Assignment

⟳ Status	In Progress
📅 Due	@November 14, 2023
◎ Project	◎ Research
🏷 Tags	Research

Problem:

You are tasked with creating a sales GPT called `SalesGPT` using LangChain for a water purifier company that sells RO water solutions. The GPT will interact with potential customers via a chat interface. The GPT should be capable of:

1. Engaging in a sales conversation with a potential customer following the stages of a sales conversation, i.e., introduction, qualification, value proposition, needs analysis, solution presentation, objection handling, close, and end conversation. github.com

2. Looking at the inventory to check if a product is available when asked by a customer. The inventory data will be provided in a JSON format.

3. Saving the customer's interest and preferred callback times in a database. The information should be saved as a JSON object.

Your task is to design and implement `SalesGPT`.

Deliverables:

1. Design the conversation flow for the `SalesGPT` based on the stages of a sales conversation.

2. Write a function to parse the inventory JSON and check if a product is available.

3. Write a function to save a customer's interest and preferred callback times in a database. Assume the database is a NoSQL database like MongoDB.

4. Implement the `SalesGPT` using LangChain. You can refer to the <u>Python notebook</u> and <u>LangChain documentation</u> for reference.

5. Wrap it up to create a UI (with streamlight or similar app) to interact with it. Add alongside the log messages to understand the flow as we test the final application

6. Send instructions on how to run the app when you submit the assignment

Bonus:

1. **Handling Non-Comprehension Scenarios:** Devise strategies for `SalesGPT` to gracefully manage instances where customer inquiries are misunderstood or irrelevant to the product offerings.

2. **Concurrent Conversation Management:** Determine an approach for `SalesGPT` to effectively handle simultaneous dialogue threads without compromising the individual customer experience.

3. Change any part of the problem, and make it into any bot selling any product of your choice. Declare your Stages of conversation.

4. Think about how does one improve agent success rate as error in early stage will propagate down the chain.

Ethical Use Reminder:

Your designated API key is `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`. This key is entrusted to you under the expectation of ethical use. Any disclosure or misuse outside the scope of this project constitutes a violation of professional integrity.

We value academic achievements that are a result of effective teamwork and collaboration. If you've achieved success through collaboration, it speaks to your strengths as a team player. If you've worked closely with someone on this assignment,

we encourage both of you to apply. We believe that individuals who have collaborated in the past may demonstrate exceptional teamwork during the internship.

A sample design of stages of conversation:

```
    - Introduction: The agent should introduce themselves and the RO company, providing a
brief overview of the company's history and commitment to providing clean and safe drinkin
g water.
    - Qualification: The agent needs to confirm whether the prospect is in charge of healt
h and wellness decisions in the household or the procurement of appliances, ensuring they
are speaking with someone who can make a purchasing decision.
    - Value Proposition: The agent should highlight the unique benefits of the RO water pu
rifier, such as its advanced filtration technology, health benefits of purified water, cos
t savings over bottled water, and any certifications or endorsements the product has recei
ved.
    - Needs Analysis: The agent must ask probing questions about the prospect's current wa
ter quality, concerns about contaminants, family health considerations, and any issues the
y might be facing with their current water purification system, if any.
    - Solution Presentation: Based on the information gathered during the needs analysis,
the agent can present the RO water purifier as a tailored solution, explaining how it can
resolve specific concerns, improve the family's health, and provide convenience.
    - Objection Handling: The agent must be ready to address common objections such as pri
cing, installation concerns, maintenance requirements, and the necessity of RO purificatio
n versus other methods, using evidence, testimonials, or demonstrations to support their p
oints.
    - Close: The agent should suggest the next step, which might be a home demonstration,
a free water quality test, or a discussion about installation packages. They should summar
ize the benefits and align them with the needs and concerns expressed by the prospect.
    - End Conversation: Once all topics have been thoroughly discussed and the next steps
are set, or it's clear the prospect is not interested, the agent can politely end the conv
ersation, thanking the prospect for their time and providing them with contact information
for any further questions.
```

Sample JSON:

```
{
  "inventory": [
    {
```

```json
      "product_id": "RO1001",
      "product_name": "AquaPure Home",
      "description": "5-stage RO system with UV purification",
      "price": 199.99,
      "currency": "USD",
      "in_stock": 150,
      "replacement_filters_available": true
    },
    {
      "product_id": "RO1002",
      "product_name": "ClearFlow Office",
      "description": "8-stage RO system for high-capacity use",
      "price": 399.99,
      "currency": "USD",
      "in_stock": 75,
      "replacement_filters_available": true
    },
    {
      "product_id": "RO1003",
      "product_name": "HydroHealth Travel",
      "description": "Portable RO purifier for travelers",
      "price": 99.99,
      "currency": "USD",
      "in_stock": 0,
      "replacement_filters_available": false
    },
    {
      "product_id": "RO1004",
      "product_name": "SpringFalls Countertop",
      "description": "Compact RO system with smart monitoring",
      "price": 249.99,
      "currency": "USD",
      "in_stock": 25,
      "replacement_filters_available": true
    }
  ]
}
```