UNIVERSITY CHATBOT FOR LIBRARY SUPPORT

Section:-(K18SP) Group No:- (14)
Final Report

By

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Submitted To Ms.Manu Bali , Assistant Professor

Lovely Professional University
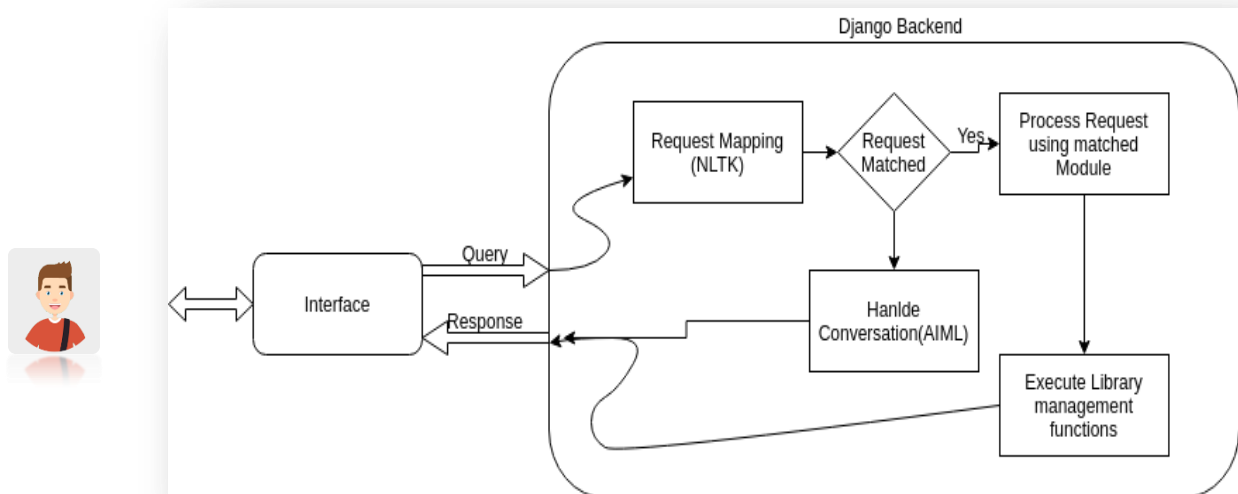Jalandhar, Punjab, India.

INTRODUCTION

As many libraries continue to see reductions in funding, we are increasingly seeing technology as a way to make up for budget shortfalls. In the circulation context, online patron account management, self-registration, and self-serve checkout stations are examples of this trend. Since requests for basic library information (including locations, hours, and policies) and for specific materials or resources predominate among chat and IM inquiries of libraries, "chatbots" or "virtual agents" offer a self-service option for our online customers in the context of information services. The main objectives of this project are, explore the Library resources to the users by adapting an Artificial Intelligence Technology easy communication between the user and the chatbot-Anytime and Anywhere.

In recent times, chatbots have reduced the need for human intervention. Artificial intelligence and machine learning have accelerated the evolution of chatbots to blur the line between human and bot style of interaction. A chatbot is a computer program or artificial intelligence which conducts a conversation via auditory or textual methods. Chatbots are generally used in systems which involves chatting with users to either acquire information or provide the service as information to them. In certain Chatbots natural language processing is used, but many of the Chatbots have their reply stored in database which they retrieve when they receive an input from user. According to Finance Digest, AI will handle 95% of the customer interactions by 2025, which will free up the need for human interaction. Such advanced AI technology would create a self-learning system for chatbots, where chatbots can learn to respond without any scripts for every instance of a conversation. Chabot's helps people by reducing the time they navigate in Web by easily providing the information they search.
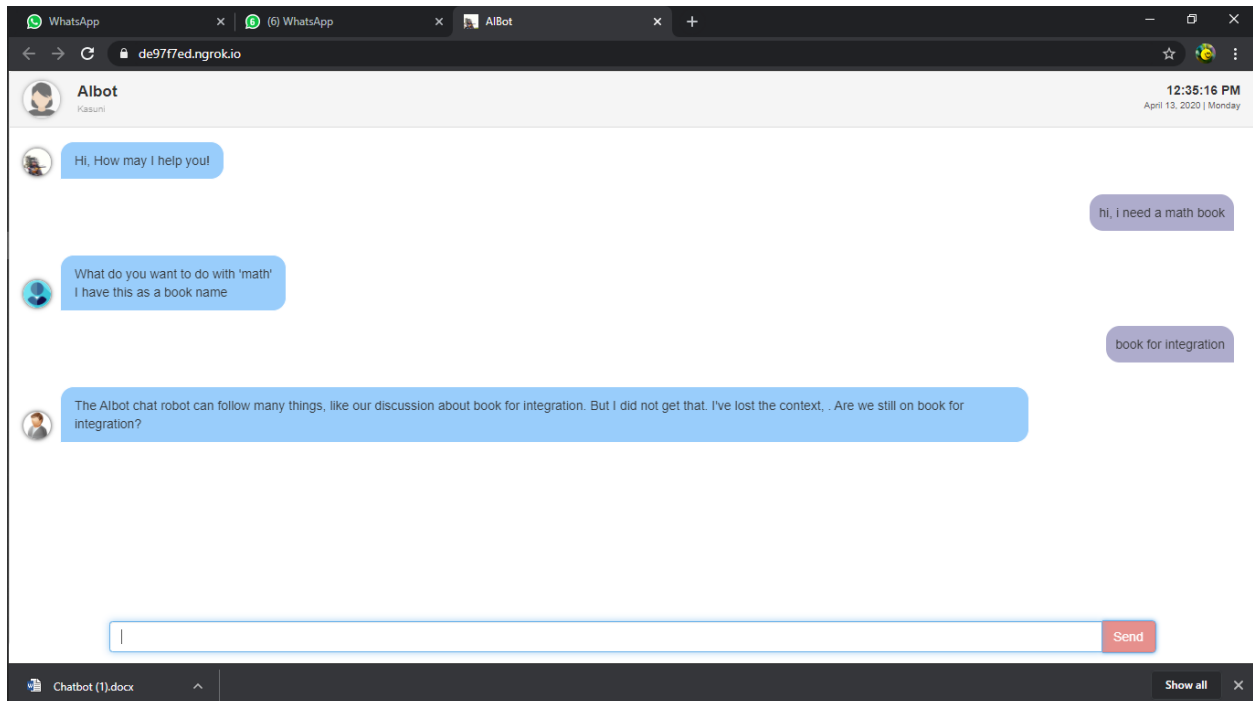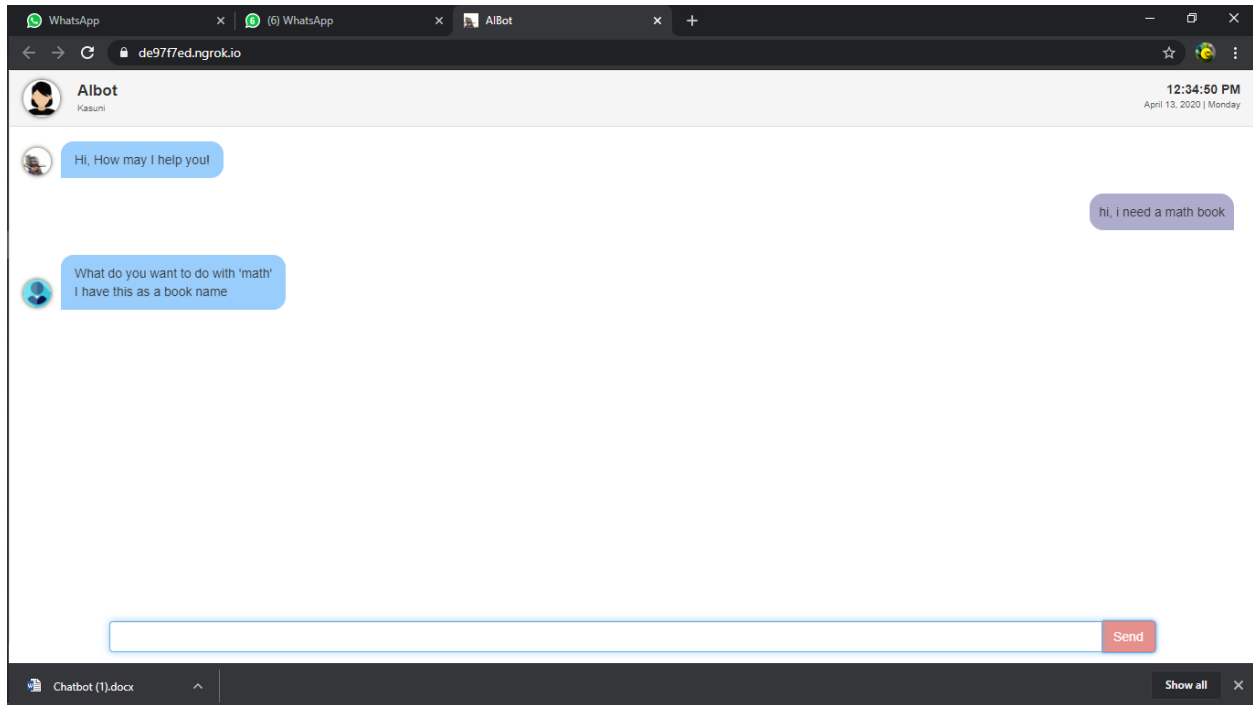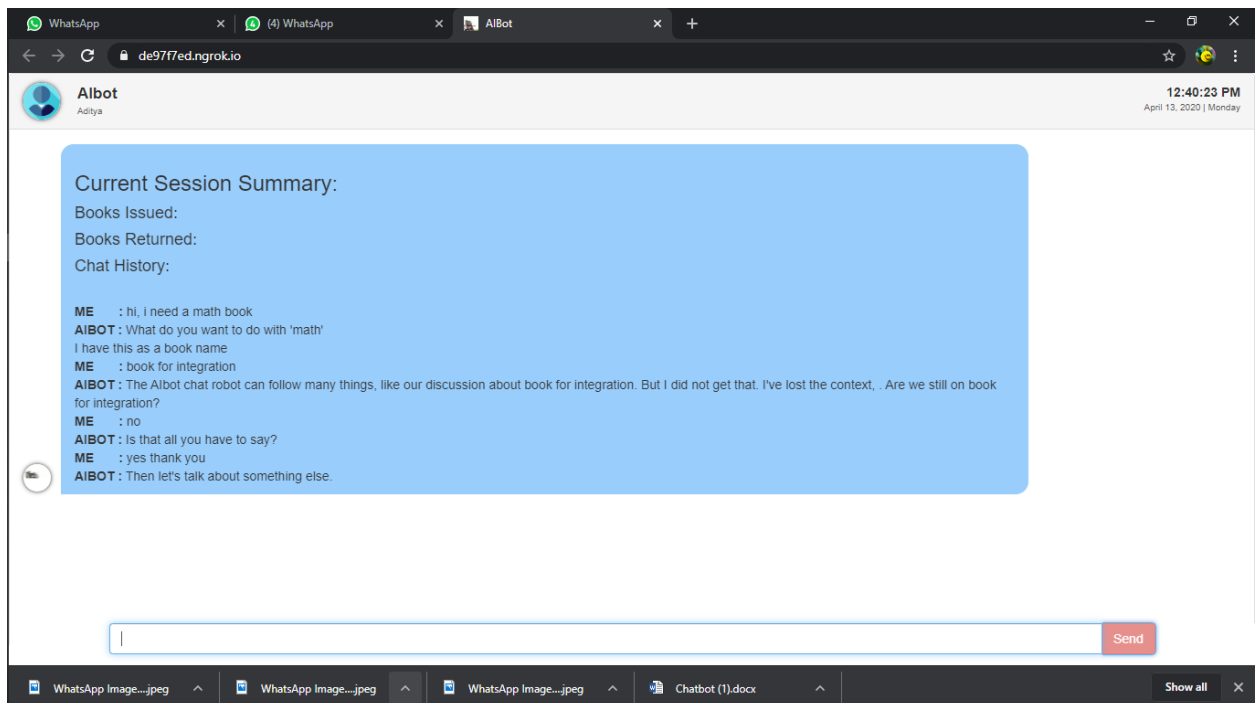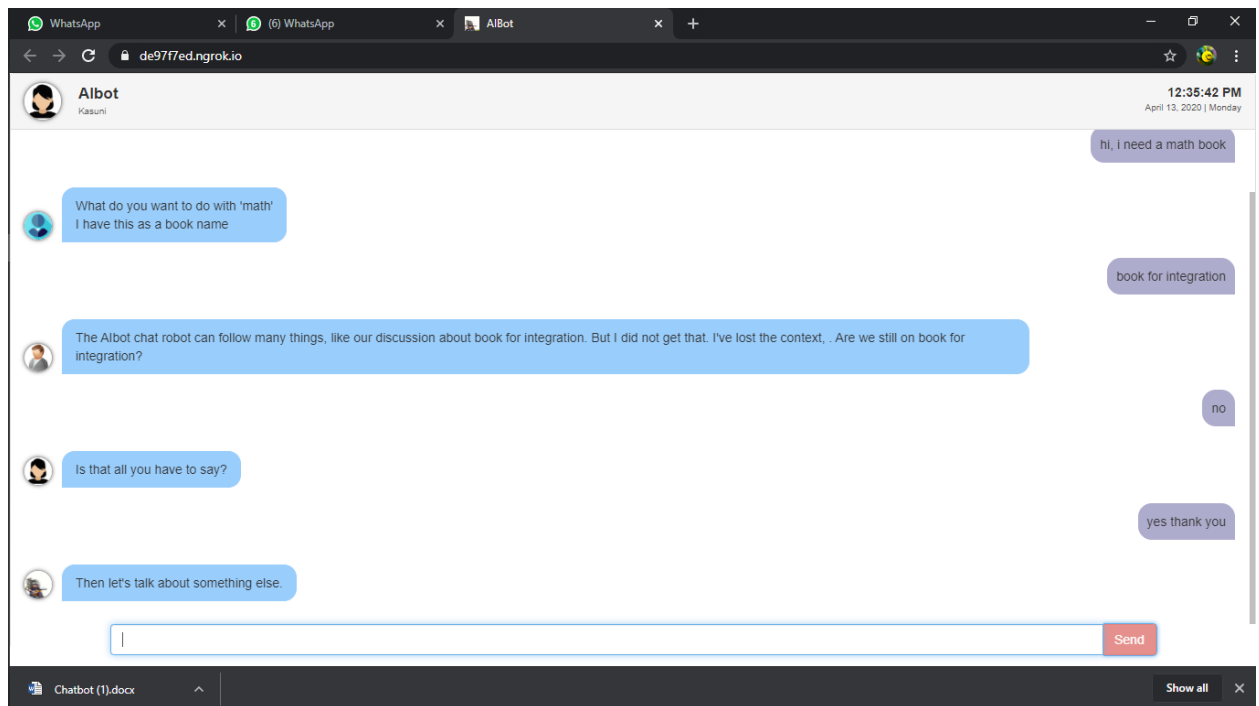
Methods & Materials

The Library Chatbot is using intelligence that analyses user requests using natural language processing library NLTK and respond accordingly. This system is used to ensure the availability of books to the students and faculties of various academic years and departments without visiting the library. System follows a simple rule that is each book is issued once per student. NLTK is used as a library to get user requirement from user queries. The NLTK is where the analysis of the user query takes place and then modules are executed and replied to the user by the chatbot. The system replies using an effective chat interface which implies that as if a real person is talking to the user. The user can request for information about the library related activities through online with the help of this bot. This chatbot system supports user by saving their time and provides data related to library resources and answers to simple queries and users do not want to go personally to library to ensure the availability of books.

Architecture of the system

The System Output

Albot
Kasuni

12:35:42 PM
April 13, 2020 | Monday

hi, i need a math book

What do you want to do with 'math'
I have this as a book name

book for integration

The Albot chat robot can follow many things, like our discussion about book for integration. But I did not get that. I've lost the context, . Are we still on book for integration?

no

Is that all you have to say?

yes thank you

Then let's talk about something else.

Send

Chatbot (1).docx   Show all ✕

Albot
Aditya

12:40:23 PM
April 13, 2020 | Monday

Current Session Summary:

Books Issued:

Books Returned:

Chat History:

ME   : hi, i need a math book
AIBOT : What do you want to do with 'math'
I have this as a book name
ME   : book for integration
AIBOT : The Albot chat robot can follow many things, like our discussion about book for integration. But I did not get that. I've lost the context, . Are we still on book for integration?
ME   : no
AIBOT : Is that all you have to say?
ME   : yes thank you
AIBOT : Then let's talk about something else.

Send

WhatsApp Image....jpeg   WhatsApp Image....jpeg   WhatsApp Image....jpeg   Chatbot (1).docx   Show all ✕

Current Session Summary:

Books Issued:

Books Returned:

Chat History:

ME : hi, i need a math book
AIBOT : What do you want to do with 'math'
I have this as a book name
ME : book for integration
AIBOT : The AIbot chat robot can follow many things, like our discussion about book for integration. But I did not get that. I've lost the context, . Are we still on book for integration?
ME : no
AIBOT : Is that all you have to say?
ME : yes thank you
AIBOT : Then let's talk about something else.
ME : hi
AIBOT : What can I call you?
ME : My name is A
AIBOT : A, nice to meet you! Are you a man or a woman?
ME : i need a mth book
AIBOT : What do you want to do with 'mth'
I have this as a book/course code name
ME : mth 102

Send

WhatsApp Image....jpeg   WhatsApp Image....jpeg   WhatsApp Image....jpeg   Chatbot (1).docx   Show all

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name

Issue book

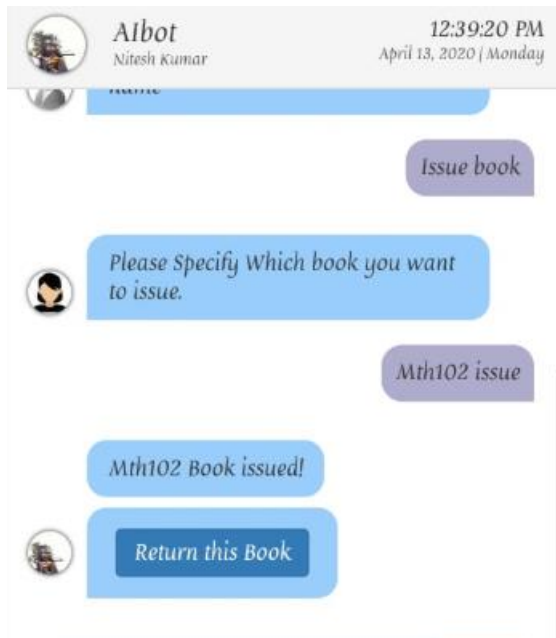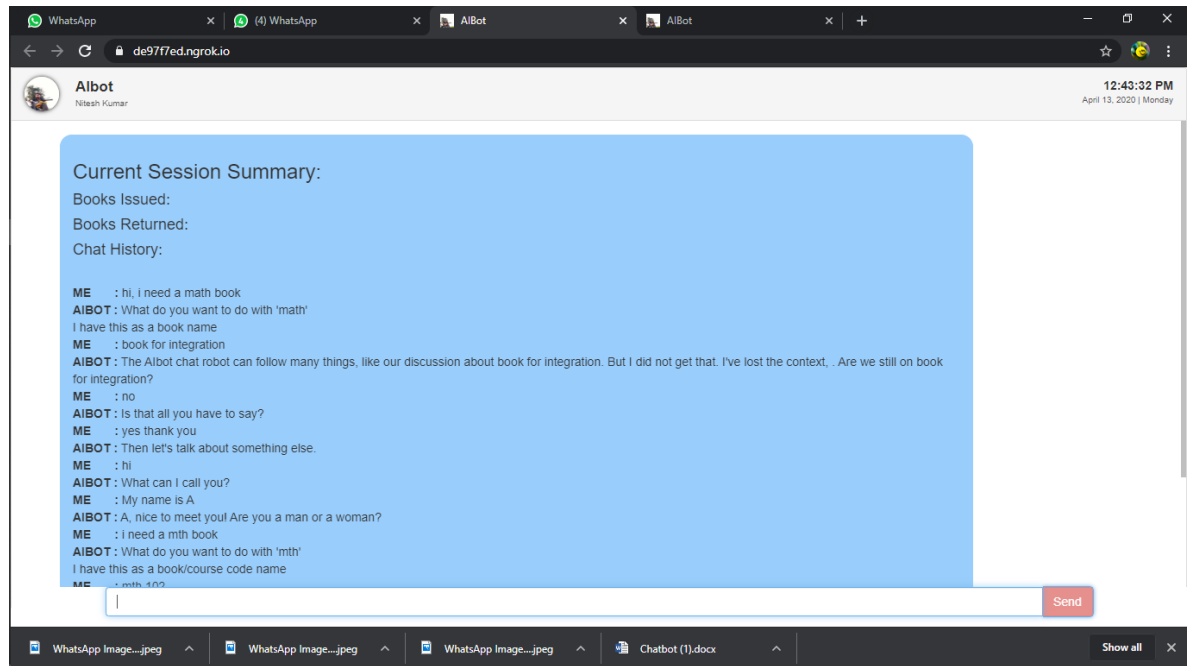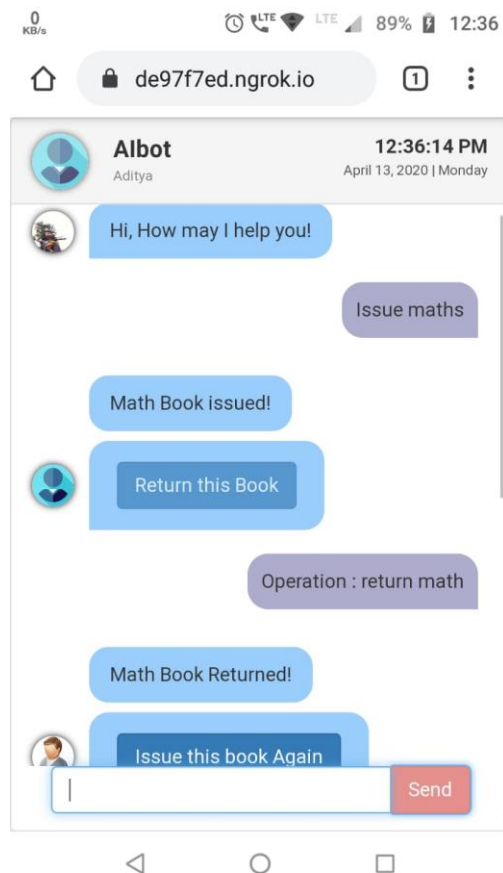Please Specify Which book you want to issue.

Mth102 issue

Mth102 Book issued!

Return this Book

Assessment Results

- *Scalability:*

  More than one user can access the bot at the same time. So that many users can make a conversation with the chatbot and it is scalable. The bot has its own interface but can be embedded with other websites via simple api requests to our AIbot System.

- *Accessibility:*

In order to be more scalable for the usage of bot in colleges, it will be very much easy when it is integrated with the college web portal. Each student can access with the help of their own username and password.

- *Usability:*

We have created a bot to get details of any number of departments(Details must be available to Chatbot). More than one department book can be retrieved easily without making any changes in the flow. In the near future, there will be more advancement so that the library can exist without any man power and the simpler chatbots are going to dominate with more rule based development. The combination of chatbots and robots will automate the process in various fields with very less man power and in specific fields without even single manpower. This will also minimize the cost of operation.

FEATURES OF THE CHATBOT

- ➢ Anyone can issue the books
- ➢ Can return the book which are issued by user
- ➢ We can search books via book name, department name, course code
- ➢ We can count the books in specified department like how much books are available in CSE department
- ➢ Miscellaneous Chat

Functions of Chatbots

- ✓ Chatbot can handle user queries in any form. No specfic input required by user
- ✓ Chatbot can handle responses other than library using AIML
- ✓ Chatbot uses Django Backend which is highly secured system

SWOT Analysis

Strength:

Our project is helping in knowing about the books present in library, the book is available in the library or whether the books can be issuable or not, or is the book available with brief information about them. Also, our project has GUI interface for communication with the user which is very helpful. Our Chatbot can remember currently issued and returned books till the session is open.

Our Chatbot System is highly Secured System. It can handle 99.9% malicious attacks.

Weakness:

Chatbot is not developed to save user sessions. It can store Details till the browser

cache is not deleted.

Opportunities:

Our project will create an opportunity for those people who doesn't have good knowledge about libraries and find difficulties to find the book and don't know the book is in which floor. Many of them comes to issue the book and then they find that the book is not available at that moment. So to overcome these problem, this chatbot will help them to know better.

Threats:

No known threats are found in our Chatbot System.

- **Work Distribution**

1. Nitesh Dangi:- Query handling & Response handling using NTML & AIML, Django for runs the user interface handle URLs data

2. Abhishek Guatam:- JavaScript is using for sending user query to back end and receive data from their, update and show the data .Also contribute in a little bit in Django part in making the project

3. Aditya Raj:- Frontend for design the interface, Django; it runs the user interface handle URLs data , Python for logics

4. Kasuni Geethadhari:- Django for processing of everything and Python for coding & logics