College Campus Enquiry Chatbot With Robotic Process Automation

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Abstract –

A chatbot is an interactive interface which provides the conversion between the human and the system. Chat-bots are artificial intelligence chat partners that communicates in text and audio format. The conversational device has knowledge which is used to provide the corresponding output by inferring the queries. Chatbots are integrated in the web and mobile applications. In this system user can query about the college activities which is given as input to chatbot interface. It uses the artificial intelligence algorithms to fetch the suitable answers for the user queries. All the college activities are updated in the web application frequently by the admin. In this application user can able to get all the details of the college including management, staff, admissions and the students. The chatbot uses AIML - Artificial Intelligence Modelling Language as knowledge source for filtering the responses, providing Robotic process automation that automates the college manual processes.

Keywords - *chatbot, college enquiry system, keywords matching, AIML, XAML.*

I. INTRODUCTION

A chatbot (also known as a smartbot, talkbot, chatterbot, Bot, IM bot, interactive agent, conversational interface, Conversational AI, or artificial conversational entity) is an artificial intelligence, which conducts a conversation by auditory or textual methods. Such programs are often designed to convincingly simulate how a human would behave as a conversational partner, thereby passing the Turing test. Now we are using the chat-bots via Google assistant, Alexa, Siri which uses the Natural language processing (NLP). It analyses and fetches the details from the web by using the AI algorithms. But for small organizations it is better to use matching keywords, most similar pattern technique from the database rather than NLP. Because their information are limited within their organization and most probably it won't available in the internet. By using the graphical user interface user interacts with the system. the user just has to register to the system and login. After the successful login user can now able to ask the queries to the chatbot. The system fetches the information from the AIML files in the database. It also uses the temporary storage to save the previous queries asked by the users. The keywords of the query are searched in the knowledge base. if it matches it provides the answer in the chatting

interface and asked queries stores it in binary file for the later use. It also embed the automation of student tasks such as on-duty application, leave form and so on by using Robotic process automation. successful login user can now able to ask the queries to the chatbot. the system fetches the information from the AIML files in the database. It also uses the temporary storage to save the previous queries asked by the users. The keywords of the query are searched in the knowledge base. if it matches it provides the answer in the chatting interface and asked queries stores it in binary file for the later use. It also embed the automation of student tasks such as on-duty application, leave form and so on by using Robotic process automation.

II. RELATED WORKS

In [1], The paper describes an approach to the idea of creating a conversation between the students and the chatbots for knowledge about college information and answering queries. This makes students easily to gather information by plain texts. The project also contains text-to-speech for betterment of bots. The bots can receive "input" as plain text about the college related queries and has as "output" a trained conversational agent which is able to answer all kind of questions about the students, staffs, college administration.

In [2], Chat-bots are mainly used to provide conversation between both human and machine. Admin feeds some knowledge to the machine so that machine can identify the sentences and taking a decision itself as a response to answer a question. The chat used is English conversational pattern and the AIML languages are used. Python is the platform in which the bot is created in this project.

In [3], Chatbot takes decisions with Python as the main aid, the various answers to the questions of the students is stored as the list in Python. The code checks the related answers in the list for a specific query and fetches the information. There are various references stored in the Artificial Intelligence markup language that are used to fetch the answers matching the reference.

In [4].All this fetching process is done by using the Python programming. Specifically it uses the packages flask, AIML, tkinter in it. All those files AIML files are stored in the server and it is maintained by admin.

In [5], System enables the student to complete on-duty, leave applications automatically using register number and the department to send frequent circulars to the students. The manual triggers of mail may no longer required. This saves a lot of human efforts involved in this. The reduction in human efforts are achieved using RPA technique which completes in a dozen of seconds. UiPath is a tool which builds and maintains the robotic team with zero flaws, assuming no errors.

III. PROBLEM DEFINITION

In colleges and institutions there will be lot of confusions and hesitations about enquiring information. This results in lack of coordination among staffs and students and missing all the significant announcements and the events inside the campus. Even staffs could not know about their students and their colleagues in the college. Another sub-problem is communication of students and college management in a physical manner. For instance if the student wants to apply leave or on-duty they will get approval from their respective advisors. To overcome the above problems and to save our precious time a campus enquiry chatbot may help in all circumstances.

IV. PROPOSED SYSTEM

A. User login

In the proposed system, user have to register in the chatbot web. After this process they can able to ask their queries to chatbot in the interface. The user data will be stored in the database.

B. Working of chatbot

When the user asks for a query in the system, it undergoes a process to fetch response for the corresponding query. Initially, the query is checked from the brain of the chatbot. If that query persists, then it displays the information in the chat screen. If not it peeps to the keywords of the query in the knowledge (database) of the system. AIML – Artificial intelligence markup language is used for storing the information in the xml format. If the keywords exists in those files it displays the output data and store the query in the brain file (.brn).

C. Robotic Process Automation

By using the specific query which is given by the authorized user, it starts the process of automation . It is done by the Robotic process automation tool. This chatbot system, it embedded with the query for sending automated leave form, on-duty application especially for students and other module like sending circulars to the staffs in the department which is maintained by the admin.

Advantages Of Proposed System

- User to go personally to college office for the enquiry.
- This application enables the students to be updated with college cultural activities.

This application saves time for the student as well as teaching and non-teaching staffs.
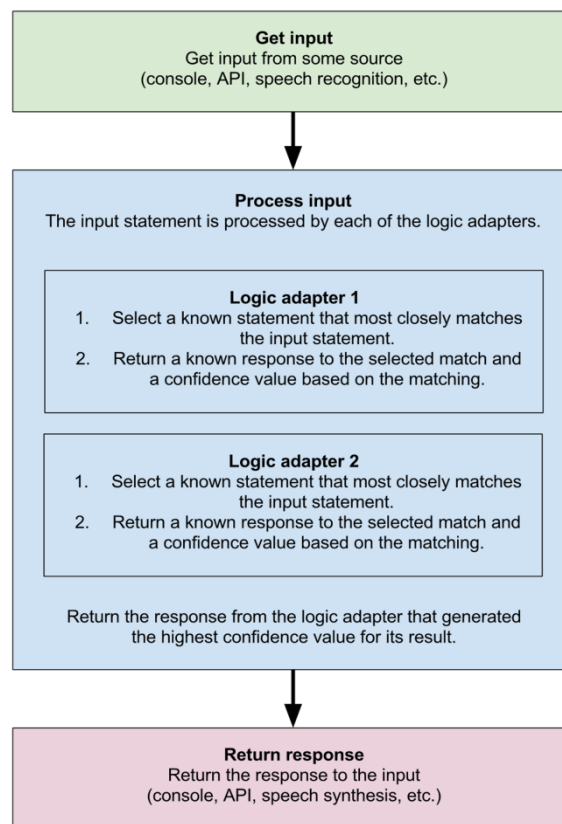
Description

Admin Login

- User has to login to the system to access various helping pages through which user can ask queries to the system with the help of bot.

Bot Chat

- User can chat with the bot it implies as if enquiring to the college person about college related activities.

Text to Speech

The bot also speaks out the answer.

V. CONCLUSION

We create a software tool which will be used by any college to help the students to freely upload their queries. Once the query is registered in the database, automatic tokens are generated and conveyed to the students through a text message and email for replying their queries. Natural language processing technologies are used for parsing, tokenizing, keyword matching and filtering the content of the complaint. And this system also reduces the manual process of approval of leave, on-duty by the Robotic process Automation tool.

VI. FUTURE WORK

In the proposed system the possible queries are feed in the form of AIML(Artificial Intelligence Markup Language). Manual feeding of information are mostly likely used in the small organizations. In future system we will implement a web scrapping process in the chatbot system by fetching the information from organization website to response the user queries as well as using AIML.

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