1. Use Case Name

Match Property for a Client

2. Actor

Primary Actor: Real Estate Agent
Secondary Actor: System Database, External Data Sources (Property APIs)

3. Description

This use case describes how a real estate agent uses the system to find the best investment property for a client. The system fetches property data from public sources, analyzes customer financial information, and recommends properties that match their financial capacity, investment goals, and preferences.

4. Preconditions

- The agent must be logged into the system.
- The client's information (salary, age, budget, loan scheme, preferences) is available in the database.
- The system has access to up-to-date property and rental data (via APIs or database).

5. Postconditions

- A list of **recommended properties** is generated and displayed to the agent.
- The system calculates and displays for each property:
    - Expected rent per year
    - Estimated break-even period
    - Projected appreciation and ROI
- The agent can export or share the **financial summary report** with the client.

6. Main Flow (Basic Flow)

Step	Actor Action	System Response
1	Agent logs into the system.	System authenticates the agent and opens the dashboard.
2	Agent selects a client from the client list or adds a new one.	System retrieves client's financial profile and displays it.
3	Agent clicks on "Find Matching Properties."	System fetches latest property data (price, rent, facilities, utilities, etc.) from public APIs or internal sources.
4	Agent optionally applies filters (location, property type, price range).	System updates query parameters accordingly.
5	System analyzes both data sets — client financials and property market data — using the investment analysis module.	Calculates break-even period, ROI, and projected appreciation.
6	System displays a ranked list of best-suited properties for the client.	Properties are listed with detailed comparison metrics (price, rent, break-even, appreciation).
7	Agent views detailed financial breakdown for selected properties.	System presents graphs and detailed report for each property.
8	Agent exports or sends the analysis report to the client.	System generates and downloads a report in PDF or Excel format.

7. Alternate Flows

ID	Description
A1	**No Client Data Found:** If the agent selects a new client not yet in the system, they are prompted to input financial details manually.

A2 **No Property Data Available:** If API fetching fails or returns incomplete data, the system uses cached data or displays an error message.

A3 **Client Budget Too Low:** System displays a message suggesting increasing the budget or choosing a different location.

8. Exception Flows

ID	Description
E1	Network or API connection failure — system notifies agent and retries later.
E2	Invalid or missing client data — system prompts agent to correct the inputs before proceeding.

9. Data Inputs

- Client Data: Name, salary, budget, loan details, preferred location, investment period.
- Property Data: Price (AUD),Full Address, Suburb, State, Postcode, Property Type , Land Size (m²), Building Area (m²), Bedrooms, Bathrooms, Car Spaces, Granny Flat , Facilities, Utilities, NBN Type, Security Features, Air Conditioning, Year Built, Energy Rating, Maintenance Cost (Annual), Estimated Rental Value (Weekly), Suburb, Median Price, Agent Name, Agency, Agency Contact, Property ID, Nearby Schools (km), Nearby Transport (km)
- Historical Data: Yearly price and rent trends for the location.

10. Outputs

- List of recommended properties with financial indicators.
- Graphs (price vs rent trend, ROI curve).
- Exportable investment analysis report.

Use Case Diagram: