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## **AI in UE and Bots Implementation**

### **Homework 1 Report**

#### **1. Pick a business sector and analyze the chatbots of two leading companies in that sector.**

**My choice:**

**Sector: Travel and Hospitality**

**Companies: Airbnb & Tripadvisor**

##### **1.1 Airbnb**

Airbnb has a Chatbot mainly to **deal with** the problems coming from the operation of rented rooms. This Chatbot can help customers in terms of several steps of the order: pre-ordering consultancy, order status, complaints and request a refund and also post-accommodation service. On the other hand, it can also help room hosts to know the current rents and to do the management.

This Chatbot uses two main **technologies**: rule-based normal algorithms to answer some basic and mostly informative questions; besides, it uses the advanced natural language processing (NLP) and Machine Learning algorithms to understand the personal customised questions.

This Chatbot answers questions really quickly and it is **user-friendly**. Even if it cannot deal with all the questions provided by human language. (for example, some more complex problems like asking for a refund because the user cannot contact the host.) The chatbot will directly transfer to the human service. Overall, it provides a great experience to users.

Unfortunately, the Chatbot of Airbnb cannot help a lot in terms of the **marketing strategy** of Airbnb currently. As it cannot give advice on recommendations to users directly, what it does is just provide some related articles to help users or directly transfer to human services.

##### **1.2 Tripadvisor**

Tripadvisor has two kinds of Chatbots: a trip planner that can automatically plan a travel itinerary for users; and another Chatbot of Tripadvisor is based on a messaging application of Facebook: Messenger. With this Chatbot, it can provide users with relevant and helpful information.

Both the trip planner and Chatbot are mainly based on **NLP and Machine Learning**, to plan trips by selecting the cities and tourist attractions that users want to visit and to answer users' customised questions respectively.

As an AI-based itinerary generator, it behaves not bad because it has only 4 simple steps to complete a request form. This is a tool working with the help of ChatGPT, so users should also consider the problem of out-of-date information and do some further planning. But as a recommendation, it is fairly enough. Also, for the Chatbot on Messenger, it is not mature enough to give reliable recommendations timely, even for the prepared rule-based question, it cannot give an answer in a short time. All in all, both those two Chatbots need improvements.

Likewise, the Chatbots of Tripadvisor **cannot help significantly** to the business of the company itself. The only possibility is to help users to discover the recommended restaurants and tourist attractions through the AI-generated itinerary. In this way, Tripadvisor can ask for advertising for the local restaurants and sightseeings. (Including the booking and ticket reserving services)

## **2. Create a simple chatbot design blueprint for a specific business scenario.**

In this case, I plan to build a Chatbot for companies like **Airbnb** and **Booking**, to achieve the goal of **giving recommendations of accommodations** regarding the time, place and further preferences of the users.

**User persona:** the user's persona is shown in **Fig.1**:

**Probable questions and answers:**

**Question and answers types:**

- Place to travel; (if receiving a city, continue the following step; if receiving a country, ask for the specific city)
- Date to travel; (Beginning and ending)
- Number of people to travel; (receive number of travellers)
- Preferences; (near a tourist attraction, price, type of rooms etc.)


**Possible Conversation Scenario:**

- **Bot:** Here you are! My name is AirBuddy, the Chatbot of Airbnb. What can I do for you?  
(Give the options to users)
  - General Information;
  - Recommend an accommodation;
  - Order refund;
  - Feedback and advice;
  - Human service.

(Here, we only work on the function of recommend an accommodation for users)

- **User:** (Click) Recommend an accommodation;
- **Bot:** Great, could you tell me where you want to travel in the future?
- **User:** Paris.
- **Bot:** (Set Paris, France) Sure, could you tell when you want to travel? (use the time format dd-mm-YYYY)
- **User:** 01-08-2023
- **Bot:** Got this! How many days do you want to travel?
- **User:** 3 days.
- **Bot:** Sure! How many people will travel?
- **User:** 2.
- **Bot:** Ok. Do you have any preference? Like price range, near a place?
- **User:** Less than 100€ / day.
- **Bot:** Any other requirements?
- **User:** I want to live near the museum Louvre.
- **Bot:** Any other requirements?
- **User:** We want to live with other people.
- **Bot:** Any other requirements?
- **User:** That's it.
- **Bot:** To conclude:  
**Travel Destination:** Paris, France  
**Date:** 01-08-2023 - 03-08-2023  
**Number of traveller:** 2  
**Price:** <100€ / day  
**Preference:**  
Near Louvre;  
Shared apartment;  
Are they correct?
- **User:** Yes
- **Bot:** Perfect! Here are the recommendations: (Links to accommodations).

Finally, I put a rough prototype of the Chatbot in the following pages. (**Fig.2** and **Fig.3**)



Anna Johnson

### Frustrations (pain points)

1. Time consuming; it takes Anna a lot of time to choose a proper residence when she wants to travel somewhere;
2. Lack of personalised recommendations;

### Jobs to be Done

Analyse Anna's requirements (place to travel, time to live and other preferences, give reliable accommodations for her to choose.

### Demographic info

Age  
28

Location  
Italy, Milan

Education level  
Bachelor's degree

Income level  
€ 30k / year

Job Position  
Marketing Consultant

+ Add field

### Gains from my product

1. The chatbot can be reliable, efficient and understanding of her travel preferences;
2. Get recommendations according to her requirements.

### Communication

Channels  
Airbnb, Booking, Tripadvisor

Social Media  
Facebook, Instagram

+ Add field

### Bio

Anna is a young, ambitious professional who loves to explore new places and cultures. Originally from a small town, she moved to the bustling city to pursue her career in marketing.

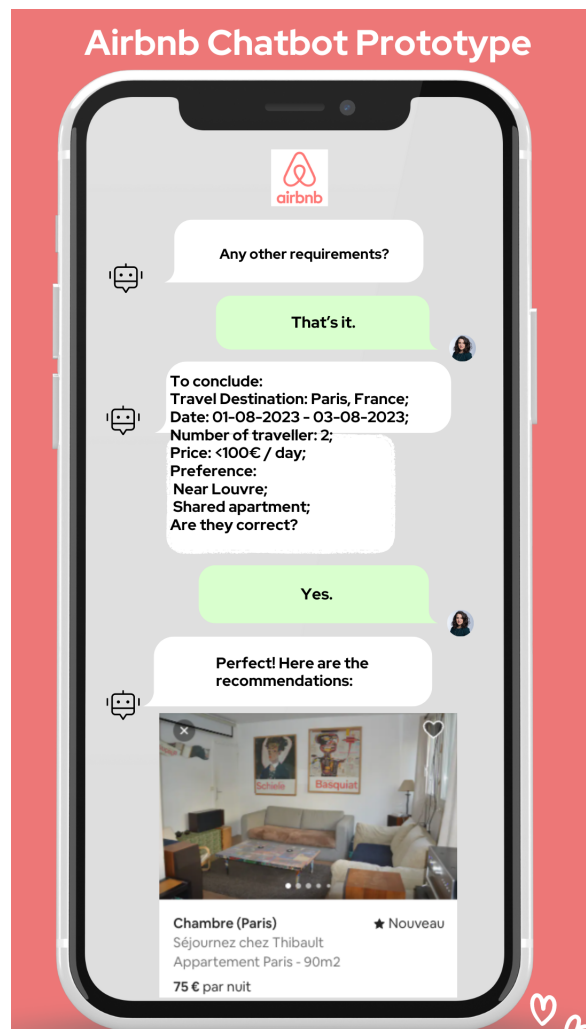
### Quote

“ I love the historical buildings that can let me imagine what happens in the past. I love adventures, especially when I travel somewhere and encounter with strangers.

**Fig.1 Chatbot User Persona (Anna Johnson)**



**Fig.2 Airbnb's Chatbot Prototype 1**



**Fig.3 Airbnb's Chatbot Prototype 2**