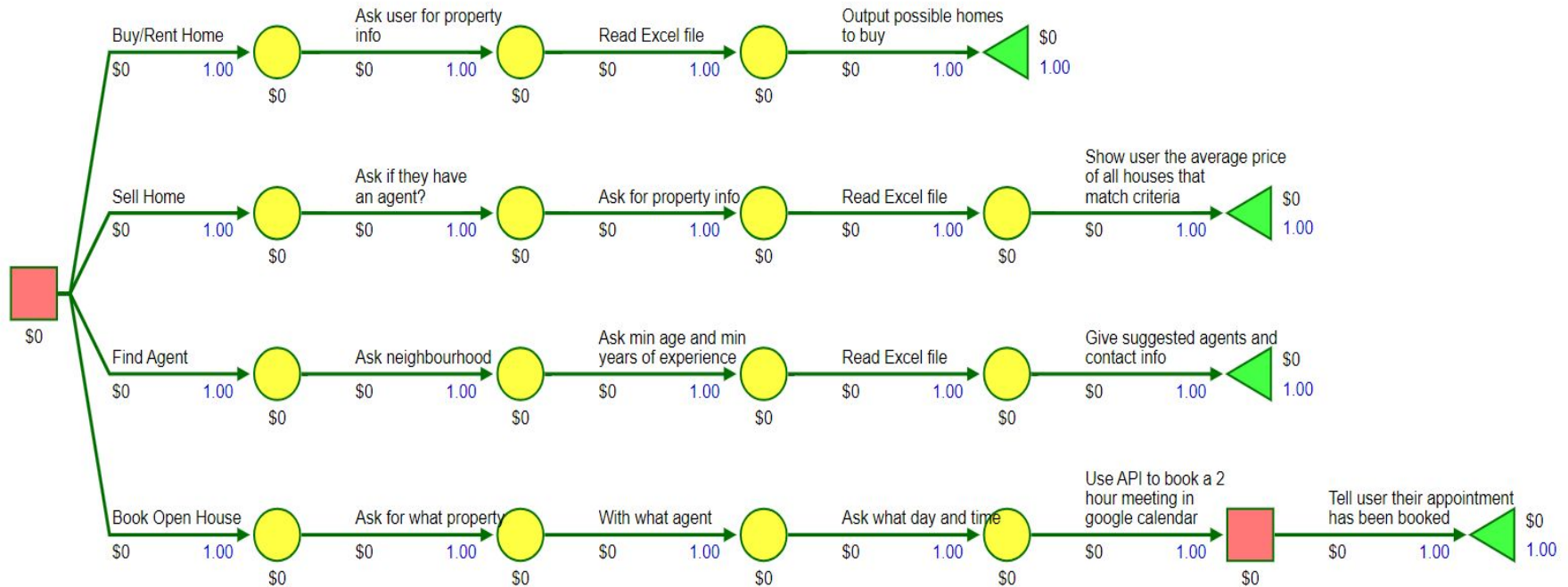


**01**

# Chat Bot Logic

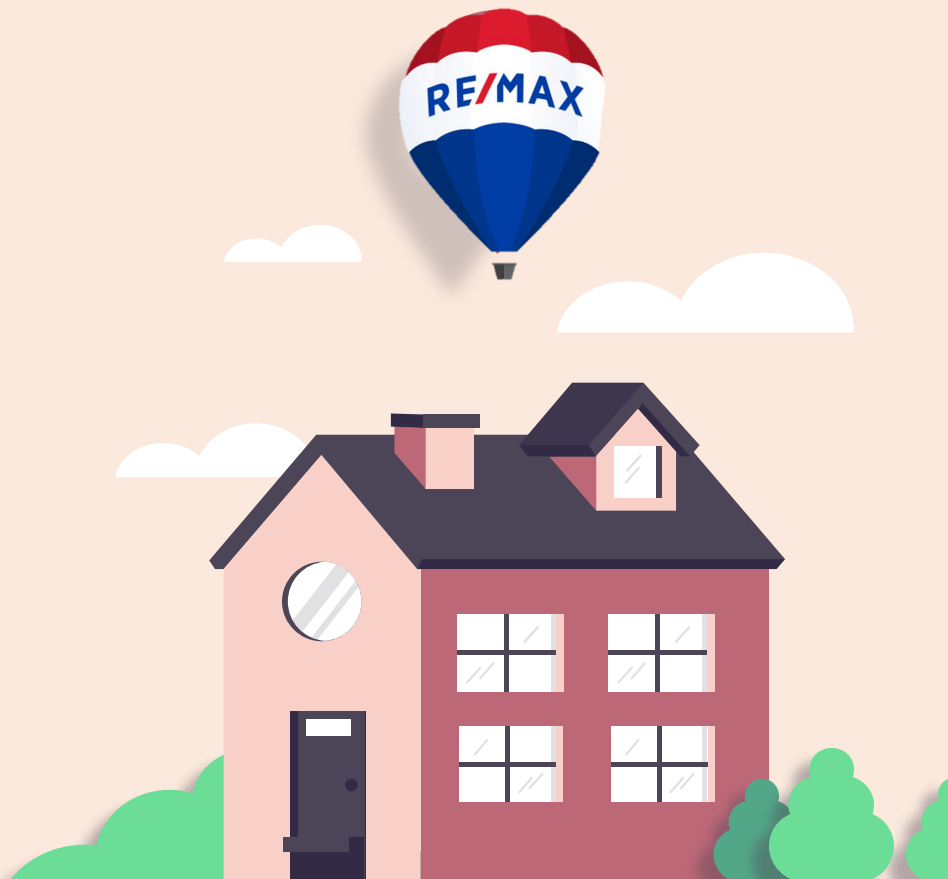


# Logic Path



**02**

# SCENARIOS



# SCENARIO 1 : Buy/Rent House (Panda)

**Purpose:** Assists users who are interested in buying or renting properties.

## Functionality:

- **Data Collection:** Prompts the user for their property preferences (e.g., buy/rent, type, neighborhood, budget, bedrooms, bathrooms).
- **Database Filtering:** Loads housing data from an Excel file and filters it to find properties matching the user's criteria.
- **Results Display:** Shows the user a list of addresses that match their criteria or a message indicating no matches.



# SCENARIO 1

Hello! I'm the REMAX chatbot!  
What's your name? Audrey Delisle

Hello Audrey Delisle, what can I help you with today?  
I am interested in buying a house but I'm not sure where to start  
Do you want to buy or rent a house? buy  
What type of property are you looking for? (apartment, condo, house, townhouse): townhouse  
Which neighbourhood are you interested in? (Plateau-Mont-Royal, Mile End, and so on): Griffintown  
What's your budget? 2000000  
How many bedrooms do you want? 2  
How many bathrooms do you want? 2

Based on what you entered, here are a couple of houses that match what you're looking for:  
1031 rue des légendes, montréal, qc h1a 1d4  
1103 avenue des cascades, montréal, qc h1c 3a3

Did you enjoy using this chatbot? (yes/no) no

We're sorry to hear that. Can you tell us why not? I want to leave more feedback

Thank you for your feedback. We'll try to improve based on: I want to leave more feedback



## SCENARIO 2 : Sell House (Panda)

**Purpose:** Helps users who want to sell their property by providing an estimated listing price.

### Functionality:

- **Initial Question:** Asks the user if they already have an agent and redirects them to a website if they don't.
- **Property Information:** Collects details about the user's property (e.g., neighborhood, type, bedrooms, bathrooms).
- **Database Filtering:** Uses similar properties from an Excel file to estimate a listing price.
- **Price Estimation:** Displays the estimated price based on similar properties or notifies the user if no such properties exist.





# SCENARIO 2

Hello! I'm the REMAX chatbot!  
What's your name? Samia Belmadani

Hello Samia Belmadani, what can I help you with today?  
I am interested in selling my house  
Do you already have an agent? (yes/no) no  
Please check our website for possible agents.

Which neighbourhood is your house in? (Plateau-Mont-Royal, Mile End, and so on): Côte-des-Neiges  
What type of property is it? (apartment, condo, house, townhouse): house  
How many bedrooms does it have? 2  
How many bathrooms does it have? 1

Based on our internal databases of properties with the same characteristics, you should list your house for \$716,127.50.

Did you enjoy using this chatbot? (yes/no) yes

Thank you for the feedback! We're glad you enjoyed your experience.



# SCENARIO 3 : Find Agent (panda)

**Purpose:** Aids users in finding a real estate agent based on specific criteria.

## Functionality:

- **Agent Criteria:** Collects user preferences like the neighborhood of specialization, minimum agent age, and minimum years of experience.
- **Database Filtering:** Loads agent data from an Excel file and identifies agents who match the user's criteria.
- **Results Display:** Provides the user with the names and contact details of suitable agents or a message if no matching agents are found.



## SCENARIO 3

Hello! I'm the REMAX chatbot!  
What's your name? Tiffany Lagarde

Hello Tiffany Lagarde, what can I help you with today?  
I would like to find a real estate agent

Which neighbourhood would you like the agent to be specialized in? Mile End  
Do you want the agent to be a minimum age? If so, specify the age. If not, enter 0: 0  
How many minimum years of experience do you want the agent to have? 2

Here are the agents and contact information that match your criteria:

James Carlington, Phone: 514-717-3068, Email: jamescarlington@remaxmail.com  
Jeremy Sunridge, Phone: 514-938-6348, Email: jeremysunridge@remaxmail.com  
Ryan Eastwick, Phone: 514-522-6094, Email: ryaneastwick@remaxmail.com

You can either contact them directly, through our website,  
or use this chatbot again to book an open house with them

Did you enjoy using this chatbot? (yes/no) yes

Thank you for the feedback! We're glad you enjoyed your experience.

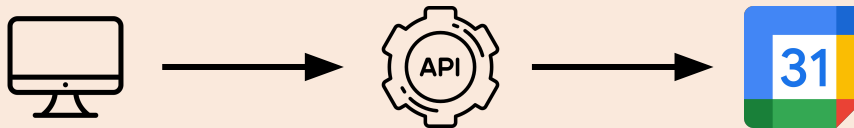


# SCENARIO 4 : Book Open House (API)

**Purpose:** Allows users to schedule an open house for a specific property with a chosen real estate agent.

## Functionality:

- **Booking Details:** Gathers the property address, agent name, and a valid future date and time for the open house.
- **Google Calendar Integration:**
  - Authentication: Checks for an existing Google Calendar API token and authenticates if necessary.
  - **Event Creation:** Schedules an open house event in the user's primary Google Calendar.
  - **Confirmation:** Notifies the user of the successful booking with the agent's name, date, and time.



# SCENARIO 4

Hello! I'm the REMAX chatbot!  
What's your name? Audrey Delisle

Hello Audrey Delisle, what can I help you with today?  
I would like to book an open house

Which property do you want to book the open house for? (Provide the address) 1046 Chemin du Silence  
With which agent do you want to book it? Alyssa Ford

Enter the date for the open house (dd-mm-yyyy): 15-08-2023  
Please enter a future date.

Enter the date for the open house (dd-mm-yyyy): 22-08-2023  
What time do you want to book it? (9am to 5pm, e.g., '2pm') 8pm  
Invalid time. Agents work from 9am to 5pm.  
What time do you want to book it? (9am to 5pm, e.g., '2pm') 2pm

Open House booked with Alyssa Ford on Tuesday, August 22, 2023 at 02:00 PM. Please check your calendar to see your booked time slot.

Did you enjoy using this chatbot? (yes/no) no

We're sorry to hear that. Can you tell us why not? I would like further information

Thank you for your feedback. We'll try to improve based on: I would like further information



# SCENARIO 4

Calendar Today < > August 2023

Create

August 2023 < >

S	M	T	W	T	F	S
30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2
3	4	5	6	7	8	9

Search for people

My calendars

- ☒ Coding INSY660
- ☒ Birthdays
- ☒ Reminders
- ☒ Tasks

GMT-04

SUN	MON	TUE
20	21	22
	Discovery Day (Yukon)	
		Open House with Alyssa Ford 2 – 4pm

Open House with Alyssa Ford  
2 – 4pm



03

# LIBRARY INTEGRATION



# PANDAS



## Description

Pandas is an open-source Python library used for data manipulation. The library aims to help you work with structured data. Also, it has optimized data structures and tools for importing/exporting different formats like CSV and XLS

## Rationale

- Fast Querying
- Excel I/O
- Data Analysis

## Suggestions to extend code

*Pillow Library:* Store and retrieve house pictures and floorplans

*GeoPandas:* Integrate location data in the Excel and perform distance calculation between properties

*BeautifulSoup:* Scrape listing data from real estate sites. Any new listings or old listings updated that are added on those sites will automatically get picked up and added to the centralized database.





# API - Google Calendar



## Description

Cloud based calendar service that can be accessed by any device. It allows reading, creating, updating and deleting calendar events, availability data, and calendar list data.

## Rationale

- Scheduling convenience
- Automatic reminders
- Analytics & tracking
- Free to use

## Suggestions to extend code

Adding an option for virtual/online open house meetings that are scheduled directly in the Google Calendar. For example, guests could book an online meeting via Zoom that would then automatically be added to the agent's Google Calendar.

