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College Information System Using Chat-Bot

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ABSTRACT: Chatbots are used as platforms for human-machine interaction. The machine has embedded algorithms which can identify the intent of the sentence and can make decision accordingly to answer the asked question. The system is based entirely on a text-based user interface and allows users to enter text messages and receive output in text format. A chatbot is a highly trained machine that processes data and remembers previous commands or text entered by the user to solve a given request. The chat-bot technology can be used by large amount of users at a time without any difficulties once integrated with efficient and usable web services. The College Information Chat-Bot System will use new age artificial intelligence algorithms and other Provides linguistic processing technology to understand your requests and messages and respond appropriately. The output format generated by the Chat-Bot will match with the input message from the user. Without physically present in college the user can ask the college related queries. System will use AI and ML to answer the query instantly asked by the user. To make the system user-friendly it will use smart Graphical User Interface so it will appear as if a real person is talking.

KEYWORDS:-Web-based Application, Chat-Bot System, and College Information.

I. INTRODUCTION

At the most elemental level, a Chat-Bot is a computer program that simulates and processes human conversation, enabling humans interact with digital devices as if they were communicating with an actual individual. College Information Chat-bot will be developed using artificial intelligence techniques such as Natural Language Processing (NLP) to understand user queries with most appropriate response. The College Information Chat-Bot System will be Web Based Application which will answer the user input message after analyzing it. To get the response user will just have to choose the category from the list provided then type the input query. Without physically present in college the user can ask the college related queries. The user have to first register into the system and will be logged-in and can use the Chat-Bot. The not listed end user cannot access the Chat-Bot, only recorded end user can approach it. To make the system user- friendly it will use smart Graphical User Interface so it will appear as if a real person is talking. . The Chat-Bot can answer the college-related activities like an Annual day, cultural fest, any student orientation and also inauguration and other activities. It will help students, faculties and other users to stay updated about the college activities going on and future planned activities so that they can arrange their calendar according to it.

A. Motivation

Cat-Bot, is a man-made person who interacts with human beings. The conversation may be textual, verbal or nonverbal. It is accessible through the desktop, mobile phones or other devices. It operates on the active connection of an Internet. We can see these old conventional web site systems based on HTML to modern e-commerce as well as food ordering sites.

B. Objective

1) <u>Cost efficiency:</u> It costs very little to implement a chat-bot and begin experimenting. Best of all, this minimal upfront investment can be quickly compensated by using your chat-bot to optimize the cost of operation of your contact center. Generally, students face problems to obtain correct notifications at the right time, sometimes important opinions such as on-campus interview, training. Smart Campus strives to bridge the gap among students, faculty and college administrators.

2) <u>Increased customer satisfaction ratings:</u> Customers typically wait 45-95 seconds before rejecting calls, and customers with unresolved requests are usually not very happy. Chat-bots increase customer satisfaction by providing instant support for customer frequently asked questions or simple queries that you can automate. The result is high first contact resolutions and also immediate customer service resolutions which is what exactly we need.

3) <u>Superior customer experience:</u> Chat-bots help improve the customer experience in several ways. First, it is present in all popular chat applications and channels.

II. LITERATURE SURVEY

This project focuses on colleges and the synchronization of all sparse and varied information on the regular college calendar. Generally, students face problems to obtain correct notifications at the right time, sometimes important opinions such as on-campus interview, training. Smart Campus is working to close the gap between students, faculty and college administrators. Therefore, in a real-world scenario such as a university campus Information in the form of messages, verbal communication can be communicated directly through the Android device, can be provided directly to students and teachers on the Android device, and application maintenance will be easier later. This is because it uses architectural MVC that decouples the main tasks of application development such as data management, mobile UI rendering and web services, which will be controllers to provide fast and efficient application services.

C. Algorithm and Approaches

This is one of the most popular stemming methods proposed in 1980. It is based on the idea that suffixes in English are made up of a combination of smaller and simpler suffixes. This stem is recognized for its quickness and simplicity. Porter Stemmer's main applications include data mining and information retrieval. However, its application is limited to English words. Also, stem groups map to the same stem, and output stems are not necessarily synonyms. The algorithm is quite long in nature and is known as the oldest stemmer.
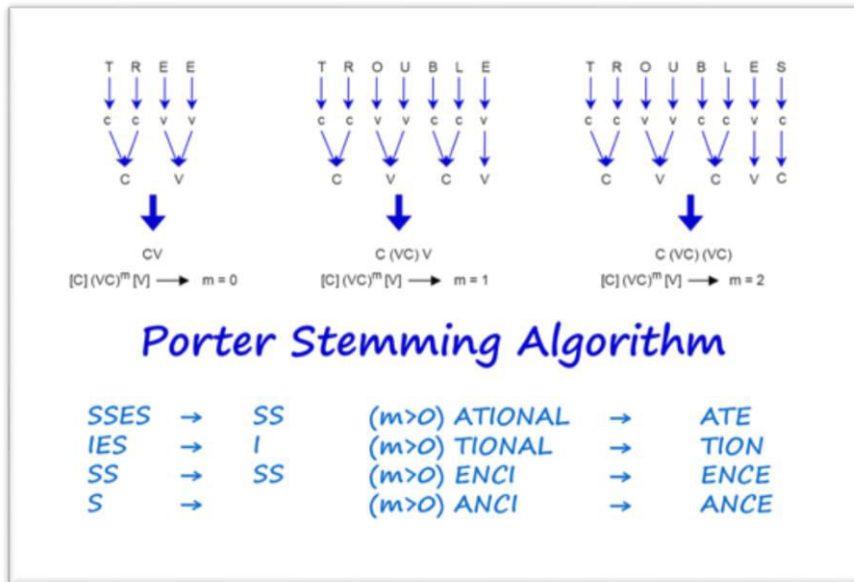

Figure 1. Working

1. Basic implementation:

```
import nltk
from nltk.stem import PorterStemmer
word_stemmer = PorterStemmer()
```

word_stemmer.stem('writing')

2. **Output**

    'write'

3. **Advantages**:
- It generates the best quality output in comparison to other stemmers and it has less error rate.

- The benefits include shortening the vocabulary space, which drastically improves the index size.

- Porter Stemmer supports strictly dictionary based and rule-based stemming hence, it is very fast.

4. **Limitation:**
- The resulting morphological variants are not always actual words.

III. PROBLEM STATEMENT

Due to COVID-19 outbreak many colleges are switched to online mode. It is not easy for them to reach to students. Students are not able to resolve their query related to college. Students not getting updated by their college cultural activities. Students need to come to college to check notice displayed on notice board. The whole process is time consuming. There may be some general queries for a student/parent that can be clarified from online chat bot System.

IV. PROBLEM SOLUTION

In education system work is very lengthy and time consuming and also required extra manpower. We develop this chat-bot system for students, teachers and parents. The students do not have to go personally to college office for the enquiry. The application enables the students to be updated with college cultural activities and important notices. This application saves time for the student as well as teaching andnon-teaching staffs. Using NLP algorithm chat-bot will answer different types of queries asked by students.

V. PROPOSED OUTCOME

1. Students can Register and login to chat-bot system to see all ongoing activities posted by university.
2. The student can ask questions linked to the university to chat-bot.
3. NLP will process and analyze query raised by student, byusing Porter stemming algorithm. It will identify the query by removing common morphological and in flexional endings from words.
4. After removing morph local and in flexional ending from words it will be checked that is there such question registered in database. If such question found then the answer for that question will be displayed to that student.
5. If a particular question not found in the database such question will be answered by admin.When the questions which is asked by any user is answered then that answer along with question is also saved into the database. So whenever such questions are asked again they will be answered directly from the database saving time. Due to this admin doesn't need to answer unchanging question manually anymore.

VI. SYSTEM BLOCK DIAGRAM
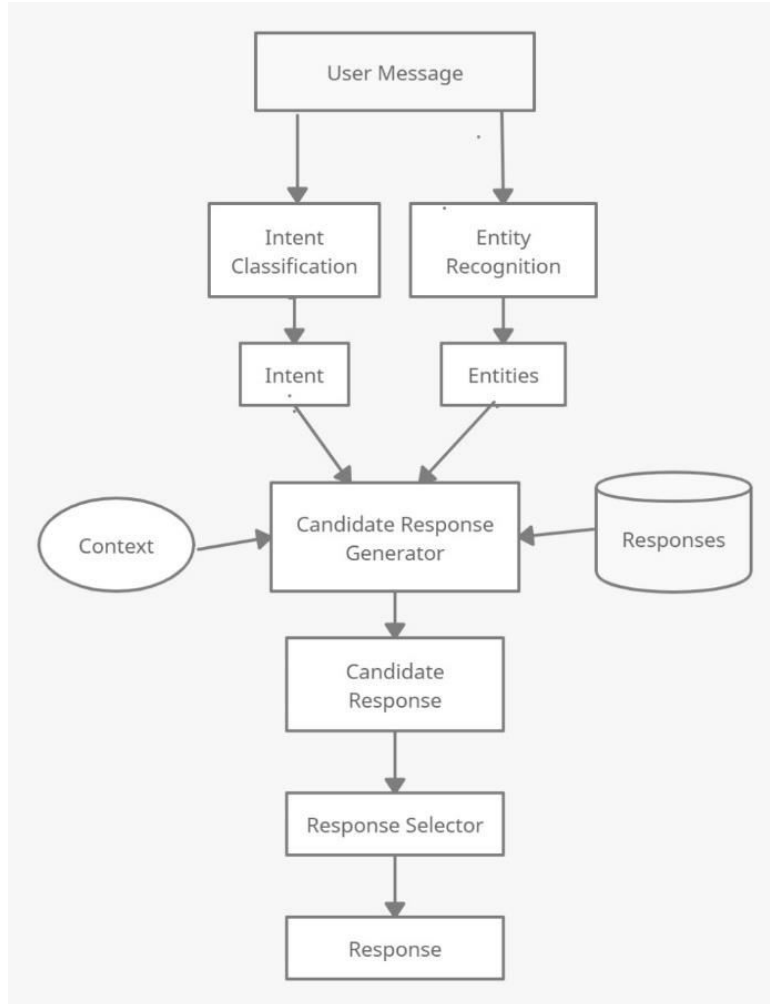
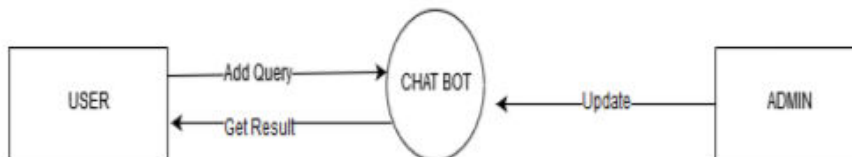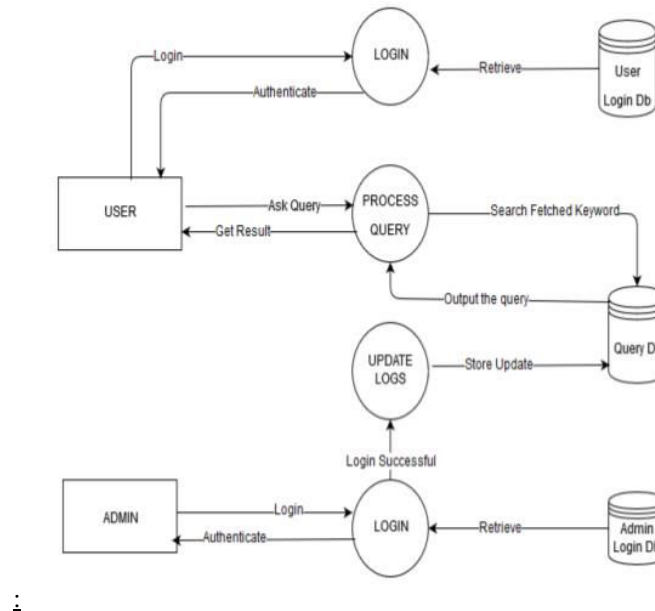## VII. DATA FLOW DIAGARAM

Diagram 1:

Diagram 2:

VIII. CONCLUSION

College chatbots aim to provide a common and user-friendly interface to handle requests from college students and faculty. Chatbots can quickly and efficiently search for answers to questions and receive relevant answers to questions, saving time for students as well as faculty and staff. To ensure you get the right answer, we've included an overview of the conversation to find relevant keywords related to this query. Because it can handle multiple requests at the same time, that can be useful in reducing the load on the college administration office. This chatbots database consists of questions, answers and information about various keywords.

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