A.L.E.C.

Artificial Linguistic Enquiry Chatbot

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Introduction

* 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

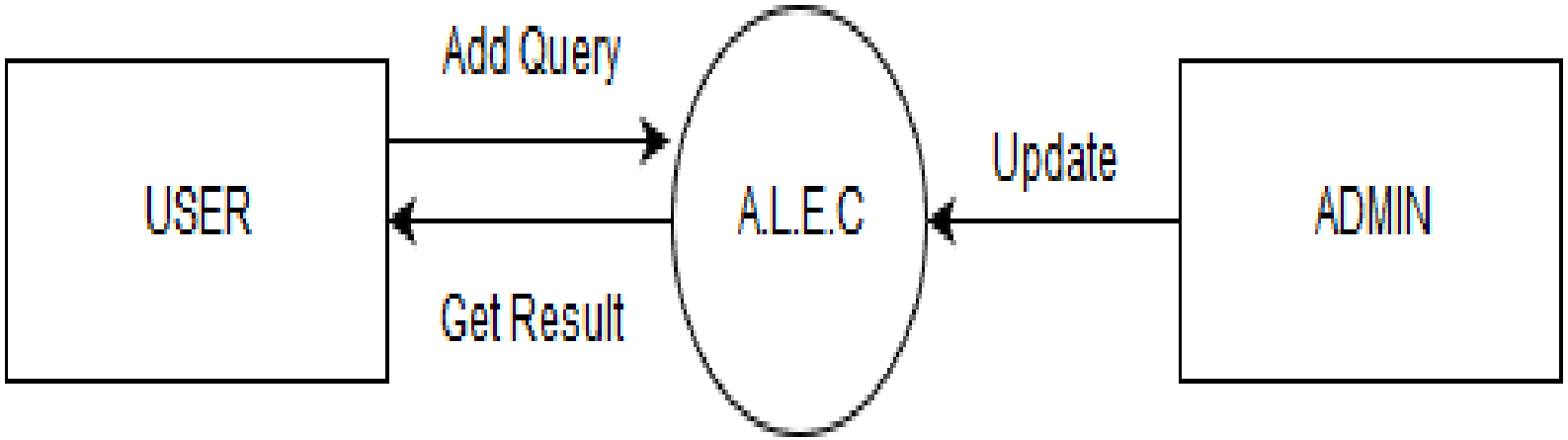
- ChatterBot is a Python library that makes it easy to generate automated responses to a users input.
- ChatterBot uses a selection of machine learning algorithms to produce different types of responses.
- This makes it easy for developers to create chat bots and automate conversations with users.

SimpleWebSocketServer

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

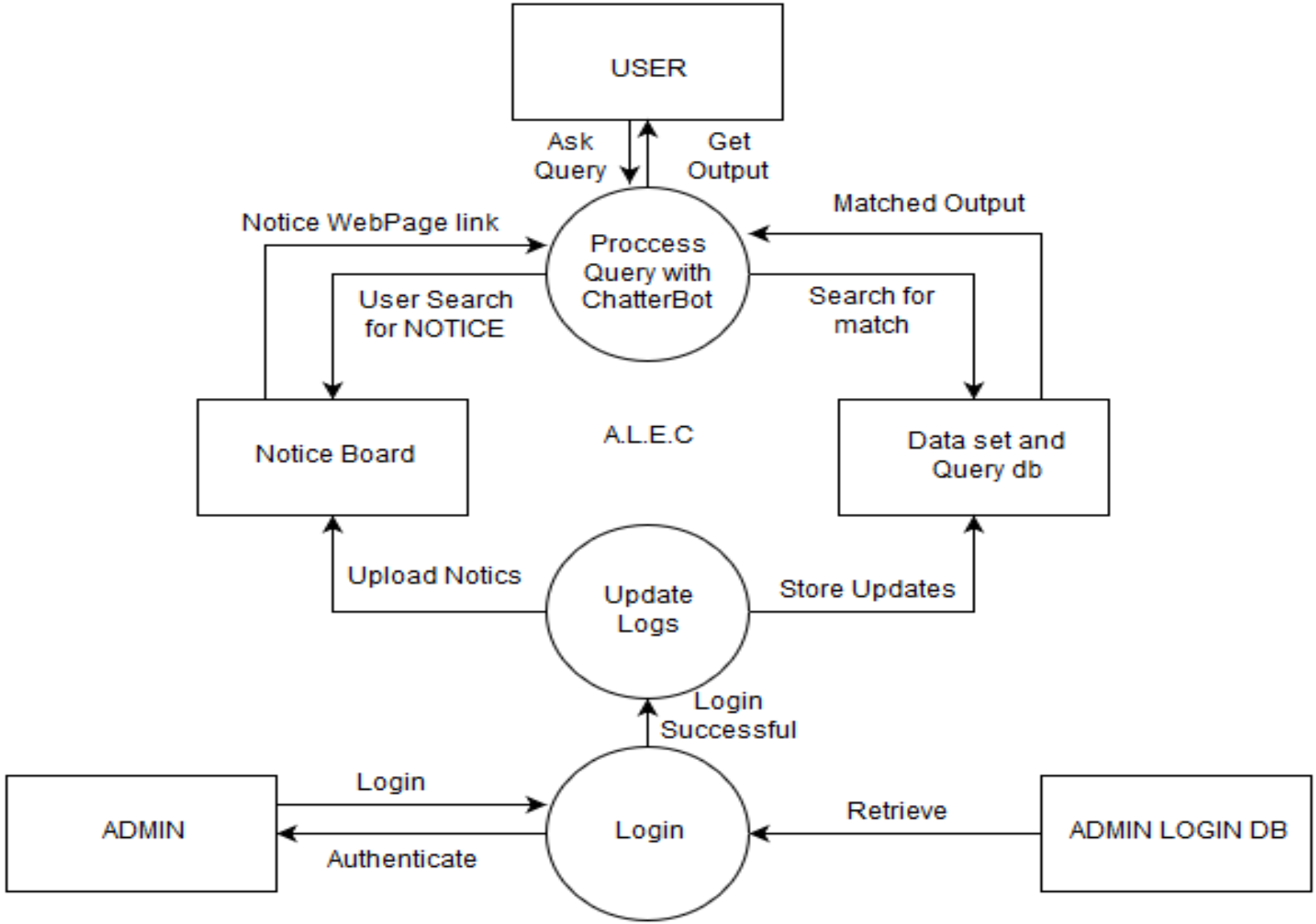
- Data Flow Diagram of A.L.E.C.

* Level 0 :



Design

* Level 1 :



Implementation

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.

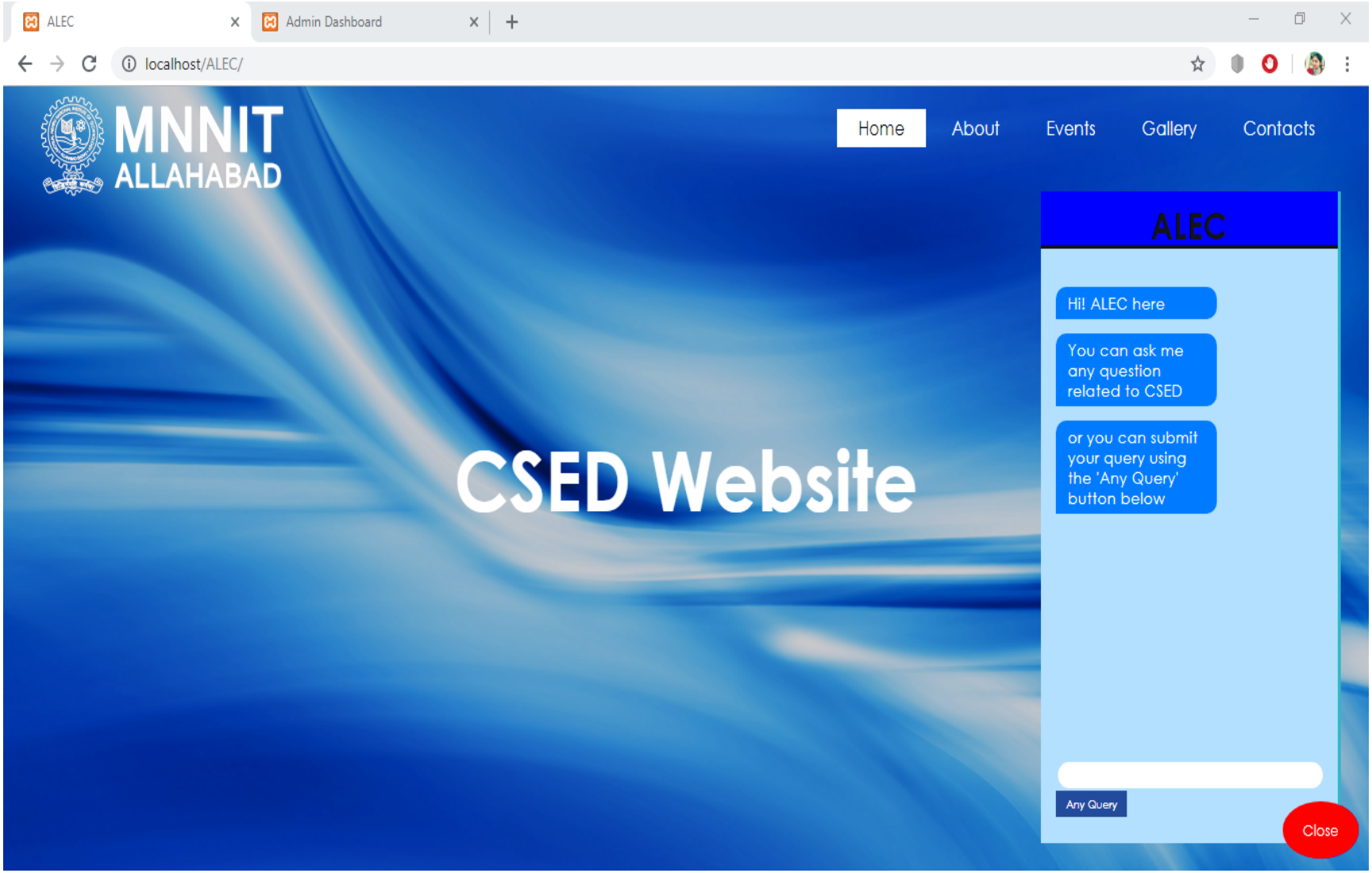
- Corpus Data sets.
  - Corpus is a large collection of texts. It is a body of written or spoken material upon which alinguistic analysis is based. A.L.E.C uses text files with .yml (extension) text files for data sets. Like,

    - - 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.

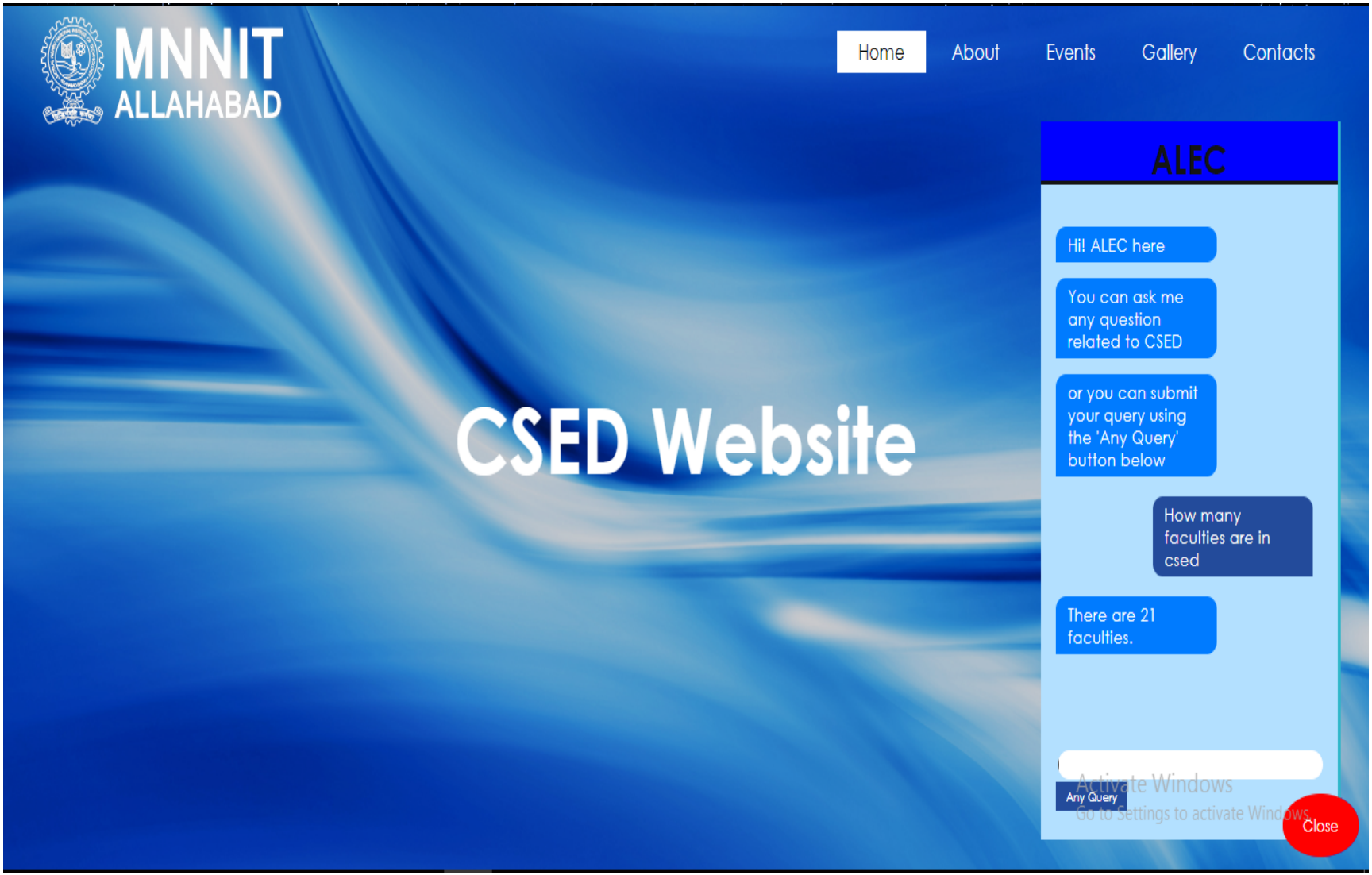
Languages Used

- For Back-End
  1. Python
  2. PHP
  3. MySQL
- For Front-End
  1. HTML
  2. CSS
  3. Java Script

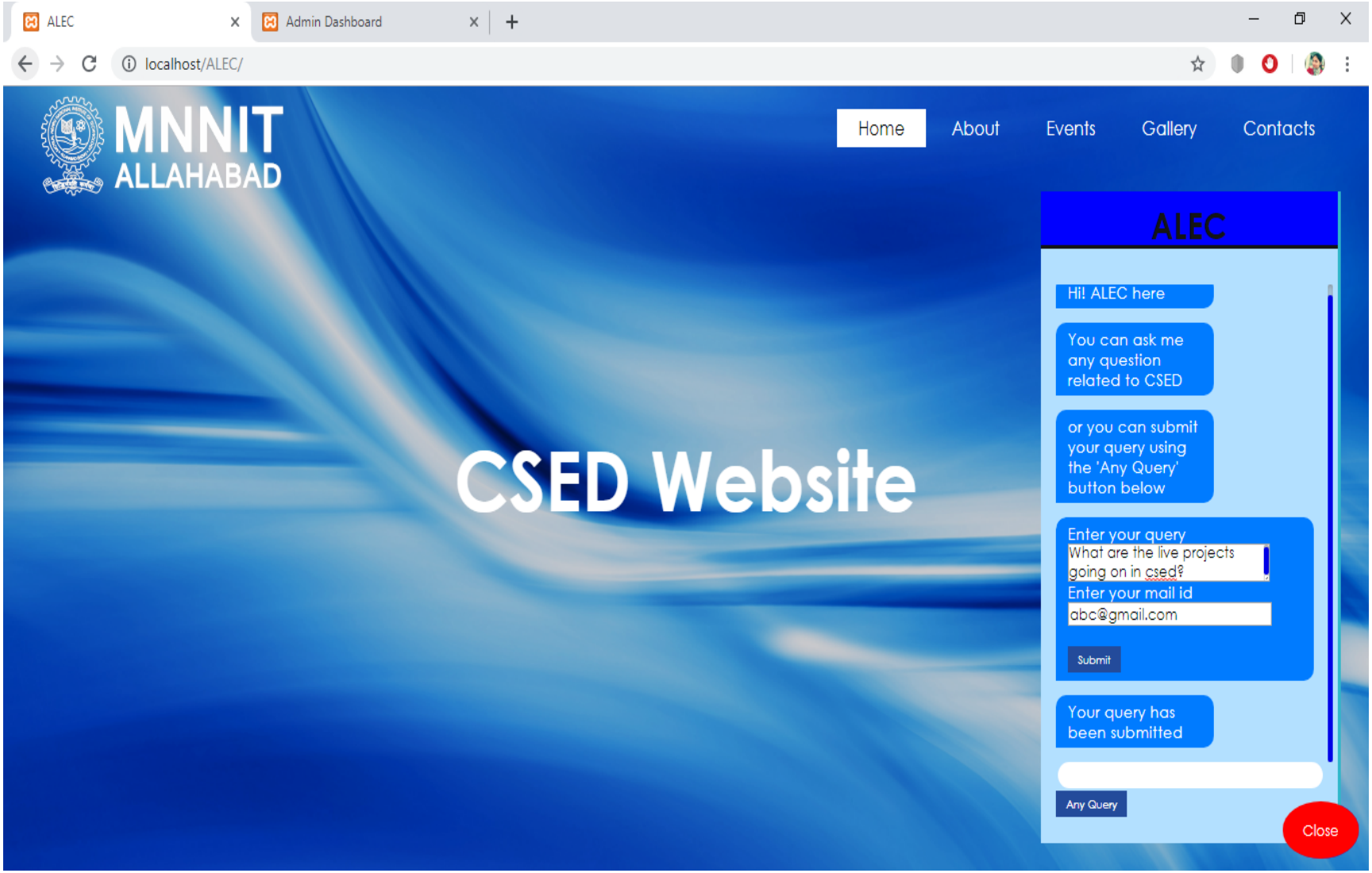
Experimental Results



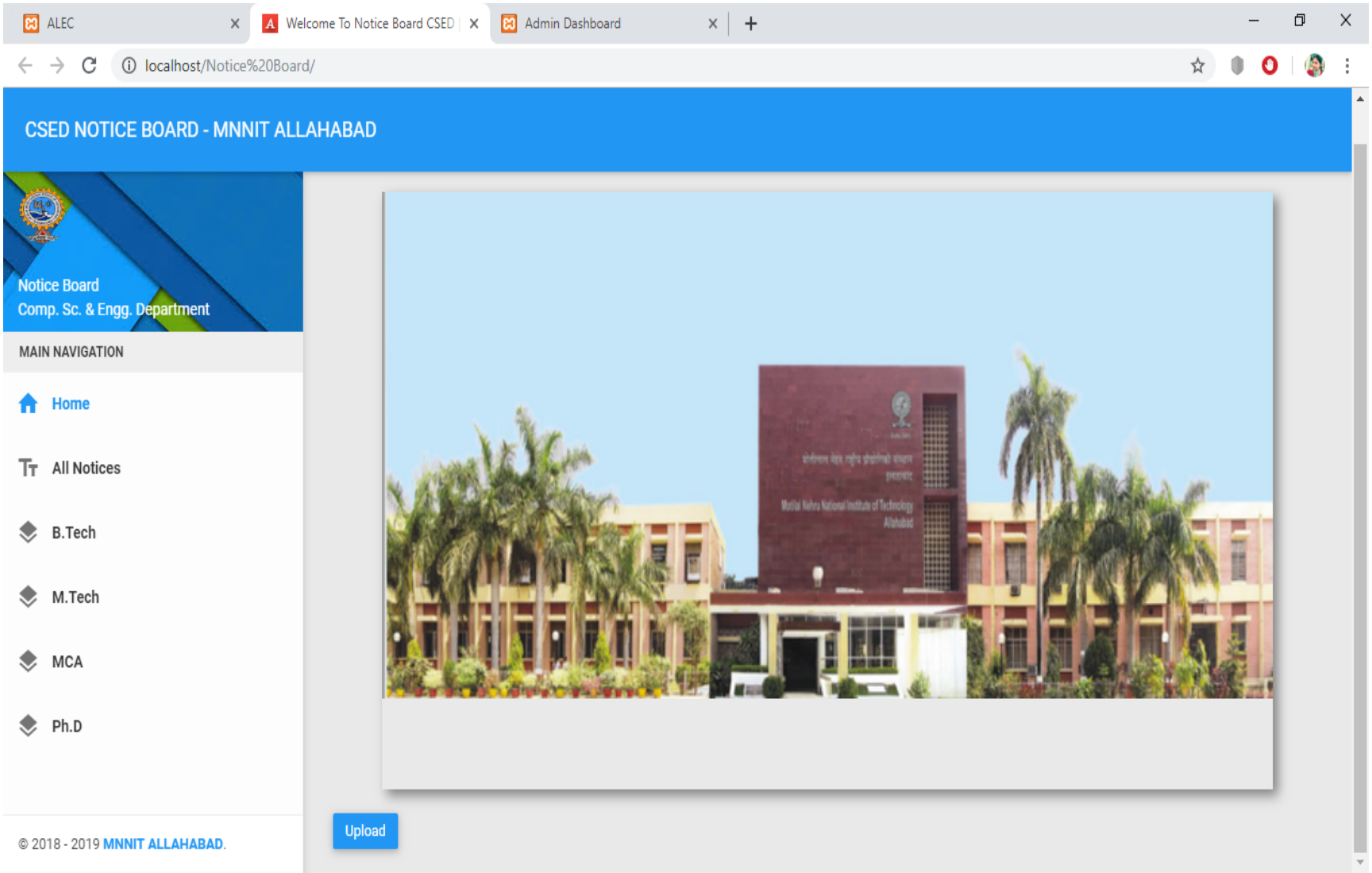
Experimental Results



Experimental Results



Experimental Results



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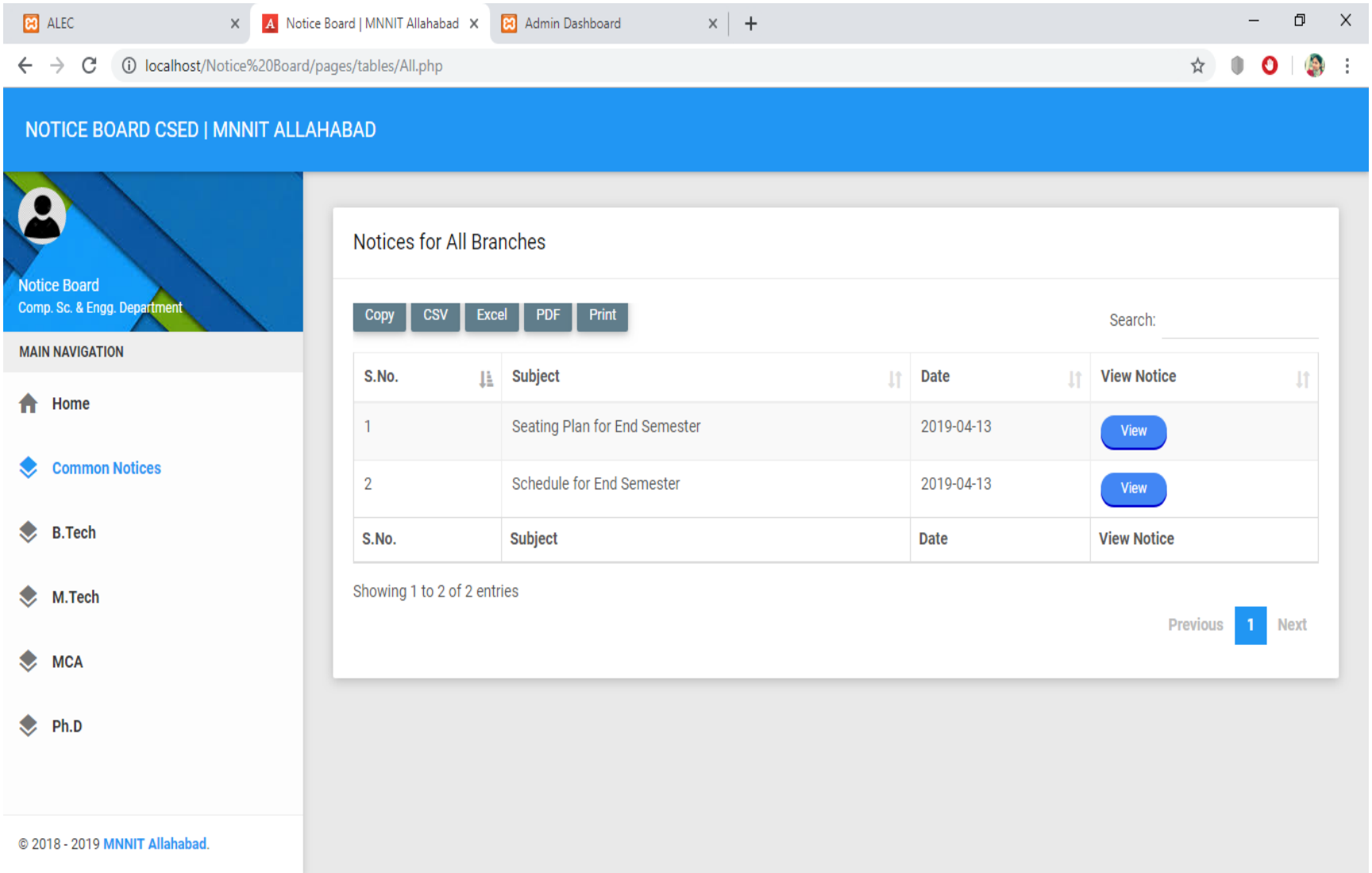

Conclusion & Future Aspect

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.

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THANK YOU...