# **DESIGN AND IMPLEMENTATION OF AN ONLINE CHATBOT FOR ADMISSION ENQUIRY**

**ABSTRACT**

As technology keeps growing day by day, simple and complex tasks are being automated to generate much more efficient outcomes. This project is focused on developing an admission enquiry chatbot for applicants, answering any queries that correspond to the University and its Curriculum from the university’s website.

To build the online enquiry chatbot, a Literature review was done so users’ queries are analyzed and users’ message is understood, so end-users are replied to using a responsive GUI similar to a real person talking to the user. The implementation was done using, HTML5, CSS3, Bootstrap 5 and Javascript, Python Language and Natural Language Processing (NLP).

The implementation was of this proposal will beneficial to the university and the applicants. It also will provide a faster response time and 24/7 round-clock support. The study is then concluded with a summary of the result and recommendations for future actions to this study

**Keywords: Artificial Intelligence, Chatbot, Query, Applicants**

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## **INTRODUCTION**

### **Background to the study**

Information gotten through a university’s website is mostly by navigating through the site. Finding answers to users’ queries through the website could take so much effort, as a vast amount of information contains on the website. For every new academic session, the university receives many applications which are processed into enrolment, and the communication between the university and the applicants must be swift. Applicants may need to ask questions ranging from courses, the university’s environment, and fees to accommodation and learning systems. With many applications, the university can find it difficult to provide prompt response.

However, in today’s era of technology where Artificial Intelligence and Machine Learning are used in many organizations to solve problems like; customer service, FQAs etc, through the implementation of chatbots. Chatbots also known as chatterbots are smart software applications used in solving basic queries of the user through online chat conversation via text or text-to-speech. A chatbot is artificially constructed software that uses natural language as input and output to talk to humans. Chatbots can act as a personal assistant on mobile devices to provide users with personalized information, enable real-time social interaction media, and can even be used in health consultations (M. Yamada, 2016). Bots in general are nothing but a machine that is intelligent enough to understand your request and then formulate your request in such a way that is understandable by other software systems to request the data you need (Sumit, 2019).

Chatbots are increasingly being used in instant messaging and are being implemented in people's regular lives, shopping experiences, and education courses (Ferrell, 2020). Customer service teams handling 20,000 support requests on a monthly basis can save more than 240 hours per month by using chatbots. (Court Bishop, 2022).

The implementation of this project aims to develop an enquiry chatbot, giving answers to queries posted by students like how the university is structured, courses offered in the university, getting school important documents during admission, fee structure etc. The users don’t have to visit the university for enquiry. The system analyses the queries and then gives the response to those queries. This will provide the students with more confidence, making them know what to do before a visit to the university for admission.

### **1.2 Statement of Problem**

Every new academic session in the university

Before the usage of websites became what it is today, parents/students travel to their preferred universities to get the information they needed which is stressful and time-consuming When websites came to light, Information gotten on the site is limited.

However, this can be solved using a chatbot as Information about admission and the university asked by parents/students needing immediate response can be solved.

### **1.3 Aim and Objectives of Study**

This project aims to contribute to a fast and convenient way of immediate response to queries from applicants in mountain top university using conversational AI

The specific objectives are to;

1. Develop a database where all relevant information about queries from users, answers, logs, feedback, keywords are stored.
2. Develop an algorithm that matches keywords and conversational AI and combine them together to receive the best possible answers.
3. Develop a responsive web interface which aims to give the ability to potential applicants and their families to submit their questions and get convincing replies.
4. Implement the system.

### **1.4 Proposed Methodology**

To accomplish the aforementioned objectives fully, the following methods were adopted;

1. Analyze users’ queries and understand users’ message
2. Provide an answer to the question posed by the user effectively and efficiently.
3. Make it easier for the user to find a specific one by saving them time.
4. Rephrase, To reply to users, the GUI will be responsive similar to a real person talking with the customer.
5. The system design will be specified using the unified modelling language (UML) diagrams such as; Class diagram, Use case, Sequence diagram, etc
6. This will be implemented using Python Language and Natural Language Processing (NLP) as the backend and HTML, CSS, Bootstrap, and Javascript as the frontend.

### **1.5 Significance of Study**

The implementation of this project has the potential to benefit the college and the applicants. Chatbots could make the enrolment process easier because it affords answers to the maximum number of common questions applicants and college students ask every year.

A chatbot can handle more than one request concurrently without compromising the quality of interactions. Applicants simply pose their questions to the bot which is used for chatting. Artificial intelligence algorithms are used to present suitable solutions to the consumer. The applicant will no longer need to visit the university to inquire about something. the applicant can use the chatbot to get the answers to their queries.

### **1.6 Scope and Limitation**

The scope of the study is centred on the design and implementation of a web-based online chatbot enquiry

Due to time availability for this study, the chatbot will be designed using rule-based approach, as the bot will answer based on some rules on which it will be trained on.

### **1.7 Definition of Terms**

**Chatbot:** A chatbot is a compound word of a chat and a bot. It is an application that simulates and strategies human verbal exchange (both written and spoken), permitting them to engage with virtual gadgets as if they had been speaking with an actual individual.

**Natural Language Processing:** It refers to the branch of computer science and more especially, the branch of artificial intelligence concerned with giving computers the capacity to recognize textual content and spoken words in the almost identical way people can.

**Artificial Intelligence:** It is the effort to automate intellectual tasks typically performed by humans. It can be complex or simple. A computer-controlled robot can perform duties normally related to intelligent beings.

**Machine Learning:** It is a subset of Artificial Intelligence, mainly focusing on building systems that learn, and enhance overall performance based on the data being consumed.

**Applicants:** An applicant is one who formally applies for or requests something, especially a job or to study at a university or college.

**Query:** Queries in computer science, are requests for data or information from a database table.

**Bootstrap:** Bootstrap is a CSS Framework used in developing responsive and mobile-first websites.

**CHAPTER ONE**

# **LITERATURE REVIEW**