

# IntraHub: Internal Academics Assistant

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**Abstract** - In modern educational institutions, managing academic information such as attendance, timetables, exam schedules, and results often involves manual processes that can be inefficient and time-consuming. This paper presents IntraHub, an Internal Academics Assistant designed to automate departmental academic management using chatbot technology. The system provides a centralized platform where students can access academic information through a chatbot interface, while administrators such as the Head of Department (HOD) can manage staff, students, attendance records, and exam schedules through an administrative dashboard. The proposed system simplifies communication between students and the department, reduces administrative workload, and improves accessibility to academic data. By integrating modern technologies such as mobile applications, databases, and chatbot services, the system enhances academic information management within educational institutions.

**Index Terms**— Academic management system, Chatbot, Educational technology, IntraHub, Student information system.

## I. INTRODUCTION

Educational institutions manage large amounts of academic data such as student records, attendance details, subject allocation, examination schedules, and results. Traditionally, students obtain this information by visiting department offices or contacting faculty members directly. This process often causes delays and increases the workload of faculty members and administrators.

With the advancement of digital technology, educational institutions are gradually adopting automated systems to improve efficiency and accessibility of information. Chatbot-based academic assistants are becoming increasingly popular because they allow users to retrieve information through simple conversational interactions.

The **IntraHub system** is designed to serve as a smart internal academic assistant for departmental management. It allows students to access important academic information such as timetables, attendance records, results, and syllabus details through a chatbot interface. The system also provides features for submitting leave requests and receiving departmental notifications.

On the administrative side, the Head of Department can manage student records, staff details, subject allocations, and exam schedules through an integrated dashboard. By automating routine academic queries and data management tasks, the system improves communication efficiency and reduces manual workload.

## II. LITERATURE SURVEY

Recent research has shown that chatbot technology can significantly improve communication and information accessibility in educational environments.

Several studies have explored the role of chatbots in digital transformation. Miklosik et al. conducted a systematic review of chatbot applications and found that chatbot systems improve service accessibility and user interaction in digital platforms.

Hill, Ford, and Farreras analyzed conversations between humans and chatbots and concluded that chatbots are highly effective in answering repetitive queries and providing quick responses.

Følstad and Brandtzæg studied the use of chatbots in Human-Computer Interaction and highlighted their potential to simplify communication between users and digital systems.

In the educational sector, researchers have explored the use of chatbot-based learning assistants to support student queries and academic information retrieval. These systems reduce the workload of faculty

members and improve the efficiency of communication between students and institutions.

The findings from these studies support the development of **IntraHub**, which applies chatbot technology to manage departmental academic information.

### III. PROBLEM STATEMENT

Many educational institutions still rely on manual methods for managing academic information and departmental communication. Students often face difficulties in accessing important information such as attendance records, timetables, exam schedules, and results.

Students typically need to visit department offices or contact faculty members to obtain this information. At the same time, department administrators must manually maintain large volumes of student records and academic schedules.

This manual process leads to several challenges:

- Delay in accessing academic information
- Increased workload for faculty members
- Lack of centralized academic data management
- Inefficient communication between students and departments

Therefore, there is a need for an automated academic assistant system that simplifies academic information access and improves departmental management.

### IV. METHODOLOGY

The development of the IntraHub system follows several stages.

First, **requirement analysis** is performed to identify the needs of students and administrators. This includes features such as academic information access, leave request management, and student record maintenance.

Next, **system design** is carried out to define the architecture of the application, including the chatbot interface, administrative dashboard, and centralized database.

The **implementation stage** involves developing the mobile application using Android Studio and

programming languages such as Java or Kotlin. Firebase Firestore is used for storing academic records.

A **chatbot module** is integrated to process user queries and retrieve relevant information from the database.

Finally, **testing and evaluation** are performed to ensure the reliability and functionality of the system.

### V. SYSTEM ARCHITECTURE

The IntraHub system architecture consists of several interconnected modules.

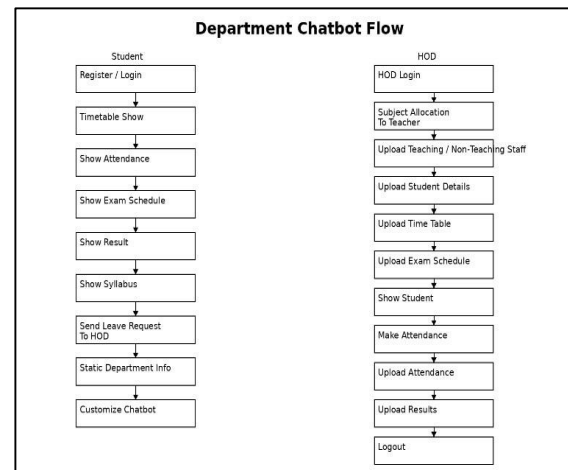
The **student interface** allows students to interact with the system through a mobile application or chatbot interface. Students can request information such as attendance records, timetables, exam schedules, and results.

The **chatbot module** processes user queries and retrieves relevant information from the database.

The **backend server** handles authentication, data processing, and communication between the chatbot and the database.

The **database system** stores student records, academic schedules, attendance data, and examination results.

The **administrator panel** allows the Head of Department to manage staff details, student records, subject allocation, attendance updates, and exam schedules.



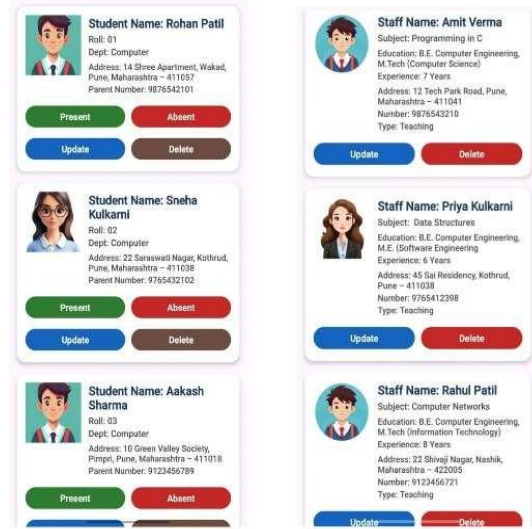
VI. RESULTS

The implementation of the IntraHub system demonstrates several benefits for both students and academic departments.

Students can quickly access academic information without visiting the department office. The chatbot provides instant responses to common queries, improving communication efficiency.

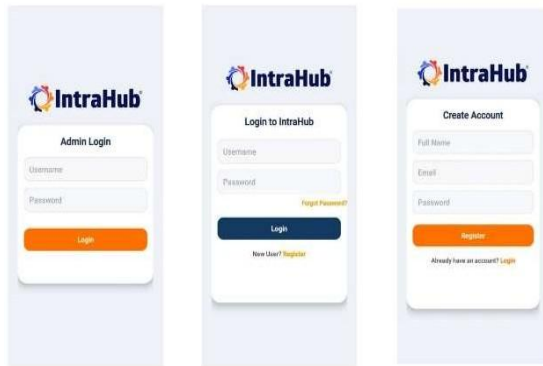
The system also simplifies the management of academic data for administrators. Features such as attendance tracking, result management, and leave request handling reduce manual workload.

Overall, the system improves accessibility, transparency, and efficiency in departmental academic management.



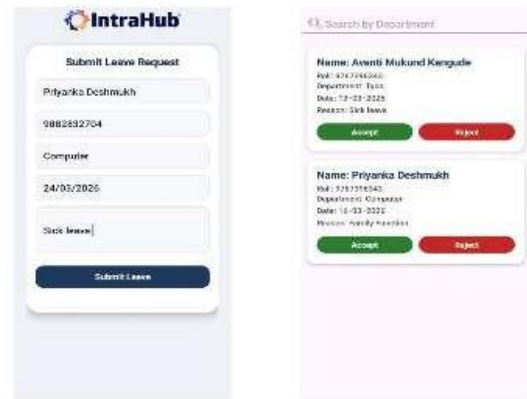
Student profile Admin profile

Fig.3 Profiles



Admin login Student login/register

Fig.1 Login Page



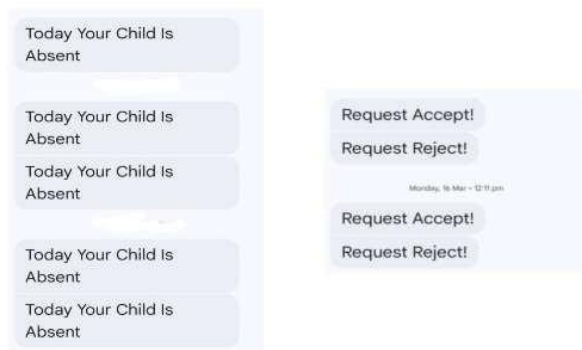
Student Side Admin Side

Fig.4 Leave Management



Admin Dashboard Student Dashboard

Fig.2 Dashboards



When student absent then parents gets sms Leave request accept/reject by admin

Fig.5 Absent & Leave Management



Fig.6 Chatbot Q/A

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## VII. FUTURE SCOPE

The IntraHub system can be enhanced by integrating advanced features in the future.

Artificial intelligence techniques can be implemented to improve chatbot responses and provide personalized assistance to students.

Integration with college Enterprise Resource Planning (ERP) systems can further automate academic management processes.

The system can also be expanded to include **performance analytics**, enabling administrators to analyze student attendance patterns and academic progress.

## VIII. CONCLUSION

IntraHub provides an efficient and user-friendly solution for managing departmental academic

activities. The integration of chatbot technology allows students to access academic information quickly and conveniently.

The system reduces the workload of faculty members by automating repetitive queries and centralizing academic records. It also improves communication between students and the department administration.

By implementing digital academic management systems like IntraHub, educational institutions can enhance efficiency, transparency, and accessibility of academic information.