

Smart-Bot Assistant for College Information System

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Abstract— A chatbot is a software application that facilitates online conversation through text or speech. Our proposed chatbot for college enquiry is a simple web application that aims to provide information regarding college. This chatbot provides information like admission procedure, courses offered, fee structure, placement statistics, and contact details of the college. This proposed chatbot uses natural language processing libraries to understand customer questions and automate responses to them, simulating human conversation and AIML (Artificial Intelligence Markup Language) to write rules which are used by chatbot response systems.

Keywords—Chatbot, Artificial Intelligence Markup Language, Natural Language Processing, Query Analysis, Response, Artificial Intelligence, Database.

I. INTRODUCTION

A chatbot is a computer program that uses Artificial Intelligence and natural language processing to understand customer questions and automate responses to them simulating human conversation. Chatbot technology is used in many applications like smart speakers at home to messaging applications at the workplace. Chatbots uses Machine learning along with AI mechanism to understand the question and to give a proper response. These chatbots can be developed using natural language processing combined with artificial intelligence to provide an interacting environment to the user. It consists of software made up using python and can help users to talk with a machine. The proposed chatbot is intellectual which will provide necessary information regarding admission details, fee structures of various courses, timetables, and important activities of the college. This chatbot makes it easier for students to clarify their doubts in very little time.

A. Problem Statement

Usually, if a student or a parent needs to get any kind of information regarding courses, admissions, and so on they are required to visit the college website or enquire through telephone. Navigating through various links on the college

website to find appropriate information is time-consuming. Some common queries of parents and students can be solved with the help of an online chatbot. Any questions on college-related activities can be enquired through the chatbot. The design should meet the following needs:

- The chatbot for the college enquiry system is required to have conversations with humans. The bot must possess the Artificial Intelligence to provide the above facility.
- The algorithm adopted in the design must be optimal and provide a quick response while processing the query.
- The framework must support multiple languages and simplify man-machine communication.

B. Theoretical Background

Eliza is considered the first Chatbot. It is developed in 1964 by Joseph Weizenbaum. It works on the basis of a pattern matching system. It assigns a value to each word present in the user input query and uses this value to reorder the words in the form of a question. This value is determined by finding its importance in the sentence.

ALICE (Artificial Linguistic Internet Computer Entity) is a rule-based chatbot based on the Artificial Intelligence Markup Language (AIML). This chatbot has more than 40,000 categories, where each category has a combination of pattern and its response. Md. Shahriare Satu and Shamim-AI-Mamun developed a Chatbot using the AIML scripts, saying the AIML based chatbots are easy to implement, they are lightweight and efficient to work. Thomas and Amrita Vishwa designed a chatbot based on AIML and LSA to provide customer care services and E-commerce websites. Rushabh and Burhanuddin Lokhandwala developed an Android-based chatbot. [11] Chatbots are developed using a keyword-based system that provides a human-computer dialog system in natural language i.e., in English. [15] Latent Semantic Analysis (LSA) can be used to develop efficient chatbots that can mimic the conversation between humans and machines and act as a virtual assistants. [2] A chatbot is a proxy that