

## ENHANCING COLLEGE CASIO BOT ASSISTANT WITH COMPUTER INTERFACE AND SPEECH RECOGNITION

Dr. S. Tamilarasan<sup>\*1</sup>, Saba Fathima<sup>\*2</sup>, Shaik Muskan<sup>\*3</sup>,  
Syed Sadiq Raza<sup>\*4</sup>, Umme Uzma VS<sup>\*5</sup>

<sup>\*1</sup>Assistant Professor, Information Science And Engineering, HKBKCE, India.

<sup>\*2,3,4,5</sup>Student, Information Science And Engineering, HKBKCE, India.

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### ABSTRACT

College Casio Bot is a virtual assistant, it understands and responds to the query asked by users in their own language. College Casio bot provides two modes like text mode and voice mode for better user experience. It displays the 3D view and tour of the institution. It provides the information about the departments, Hod's of the respective department, faculties and staffrooms with images and videos, the student's admission details, important circulars and latest updates regarding the university or department. The Casio bot is available 24/7 to answer the queries, it helps the students and parents to clarify their doubts through simple English language and it assist the visitors to navigate to respective department. It saves time and provides High speed and accurate response, reduces paper work. Students and parents will utilize the bot instead of making queue at enquiry desk to ask the queries.

**Keywords:** Audio Based Bot, Natural Language Processing, Text Based Bot, Visual Media.

### I. INTRODUCTION

College Casio bot is a software application where users clarify their doubts and queries related to the college. The college bot responds immediately with an appropriate and accurate response via speech or text using artificial intelligence methods for example natural language processing.

The chat bot is an AI program that helps humans to interact and communicate in different languages such as English, Kannada and Hindi.

The main objective of developing the project is based on an intellectual chatbot that deals with queries related to academic activities like details of the university, fee details, admission enquiries, Hod's staffroom, faculties, latest updates, and navigation map of the department through images, videos and documents (PDF's). Students and teachers have different login pages where they can clarify queries or post updates using graphical user interface. The information or details is stored in dataset.

To open the software in mobile phone, it can be linked through Telegram.

#### Software requirements:

##### Backend tools :

Python Flask, SQLite3

There is database in the backend, the machine is trained by the dataset using machine learning. The Casio bot is developed using Flask API.

**Front-end:** HTML, CSS, JavaScript

**Back-end:** Python Flask, SQLite3

### II. LITERATURE SURVEY

Artificial Intelligence can be used to create a variety of applications. A College Casio bot System is one of the applications. Contrary to popular belief Casio bot can be used in several industries, including marketing, education, banking, healthcare, and finance [1]. Research is being conducted to develop routine rule-based casio bots that are enlightening, receptive, and finish correspondence in conversational human language. This necessitates integrating Artificial Intelligence (AI), Machine Learning (ML) and Natural Language Processing (NLP) technology into the collegiate casio bot system. There are several ways to go about doing this. The area of the Casio bot, the functions it anticipates providing, the language of correspondence, the target audience, etc. all have a role in choosing the best method.

The “Chatter Bot Algorithm”, developed by Michael Maudlin in 1994 and published in the book Julia, was used to respond to the questions. From this original concept, more efforts to establish a casibot system were developed. Users are allowed to post grievances and inquiries. When a user submits a question to the bot, the context of the inquiry is identified and NLP is used. Labelling of grammatical forms

[1] is used to identify word feelings. The knowledge base is checked for answers to user questions. In that case, the user is supplied with the proper response if it has been found. If a specific query cannot be answered by the database, the administrator will respond. The relevant response is given to the user at the precise moment the administrator responds to the query. Questions and responses are entered into a database so that, whenever such questions are posed, they can be appropriately answered from the database. As a result, the administrator is no longer required to physically respond to the same demand.

An artificial chatbot utilizing NLP (Natural Language Processing) was proposed by Nitesh Thakur, Akshay Hiwrale, Sourabh Selote, Abhijeet Shinde, and Prof. Namrata Mahakalkar [2]. NLP may be used in two ways the first is through written text, and the second is through vocal or voice communication. Verbal communication is far more difficult than written communication. The interest in some merging capabilities for improving understanding and processing speed in virtual human dialogue systems is introduced in this research.

A Casibot is a software that enables computer and human communication using natural language, much like human conversation [3]. Casibots engage in conversation with the user and respond to the user in place of a human. This application aims to engage with users in a manner that is human-like, giving the impression that they are conversing with real people. With the aid of this application, parents and students can access university-related information from any location with an internet connection. With the help of this method, college management will have less work to do informing students, and staff will have less work to do in responding to all of the students’ questions.

Teachers who believe the Casibot may replace them and they will be laid off are making an incorrect assumption. It simply makes jobs Watson [4]. Jill tried to assist the students by addressing all of their questions, even technical ones, in an online forum. A study was conducted to ascertain instructors’ opinions regarding the integration of talk bots into their curricula, and it was discovered that they had a positive attitude toward the technology with an attitude rating score (mean) of 3572 [5]. Additionally, they recommended that Casibots be enhanced by adding a web-like search feature.

### III. PROPOSED METHODOLOGY

The main purpose of the system is to develop wireless Casibot that provides all the details and updates about the college through HD images, videos, texts, and PDF’s.

The functionalities in this bot include: admission enquiry, course information with details, searching about staff / student details, displaying events / news / notices, images of the college, etc. This bot’s proposed system has two modes: text mode and voice mode.

Text mode is a sort of user interface where we may communicate and interact through text or messaging.

Voice mode is enabled and can hear, identify, and respond to voice inputs. For instance, it is comparable to Google Alexa, a voice assistant that reads speech input, determines the task to be completed, and provides pertinent answers. Speech recognition of this kind converts the voice or spoken words into text.

The bot includes the Navigation maps, which shows the routes and directions and leads us to our destination. The bot’s navigation map displays the location of the faculty staffrooms, the HOD’s cabin, the Principals office, classrooms, laboratories, etc.

The database is present at the backend where all the datasets are available for the given input where the input maps to the database and hence it provides the appropriate output which is required.

#### IV. ARCHITECTURE DIAGRAM

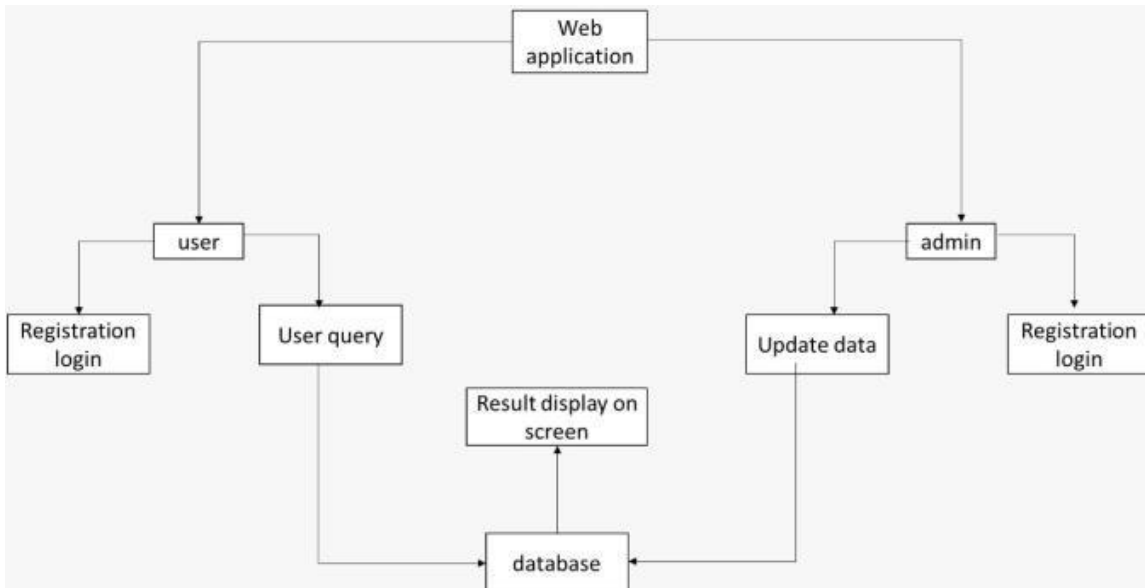


Fig 1: Architecture diagram

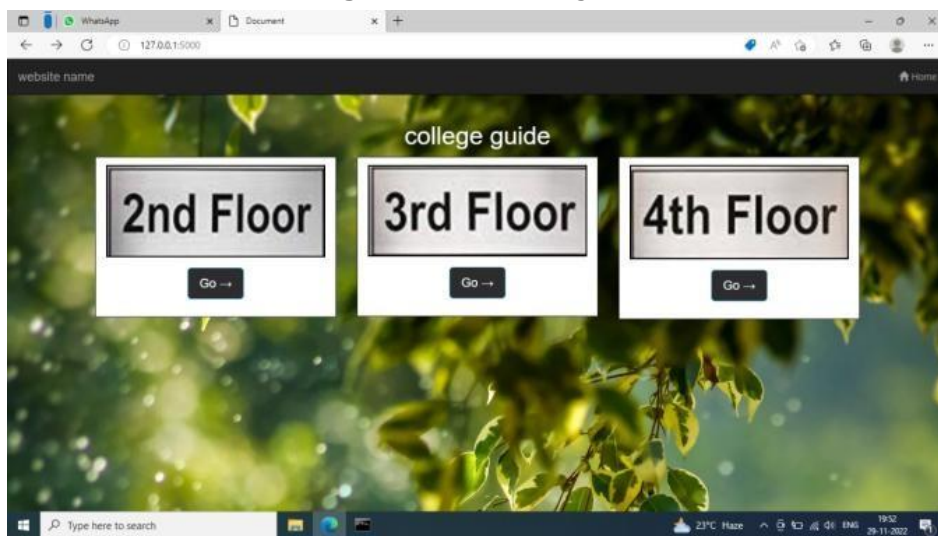


Fig 2: Navigation menu of Casiobot

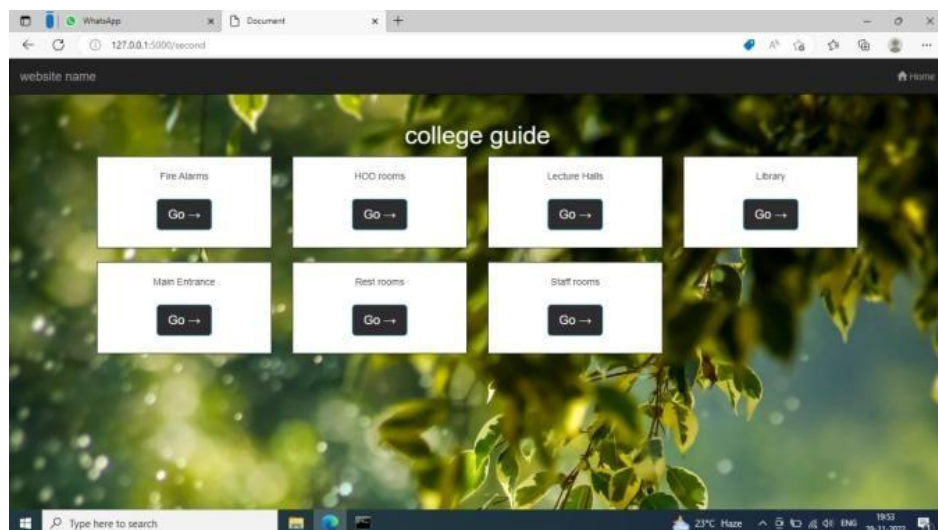


Fig 3: Casiobot menu

## V. EXISTING METHODOLOGY

Information is shown using GSM technology in the early days. Here, the information is received from the authorized user and displayed using a GSM module that is housed on a digital notice board. Only one text message is transferred in this operation.

When we need to transfer something besides text messages, it becomes inefficient. The Bluetooth technology concept makes communications faster and more effective. Here, Bluetooth is activated in order to send messages using an Android application such as Telegram.

This work is largely concentrated on replacing cables and data transmission rates up to 1MB per sec. Bluetooth's range is constrained (approximately 70m to 100m). Zigbee-based notice boards are introduced to broaden the reach of messages. The data rate, however, is just about 250kbps here. Currently, a variety of locations, including schools, colleges, train stations, airports, use Wi-Fi based digital notice boards.

## VI. CONCLUSION

This system's main goal is to minimize human labour and build an efficient design as a result. The suggested strategy will also prevent academic performance from being hampered by any sudden or subtle changes. It will eliminate the inconsistently visual perception that any lab session is lost for any cause by providing alternative infrastructure options. Additionally, in response to any action, services like reservations and dynamic allocation are provided. The system will have more implementations and be much more efficient than the current system. Instead, the labs can be allocated as classrooms in schools and colleges.

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