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WEB APPLICATION FOR MATHEMATICS CLUB OF P.C.E

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Abstract— *The PCE Mathematics Club used the project to elect club members, administer tests, provide study materials, and have virtual meetings, among other things. It will be a one-stop shop for students preparing for a range of competitive math and aptitude tests. This system is in charge of designing and building a web-based all-purpose site that will deliver excellent performance and security to the official site. A chatbot, a voting system, a blog page, study materials, a quiz panel with face and speaker search, a certificate area, and a virtual meet will all be part of it. Students will be able to access all they require in one place, including study resources, example questions, test series, and more.*

Keywords—***web applications, classrooms, performance, college of education, chatbot, maths club.***

I. INTRODUCTION

A chatbot's objective is to initiate a dialogue between a human and a machine. As a reaction to a query, the machine has been trained to recognise sentences and make decisions on its own. A messaging user interface will be available for chatbots, allowing users to type instructions and receive texts as well as text-to-speech responses. Chatbots are usually domain-specific services that remember previous commands in order to provide functionality. When chatbot technology is integrated with major web services, a much bigger audience can securely use it. The college inquiry chatbots will be built using artificial algorithms that will assess user enquiries and understand their contents. The concept of the answer is that it should match the user's input statement.

Without having to physically visit the school, the user can use the chat-bot to ask questions about any college-related events. The system responds to the user after analysing the inquiry. Artificial intelligence is used by the technology to answer to the questions provided by the students. The system reacts with an effective Ui as if it were a genuine person communicating to the user. All that is required of the user is to create an account and log into the system. A core and an interface that accesses the core make up chatbots (MySQL). Natural language processing technologies are used to parse, tokenize, stem, and filter the complaint's content.

Computers and electronic devices also have a larger impact on our lives than we may realise, such as computerised administration, data storage from schools and universities, and a plethora of other applications. He goes over a student's, employee's, worker's, and other details to see if management requires them. The administrative effort required to acquire information on all students, educators, and other stakeholders is tough to organise. College systems are a full online management solution for a college, i.e., a more efficient tool for organising a college's day-to-day activities. In the new structure, the majority of the college campus follows a yearly process to keep notes and other resources.

Given the new framework's focus on introspection, it's evident that students must communicate with the office on a daily basis, be concise in their requests, and so on. Both of these things necessitate additional time and effort. The Wireless Smart Campus framework that is suggested is fully automated. A smartphone app and a

web app are also available for the Smart Campus. It makes use of both Android phones and computer online services. The main goal is to develop and interact with students about grievances, placement practises, general notifications, and significant departmental notices. The main purpose of Smart Campus growth is to provide an easy way to not only automate all of a college's processes, but also to make them more efficient.

II. RELATED WORK

[1] describes a "Highly Secured Online System of Network Voting." The author's goal is for Indian citizens above the age of 18 and of any gender to be able to vote online rather than going to a physical polling site. A member of the Election Commission will participate in online voting (Election Commission Official who will verify if registered users and candidates are genuine or not). This online voting system is extremely safe, with a simple and user-friendly design. The software that is recommended is Ethernet-compatible and allows for online voting. It also creates and manages election and vote details, as all users must check in with their login information and vote for their favourite candidates.

The purpose of this research [2] is to understand the automated performance of various chatbots using sophisticated algorithms. The use of pattern matching to develop, train, and test a chatbot aids in the generation of the desired outcome. It enables computers to deduce the user's purpose by analysing spoken or written phrases. In order to properly comprehend how chatbots communicate with humans, the architecture and design process of the chatbot are explored.

Artificial intelligence (AI)-powered chatbots assist in better decision-making. The advantages, disadvantages, and a variety of other applications of a chatbot are examined.

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The dataset in Paper [5] consists of 13 connected words and 14 continuous words recorded by 7 male and 7 female speakers, with a total of 29 words used to train the system. The MFCC and HMM models are used to calculate the recognition accuracy for connected and continuous words, as well as the total recognition rate for linked and continuous speech.

III. PROBLEM STATEMENT AND OBJECTIVE

A. Problem Statement

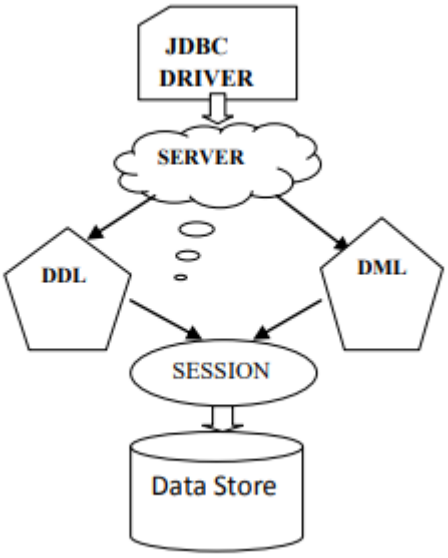
The demand for a proper platform has risen in lockstep with the rise in competition. This project was developed to help kids prepare for a range of competitive assessments that require math and ability. The Mathematics Club had some initial difficulty running webinars, organising assessments, and distributing study materials to the youngsters that participated actively. We've chosen to establish a platform where we can collectively aggregate all of these situations as a consequence of our investigation.

We decided to construct a webinar scheduling tool as well as a quizze facial and voice recognition programme. In order to study for any exam, students must visit various websites for materials, mock exams, and other resources.

B. Objectives

- Choosing the members of the club,
- Examining students,
- Providing study resources,
- Meet up virtually,
- New Student Recruitment

IV. FLOW CHART



V. ARCHITECTURE

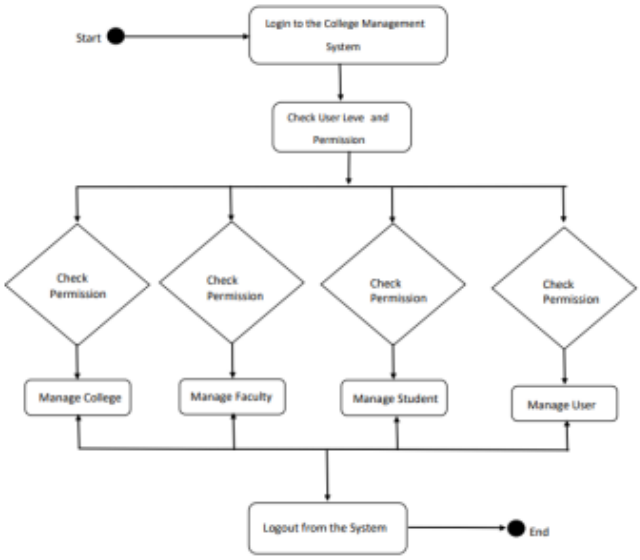
This web application will help the Mathematics Club or students prepare for various exams in a variety of ways. In one accessible location, the club would be able to hold elections, organise practise tests, and provide high-quality study resources. Students should be able to access everything in one place rather than having to navigate via many websites. Students can use a chatbot to simply navigate the web and even contact the forums' bodies if necessary. Students will also be informed about current changes in competitive assessments and will have the option to investigate blogs, which will aid the club's growth. This web application can also be used by the club to host webinars and hold meetings.

VI. PROPOSED WORK

Students can use the suggested all-purpose site to fill up their login information, which is then compared to previously recorded data in a database generated from registration records.

Math clubs can use this software to manage their events in a variety of ways. The club can perform quizzes efficiently and without interruption. A meeting tool will be used to organise the webinars. Fair assessments will be conducted using face and voice recognition to evaluate whether or not students utilised unfair practises. To aid the student, a chatbot will be available. During the exam section, each student will be monitored using face and voice recognition. Facial data will be linked during the exam to detect whether any type of cheating is taking place.

The administrator will be able to make changes to the exam. Students can use the proposed all-purpose site to fill in their login credentials, which are then matched with previously recorded data in a database compiled from registration records. The voting system is simpler to use because users must first log in with their username and password before voting for their chosen candidates or groups. It provides sufficient security, reducing the frequency of erroneous votes. By just clicking on the navbar button, students will be able to access the blog page as well as study materials. The certificate will be available for download in a separate section.



Modules :

1)ADMIN SECTION :-

• Update / delete / edit study materials

• Update / delete / edit events, blog page, and general information

• Upload / delete test questions

• Upload exam results • Manage student profiles

• Dba access is required.

2) CHAT BOT :-

Questions and Answers that have already been saved (For inquiries that the chatbot cannot answer, it will display the club's contact information.)

3) THE USER:

- • Login / Register

• Once you've logged in, you'll have access to the study materials

• Take examinations

• Verifying the outcome

4) EXAMINATION SECTION:

• Login/Registration with a unique identifier for each student

• MCQ, MSQ, and NAT type questions

• Photo capture

5) INITIAL PAGE:

• Scrolling Webpage

• Photo Slide Show (vision, mission, and goal)

• Contact us (Social media links , Mail id, Location)

Chatbot

• Frequently Asked Questions

• Upcoming Events

• About Us (Details of Mathematics Club members)

6) STUDY MATERIAL SECTION:-

• Sections for Different Subjects

• Not downloadable

A. Details of hardware and software

Hardware Requirements:

- Hard disk – 500 GB
- System – *I5* Processor
- RAM-4 GB

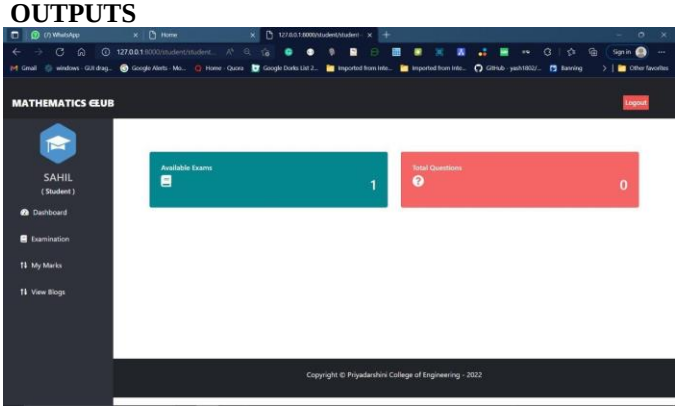
Software Requirements:

- LANGUAGE –
- Python
- Java

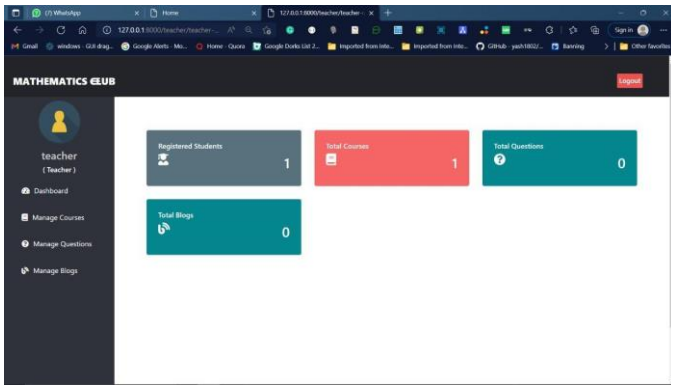
FRONT END: HTML, CSS

- APP- Java
- Web – python
- Database – SQLite
- Framework - flask

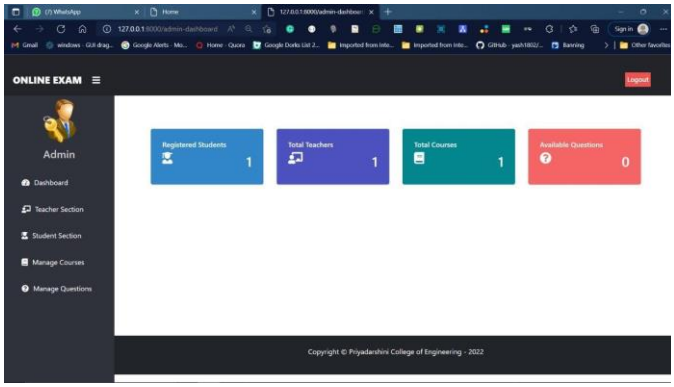
OUTPUTS



- **FIG 1 STUDENT MODULE**



- **FIG 2 TEACHER MODULE**



- **FIG 3 ADMIN MODULE**

VII. FUTURE WORK

Additional research can be conducted, as shown below:
1) Proposals based on web apps that connect to other tools and systems, such as a learning management system (LMS).
2) Future research to stimulate the adoption of other online applications that are compatible with LMS for teaching other courses and attaining other educational objectives.
3) Future research to assess learners' technological efforts and identify appropriate strategies to promote this mindset using familiar programming interfaces.

VIII. CONCLUSION

In today's modern and digital world, education is the most crucial factor. The majority of educational institutions are presently understaffed, with limited knowledge of modern technologies and trends. As a result, pupils struggle to stay up with the latest technological advancements. The use of web-based college administration software is only the first stage. The system's users would be students and professors. The fundamental idea behind this system is to provide a portable environment for students and instructors. Many universities and colleges' existing unidirectional systems, i.e., from faculty to students, should be replaced with a bidirectional system, i.e., from student to faculty, in our opinion.

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