

A.L.E.C.

Artificial Linguistic Enquiry Chatbot

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- ➊ Introduction
- ➋ Problem Statement
- ➌ About A.L.E.C.
- ➍ Natural Language Tool Kit (NLTK)
- ➎ ChatterBot Python Library
- ➏ Python's SimpleWebSocketServer
- ➐ Design
- ➑ Implementation
- ➒ Experimental Results
- ➓ Conclusion & Future Aspect
- ➑ References

* What is CHATBOT ?

- a computer program or an artificial intelligence which conducts a conversation via auditory or textual methods.
- Helps to find answers to queries through chat
- Example : Cortana, Siri, Google Assistant etc.

Problem Statement (Why we need A.L.E.C. ?)

- Hard to find information on website.
- Student needs to visit department office manually.
- Limited information on Website.
- It can consumes lot's of time and money.
- Lack of knowledge about department's event.

About A.L.E.C. (Artificial Linguistic Enquiry Chatbot)

- One place solution to all the queries ask by student.
- Attached with department notice board.
- Give information about departments Faculties, Events, Facilities, Exam, Assignment, Current Project and Courses etc.
- It also provides :
 - * Chat View.
 - * Active Communication Method.
 - * 27*7 Assistant.

NLP (Natural Language Processing)

Before implementation we need to understand some basic working of any chatbot.

- It is the branch of machine learning which is about analyzing any text and handling predictive analysis.
- Natural language processing (NLP) is an area of computer science and artificial intelligence concerned with the interactions between computers and human (natural) languages.
- It uses Natural Language Tool Kit.
- The NLTK is a set of Python modules to carry out many common natural language tasks.

ChatterBot Python library

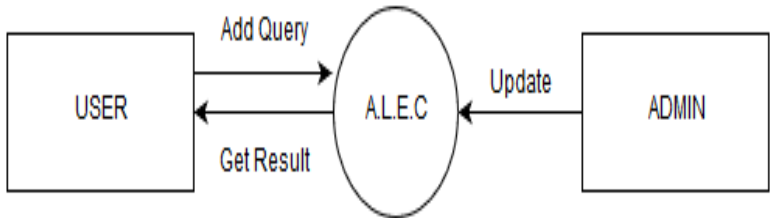
- ChatterBot is a Python library that makes it easy to generate automated responses to a users input.
- ChatterBot uses a selection of machine learning algorithms to produce different types of responses.
- This makes it easy for developers to create chat bots and automate conversations with users.

SimpleWebSocketServer

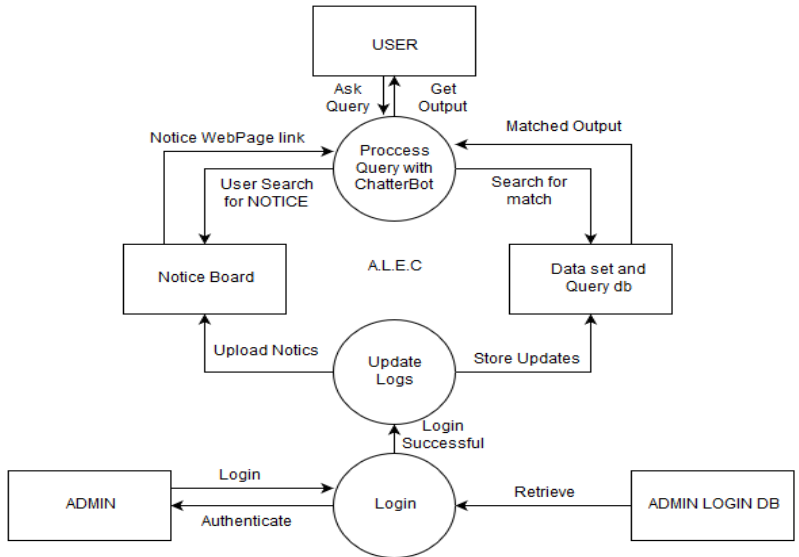
- A python based websocket server.
- Asynchronous WebSocket handler
- It uses 3 methods.
 - * handelMessage().
 - * handelConnected().
 - * handelClose().

- Data Flow Diagram of A.L.E.C.

- * Level 0 :



* Level 1 :



A.L.E.C consist of 3 modules :

① User.

- Ask Query.
- Submit New Query.
- View Notice Board.

② Admin.

- Update/Delete information.
- Upload/Delete Notice.
- Register user to upload notice.

③ Notice.

- This module is defined for displaying the important notices issued by the department. Students can view the notice board by just typing Notice in the chatbot.

- Corpus Data sets.

- Corpus is a large collection of texts. It is a body of written or spoken material upon which alinguistic analysis is based. A.L.E.C uses text files with .yml (extension) text files for data sets. Like,
 - - What is full form of MCA ?
 - Master of Computer Application
 - - Number of seats in MCA.
 - 93 seats.
 - - How many faculties are under CSED?
 - There are 21 faculties.
 - - Subjects taught by Neeraj Tyagi Sir in UG Courses.
 - Computer Network, Unix Shell Programming etc.

Languages Used

- For Back-End

- 1 Python

- 2 PHP

- 3 MySQL

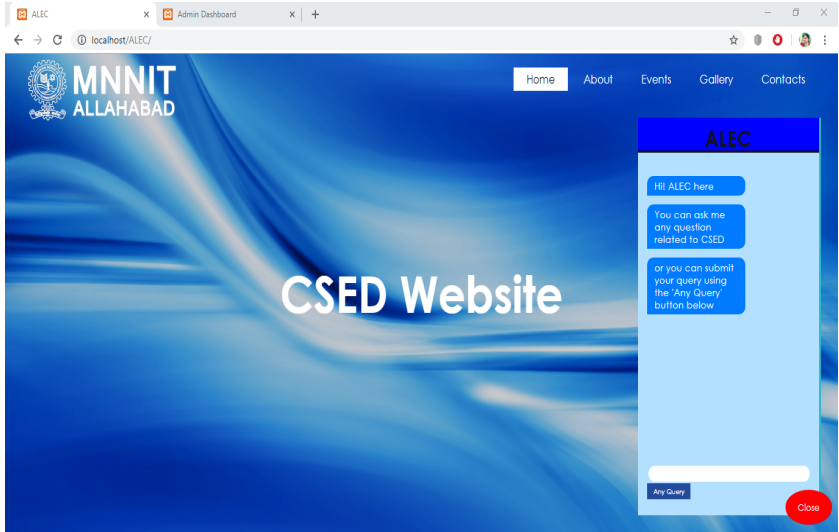
- For Front-End

- 1 HTML

- 2 CSS

- 3 Java Script

Experimental Results



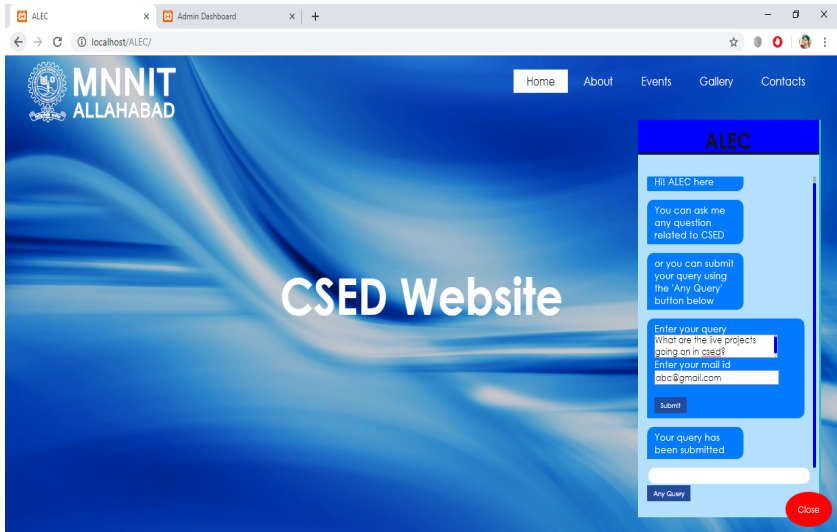
Experimental Results

The screenshot displays the MNNIT Allahabad CSED Website. The header includes the MNNIT Allahabad logo and navigation links: Home, About, Events, Gallery, and Contacts. The main content area features the text "CSED Website" on a blue background. On the right side, there is a chat window titled "ALEC". The chat history shows the following messages:

- ALEC: Hi! ALEC here
- User: You can ask me any question related to CSED
- ALEC: or you can submit your query using the 'Any Query' button below
- User: How many faculties are in csed
- ALEC: There are 21 faculties.

At the bottom of the chat window, there is an "Any Query" button and a Windows watermark that says "Activate Windows. Go to Settings to activate Windows." A red "Close" button is located at the bottom right of the chat window.

Experimental Results



Experimental Results

A screenshot of a web browser displaying the CSED NOTICE BOARD - MNNIT ALLAHABAD website. The browser tabs show 'ALEC', 'Welcome To Notice Board CSED', and 'Admin Dashboard'. The address bar shows 'localhost/Notice%20Board/'.

The website header is blue with the text 'CSED NOTICE BOARD - MNNIT ALLAHABAD'. Below the header, there is a logo on the left and a main navigation menu.

Notice Board
Comp. Sc. & Engg. Department

MAIN NAVIGATION

- Home
- All Notices
- B.Tech
- M.Tech
- MCA
- Ph.D

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The main content area features a large image of the MNNIT Allahabad building, a red brick structure with a central tower and palm trees in front. Below the image is an 'Upload' button.

Experimental Results

A screenshot of a web application interface for the Notice Board of MNNIT Allahabad. The browser tabs show 'ALEC', 'Notice Board | MNNIT Allahabad', and 'Admin Dashboard'. The address bar shows the URL 'localhost/Notice%20Board/pages/tables/All.php'.

The page header is 'NOTICE BOARD CSED | MNNIT ALLAHABAD'.

The left sidebar contains a user profile icon, the text 'Notice Board Comp. Sc. & Engg. Department', and a 'MAIN NAVIGATION' menu with the following items:

- Home
- Common Notices
- B.Tech
- M.Tech
- MCA
- Ph.D

The main content area is titled 'Notices for All Branches'. It includes a search bar and buttons for 'Copy', 'CSV', 'Excel', 'PDF', and 'Print'. Below these is a table with the following data:

S.No.	Subject	Date	View Notice
1	Seating Plan for End Semester	2019-04-13	View
2	Schedule for End Semester	2019-04-13	View

Below the table, it says 'Showing 1 to 2 of 2 entries'. At the bottom right of the table area, there are 'Previous', '1', and 'Next' links.

The footer of the page shows '© 2018 - 2019 MNNIT Allahabad'.

Conclusion & Future Aspect

We now have a Web-app for our CSED Department that will be useful for the students to find answers to their queries. Though it may have a very limited number of features as of now, it can very easily be modified to add new features.

In future many other functionalities can be added to the portal like:

- Answers with the available options.
- Image and PDF in the answers.
- Speech to text and text to speech feature.
- User login for more specific queries like assignment, marks or exam information.
- Publishing on social media platform like Telegram, Messenger etc.

References

- ① <https://drive.google.com/file/d/0B-tCvLzyt01FYIQ2dVRBWetTNkE/view>
- ② <https://www.cleverbot.com/Normaluser> friendly chatbot.
- ③ <https://www.irctc.co.in/nget/Arailway> guide on IRCEC website.
- ④ <https://en.m.wikipedia.org/wiki/Xampp> Xamppserver.
- ⑤ <https://chatterbot.readthedocs.io/en/stable/>

THANK YOU...