Project Overview

Background Description

The project embarks on creating an innovative Q&A platform utilizing the capabilities of a Furhat robot. This initiative is driven by the need for a specialized and interactive information resource that leverages the vast data available on websites like Melbourne Connect or CIS. The core idea is to harness the power of web scraping and advanced language processing to build a robot that acts not just as a source of information but as a dynamic and intelligent receptionist.

Project Overview

The project encompasses several key phases, starting with data collection and preparation through web scraping. This initial stage aims to build a solid foundation of knowledge for the Q&A agent. Following this, the development of a domain-specific Language Model (LLM) will take place, which is essential for equipping the Furhat robot with the ability to generate relevant and accurate responses. The subsequent integration of this agent with the Furhat robot marks a significant milestone, culminating in a platform where users can interact and receive information through a conversational interface. Additionally, the project will enhance the platform with receptionist functionalities, making it a versatile tool for users.

Project Role

Product Manager - Zhuowen Zheng

Scrum Master - Xi Luo

Architecture Lead - Shaohui Wang

Quality assurance lead - Chengjia Zhou

Development Environment Lead - Jiyuan Chen

Deployment Lead - Peng Tang

Client Goals

The client aims to develop a domain-specific Q&A system that embodies the integration of cutting-edge language models with robotic technology. The goal is to produce a Furhat robot capable of serving as an interactive and intelligent receptionist, providing information and assistance with a high degree of accuracy and user engagement. This system should be able to address queries, offer assistance, and perform receptionist duties effectively, enhancing the user experience through technology.

Motivation

The motivation behind this project is to push the boundaries of what is possible in the realm of AI and robotics, creating a system that can interact with humans in a seamless and natural manner. By focusing on a domain-specific model, the project seeks to demonstrate how targeted information can be delivered more effectively, offering a personalized experience to users and showcasing the potential of integrating AI with human-like robots.

Goals

The goals of this project are to successfully scrape and utilize data from a chosen website, develop a domain-specific LLM, and integrate this into the Furhat robot, resulting in a sophisticated Q&A and receptionist platform. This endeavor is not just about building a technical system but also about enhancing user interaction and information accessibility through the innovative use of AI and robotics.

Scope

1. **Data Collection and Preparation**: This phase involves the systematic web scraping of targeted websites, such as Melbourne Connect or CIS, to gather a comprehensive dataset. The data collected will serve as the foundational knowledge base for the Q&A agent, ensuring it has access to relevant and up-to-date information.
2. **Development of a Domain-Specific Language Model (LLM)**: The project will focus on creating a specialized LLM tailored to the needs and context of the Q&A system. This model will be designed to understand and process queries in a specific domain, enabling it to generate accurate and contextually relevant responses.
3. **Integration with Furhat Robot**: A critical phase of the project is the integration of the developed LLM with the Furhat robot. This step will transform the robot into an interactive and intelligent receptionist, capable of engaging with users through natural language conversations. The integration process will involve both software and hardware components to ensure seamless interaction.
4. **Implementation of Receptionist Functionalities**: Beyond answering queries, the project aims to equip the Furhat robot with receptionist duties. This includes capabilities such as greeting visitors, providing directions, scheduling appointments, and other tasks that enhance the user experience and operational efficiency.
5. **Testing and Quality Assurance**: Throughout the project, rigorous testing and quality assurance measures will be implemented. This includes unit testing, integration testing, and user acceptance testing to ensure the system's reliability, accuracy, and user-friendliness.
6. **Deployment**: The final scope of the project involves deploying the system in furhat robot. This phase ensures that the system is fully operational and that users are comfortable interacting with the Furhat robot.