



COMPUTER SCIENCE DEPARTEMENT

Senior Project Proposal

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Hotel Customer Service Telegram

Chat Bot

1. Introduction

A Hotel Customer Service Chat Bot is a computer program that can simulate conversation with guests, typically through text messages or voice commands. They are designed to answer frequently asked questions, handle basic requests, and even complete certain tasks, all without the need for a human representative.

A Hotel Customer Service Chat Bot can do things like Answer questions about the hotel, its amenities, and its services. This could include things like what time check-in is, what restaurants are on-site, and what spa services are available. Help guests make reservations or changes to existing reservations. Provide directions to the hotel and information about the surrounding area. Lastly Handle simple requests, such as ordering room service or making wake-up calls.

Hotel Customer Service Chat Bots are becoming increasingly popular as a way to improve guest service and efficiency. They can provide 24/7 assistance to guests, which can be especially helpful for guests who are in different time zones or who have difficulty communicating in person. Additionally, chat bots can help to reduce the workload of hotel staff, allowing them to focus on more complex tasks and providing a more personalized experience for guests.

2. Research Questions

Understanding the User and their Needs:

- 1) What are the most common customer inquiries and requests for your hotel?
- 2) What are the preferred communication channels of your target customers (e.g., text, voice, web app)?
- 3) What level of technical literacy do your typical customers possess?

Defining the Chat bot's Capabilities:

- 1) What specific tasks and questions should the chat bot be able to handle independently?
- 2) For complex inquiries beyond the chat bot's capabilities, how will it hand off to human representatives?
- 3) How will the chat bot learn and adapt over time to improve its responses and handle new situations?

Evaluating Success and User Experience:

- 1) What metrics will be used to measure the success of the chat bot (e.g., customer satisfaction, task completion rate, resolution rate)?
- 2) How will user feedback be collected and incorporated into continuous improvement of the chat bot?

3. Objectives

The objectives of a customer service chat bot in the hotel industry can be categorized into three main areas:

1. Enhancing Guest Experience:

- Increase accessibility and convenience: Provide 24/7 assistance, allowing guests to get answers and assistance anytime, anywhere.
- Reduce wait times: Answer frequently asked questions and handle simple requests swiftly, improving guest satisfaction.
- Multilingual support: Break down language barriers and cater to a wider range of guests.

2. Improving Operational Efficiency:

- Automate routine tasks: Free up staff time for handling complex guest needs and providing personalized service.
- Reduce operational costs: Lower manpower requirements associated with answering repetitive inquiries.
- Gather valuable data: Collect insights from guest interactions to improve services and marketing efforts.

4. Scope and Limitation

Scope of Hotel Customer Service Chat bots:

- Handling common inquiries and requests: Answering frequently asked questions about hotel amenities, services, policies, and local attractions.
- Facilitating basic tasks: Assisting with tasks like booking room service, making wake-up calls, or requesting additional towels.
- Providing real-time information: Offering up-to-date information on things like restaurant reservations, spa availability, or weather forecasts.
- Collecting guest feedback: Gathering feedback through surveys or polls to improve services and address guest concerns.

Limitations of Hotel Customer Service Chat bots:

- Limited understanding: Difficulty comprehending complex questions, nuanced requests, or sarcasm.
- Lack of empathy: Inability to provide emotional support or handle sensitive situations with the same level of understanding and care as a human representative.
- Inability to handle complex tasks: Limited ability to address intricate issues requiring judgment, critical thinking, or creative problem-solving.

5. Methodology

The methodology for developing a hotel customer service chat bot involves several key steps:

1. Planning and Requirements Gathering:

- Identify target audience: Understand the demographics and preferences of the typical guests who will interact with the chat bot.
- Conduct feasibility analysis: Assess the technical and financial feasibility of developing the application based on available resources and constraints.
- Research existing solutions: Analyze available chat bot platforms and features, comparing functionalities and costs.

2. Design and Development:

- System architecture design: As the chat bot will operate in telegram we will look in to telegram Application Program Interface (api) and develop the chat bot with it and since it is chat bot we will be using python as backend and use telegram api to make the ui and for database we will be using postgres as it is industry standard.
- Develop dialogue flow and decision trees: Create a conversation flow outlining how the chat bot will respond to different inquiries and requests, including escalation paths to human representatives for complex issues.
- Integrate with existing systems: Integrate the chatbot with hotel systems like reservation software and guest management systems to provide real-time information and automate tasks.

3. Testing and Deployment:

- User acceptance testing: Involve stakeholders in user acceptance testing to gather feedback and ensure the system meets their needs and expectations.
- Since it is on telegram it will be deployed there and test there.
- Launch and monitor performance: will be for to see it performance in the web
- Test and refine functionality: Conduct thorough testing to ensure the chat bot functions correctly, handles diverse user inputs, and delivers accurate information
- Train customer service representatives: Train staff on how to handle situations where the chat bot requires human intervention or escalation.

4. Maintenance and Improvement:

- Update and maintain: Regularly update the chat bot with new information, features, and bug fixes based on user feedback and performance analysis.
- Refine and adapt: Continuously monitor and adapt the chat bot based on user feedback and industry trends to ensure it remains relevant and effective.

6. Conclusion

Hotel customer service chat bots offer a promising avenue for enhancing guest experience, improving operational efficiency, and strengthening brand image within the hospitality industry. And We choose Telegram b/c most of the Ethiopia population use it for chatting and seeing new information through our observation

These virtual assistants can provide 24/7 support, handle common inquiries and requests, automate routine tasks, and gather valuable guest data. However, it's crucial to acknowledge their limitations, such as difficulty with complex situations and lack of human empathy.

By carefully defining objectives, understanding user needs, and employing a structured development methodology, hotels can leverage chat bots effectively. This involves planning, design, development, testing, deployment, and continuous improvement to ensure the chat bot remains relevant, user-friendly, and contributes to the overall success of the hotel.

Ultimately, chat bots are valuable tools that, when implemented thoughtfully and strategically, can complement human customer service and elevate the guest experience in the dynamic world of hospitality.