**ABESEC Ghaziabad**



**Department of Computer Science & Engineering**

**SYNOPSIS REPORT**

**(Session 2023-24)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project Title: CHAT BOT for college admission related enquiry** | | | | |
| **Project Type** ML and LLM based chatbot | |  | | |
|  | **Name** | **Roll Number** | **Section** | **Signature** |
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| **Project Guide** | **Ms. Madhvi Gaur(Asst Prof)** | **Remarks:** | | |
| **Signature** |  |
| **Date of submission** | **19 December 2023** |

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* 1. **Problem Introduction**

As students, we require many types of information regarding our college and university during our course. Sometimes getting this information is rather cumbersome and lengthy. We also tend to get different information in different sites so here is our solution to these problem.

* + 1. **Motivation**

1. **Accessibility:** Accessibility to information is key. A chatbot ensures round-the-clock availability, allowing users to seek information at their convenience, regardless of time zones or office hours.
2. **Instantaneous Responses:** Speed matters, especially when it comes to addressing queries. The chat bot delivers instant responses, reducing waiting times and improving user satisfaction.
3. **Efficiency and Scalability:** The bot efficiently handles multiple queries simultaneously, scaling effortlessly to accommodate a growing user base without compromising response quality or speed.
4. **Personalized Interaction:** Using AI algorithms, the chatbot can personalize responses based on user data, providing tailored information and guidance to meet individual needs.
5. **Reduced Workload:** For the college staff, the chatbot offloads routine and repetitive queries, allowing human resources to focus on more complex tasks that require personal attention.
6. **Enhanced User Experience:** A user-friendly interface and conversational approach ensure a positive experience, engaging users in interactive and meaningful dialogues.
7. **Data Insights:** The chatbot collects user interaction data, offering valuable insights into frequently asked questions and user behaviors, which can guide future improvements and decision-making.
   * 1. **Project Objective**

This project specifically aims to decrease the workload of administrative office and make procedure for enquiry easy and convenient for students as well for college administration.

* + 1. **Scope of the Project**

In college administrative work is very lengthy and time consuming and also required extra man power. For reducing that manpower and avoid such difficulties , "College Enquiry Chatbot" is designed. Its intended user is college students. This system will enable student to resolve their queries without physically visiting the campus.

* 1. **Related Previous Work**

#We didn’t have any previous work experience this is the first project we tried.

#These are some of the references –

Paper1-

1.2.1 By Pandya, K., & Holia, M. (2023) we have reviewed Automating Customer Service using LangChain: Building custom open-source GPT Chatbot for organizations research paper .

Paper2-

1.2.2 By- Ilagan, J. B. R., & Ilagan, J. R. (2023) we have reviewed A prototype of a chatbot for evaluating and refining student startup ideas using a large language model research paper

Documentation-

1 Langchain official documentation

2 Openai documentation

Summary-

Successfully implemented chatbot for searching from your local files such as pdf or text which can be further used in different models by changing the input document files.

**1.3 Software and Hardware requirements**

**Hardware requirements**

1. Processor
2. Ram
3. Hard disk

**Software requirements**

1. Open ai key
2. Lang chain framework
3. Visual studio code 2022
4. Operating system-window 11 home
5. IDE-Jupiter notebook
6. Lang chain prompt
7. Lang chain open ai application

**1.4 Proposed Method**

A Student bot project is built using machine learning that analyzes user’s queries and understand user’s message. This System is a web application which provides answer to the query of the student. Students just have to query through the bot which is used for chatting. Students can chat using any format there is no specific format the user has to follow

Downloading important modules like -

1. 1.py pdf for reading pdf
2. open ai
3. 3.chroma
4. Langchain
5. Structure pdf
6. Chroma db
7. Load the document using langchain.document loader and py pdf loader
8. Split text and mention specific chunk size .
9. Then we use Embeddings- Embeddings are a numerical representation of text that can be used to measure the relatedness between two pieces of text. Our second generation embedding model, text-embedding-ada-002 is a designed to replace the previous 16 first-generation embedding models at a fraction of the cost. Embeddings are useful for search, clustering, recommendations, anomaly detection, and classification tasks.
10. Use open ai api key for using latest gpt model.

**1.5 References**

* Chat-gpt-3.5
* APA- -Pandya, K., & Holia, M. (2023). Automating Customer Service using LangChain: Building custom open-source GPT Chatbot for organizations. arXiv preprint arXiv:2310.05421.
* APA-Ilagan, J. B. R., & Ilagan, J. R. (2023). A prototype of a chatbot for evaluating and refining student startup ideas using a large language model.
* Co-pilot
* Shewta lodha (https://www.youtube.com/@shweta-lodha)
* Lang chain(<https://python.langchain.com/docs/get_started/introduction>)
* Open ai(https://platform.openai.com/docs/overview)