

A

Mini Project Report on

CampusCare: University hostel healthcare web application

Submitted in partial fulfillment of the requirements for
the degree of

BACHELOR OF ENGINEERING

IN

Computer Science & Engineering

Artificial Intelligence & Machine Learning

by

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2024-2025



Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY
(Approved by AICTE New Delhi & Govt. of Maharashtra, Affiliated to University of Mumbai)
(Religious Jain Minority)



**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)**

CERTIFICATE

This is to certify that the project entitled “**CampusCare: University hostel healthcare web-application**” is a bonafide work of Manas Jagtap (23206011), Jay Yadav (23206007), Pranal Vernekar (23206008), Vedant Vethekar (22106090) submitted to the University of Mumbai in partial fulfillment of the requirement for the award of **Bachelor of Engineering in Computer Science & Engineering (Artificial Intelligence & Machine Learning)**.

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**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
(ARTIFICIAL INTELLIGENCE & MACHINE LEARNING)**

PROJECT REPORT APPROVAL

This Mini project report entitled “**CampusCare: University hostel healthcare web-Application**” by **Manas Jagtap, Jay Yadav, Pranal Vernekar and Vedant Vethekar** is approved for the degree of *Bachelor of Engineering* in *Computer Science & Engineering, (AIML) 2024-25*.

External Examiner: _____

Internal Examiner: _____

Place: APSIT, Thane

Date:

DECLARATION

We declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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ABSTRACT

The Health Care Web Application is a digital platform designed to enhance healthcare accessibility and efficiency. It offers features such as online doctor consultations, appointment scheduling, electronic medical records, prescription management, and health tracking. The system ensures seamless communication between students and wardens while maintaining data security and privacy. With a user-friendly interface, it simplifies healthcare management, enabling users to monitor their health, receive timely medical assistance, and access emergency support. This web application aims to bridge the gap between students and medical professionals, making healthcare services more convenient, organized, and readily available.

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CHAPTER 1

INTRODUCTION

1. INTRODUCTION

The CampusCare System is a comprehensive healthcare management platform designed for educational institutions to streamline medical services for students and administrators. Through the Student Dashboard, students can efficiently manage their health needs, including accessing medical history, booking appointments, placing medicine orders, and receiving isolation alerts. By digitalizing these essential services, students can avoid unnecessary delays in medical consultations and maintain a seamless health record. The system ensures that students have quick access to necessary healthcare resources, reducing dependency on manual processes and enhancing convenience. Additionally, the ability to book appointments and order medicines online minimizes waiting times and improves overall medical accessibility on campus.

The Admin Dashboard is designed to facilitate healthcare providers and campus administrators in managing medical operations more efficiently. It offers functionalities such as managing emergencies, tracking students and confirming appointments. By integrating digital record-keeping and centralized health management, CampusCare significantly improves the efficiency and responsiveness of campus healthcare services. This ensures that students receive timely medical attention while reducing administrative workload, fostering a more organized and effective healthcare system within educational institutions.

The Warden Dashboard in the CampusCare System plays a crucial role in monitoring and managing student health-related activities, particularly focusing on medicine orders. It serves as an interface for hostel wardens to oversee medical approvals and ensure a well-coordinated healthcare process for students residing on campus.

CHAPTER 2

LITERATURE SURVEY

2. LITERATURE SURVEY

2.1 HISTORY

The use of machine learning for disease prediction has evolved significantly over time. Early disease classification methods relied on statistical models and rule-based systems, which required extensive manual data entry and lacked adaptability to new patterns. As computational power increased, researchers began developing more sophisticated models using machine learning techniques.

One of the earliest approaches was the Support Vector Machine (SVM), which gained popularity for its ability to classify diseases based on symptoms. However, SVM was primarily designed for binary classification, making it less effective for multi-class disease prediction.

With advancements in data-driven algorithms, the K-Nearest Neighbors (KNN) method emerged, allowing disease prediction based on similarities between patient data points. Despite its simplicity and effectiveness, KNN struggled with noisy and missing data, limiting its accuracy.

The Naïve Bayes classifier was later introduced for disease prediction, particularly in web-based applications. It provided quick predictions but was highly dependent on the dataset quality, often leading to inaccuracies when trained on small or unbalanced datasets.

More recent developments introduced the RUSBoost Algorithm, designed to address class imbalance in medical datasets. While it improved prediction for underrepresented diseases, the random under-sampling method risked losing crucial patient information.

Over the years, machine learning models have expanded in complexity, yet challenges like data quality, accuracy, and efficiency persist. The evolution of disease prediction continues, with researchers working on more robust models that integrate large, diverse datasets to enhance predictive accuracy and real-world applicability.

2.2 Literature Survey

[1]"Online Hostel Management System",Choudhury et. al.(2017)

In this paper,They designed a web-based application to streamline hostel administrative tasks, addressing challenges inherent in manual systems. The system utilizes PHP for server-side scripting and MySQL for database management, with HTML, CSS, and JavaScript employed for the front-end interface. By implementing this system, institutions can enhance efficiency, reduce manual labor, and minimize errors, leading to improved resource utilization and overall effectiveness in hostel management. The application offers features such as student registration, room allocation, maintenance management, and reporting, providing a comprehensive solution for hostel operations. This digital approach not only automates routine tasks but also ensures data accuracy and accessibility, contributing to better decision-making and resource planning within educational institutions.

[2]"Online Hostel Automation",K V CHANDRASHEKAR et. al.(2016)

In this paper, They designed a web-based application designed to streamline hostel administrative tasks, reducing manual workload and enhancing efficiency. Developed using technologies such as HTML, CSS, JavaScript, PHP, and MySQL, the system offers features like online hostel applications, automated student selection from waiting lists, mess calculations, complaint registration, and a digital notice board. Students receive approval notifications via email and can access information like hostel fees and mess menus through the system. Additionally, the system facilitates communication with parents regarding their wards' hostel presence and academic progress. It also supports online payments and provides biometric attendance tracking to prevent duplications, thereby improving data accuracy and accessibility.

[3]"Development of an Automated Hostel Facility Management System",Olusegun O. Omitola et al.(2014)

In this paper, They addresses the inefficiencies of traditional hostel management by introducing an automated solution. The system is developed using Visual Basic for the application interface and Microsoft Access for the underlying database, offering a user-friendly graphical interface. It

incorporates authentication algorithms to prevent unauthorized access, enhancing security. By automating tasks such as room allocation, student records management, and fee processing, the system aims to improve organizational efficiency and data accuracy in educational institutions.

[4]"Symptoms Based Disease Prediction Using Machine Learning Techniques",S. Vigneshwaran et al.(2021)

This Paper describes the application of machine learning algorithms to predict diseases based on patient-reported symptoms. The study employs various machine learning techniques, including K-Nearest Neighbors (K-NN), Random Forest, and Naïve Bayes classifiers. Additionally, the study proposes an ensemble voting algorithm where each classifier is assigned weights dynamically based on prediction confidence. The system also includes a recommendation feature that suggests diagnostic tests based on existing symptoms, enhancing early disease detection and patient care.

[5]"A Framework for Predictive - Diagnosis of Prevalent Illness among University Students",Dauda Olorunkemi Isiaka et al.(2022)

In this paper,they describe the challenges of accurately diagnosing common illnesses within university settings by leveraging localized datasets. The researchers utilized the CRISP-DM methodology and evaluated various machine learning models, including support vector machines, ensemble gradient boosting, random forest, decision trees, K-neighbors, and linear regression. Notably, the ensemble gradient boosting classifier achieved an accuracy of 100%, while the regression model reported a mean absolute error of 0.18. These results underscore the framework's robustness and its capacity to handle both small and large datasets without compromising performance.

[6]"A Qualitative Study Investigating the Impact of Hostel Life",Amina Iftikhar et al. (2015)

This paper describes how hostel life influences students' behaviors and personalities. Through in-depth interviews with ten hostel students (five males and five females) aged between 20 and 25, the researchers employed grounded theory to analyze the data. Findings indicate that hostel life significantly broadens students' social networks due to the multicultural environment, fostering

traits such as confidence, punctuality, sociability, realism, adaptability, responsibility, and sharpness in various life domains. Students learn to coexist with diverse individuals, enhancing patience and preparing them to face real-world challenges. However, individual differences among roommates are common, and a notable concern is the negative impact of drug use among male hostel students.

CHAPTER 3

PROBLEM STATEMENT

3. PROBLEM STATEMENT

Managing healthcare services in educational institutions is often inefficient due to fragmented systems, leading to delays in medical assistance, difficulty in tracking student health records, and miscommunication between students, healthcare providers, and administrators. Traditional paper-based records result in appointment scheduling conflicts, data mismanagement, and challenges in emergency response coordination. Students face long wait times for consultations and limited access to previous medical records, while administrators struggle with managing hospital data, tracking patient conditions, and maintaining medicine inventories. To address these issues, the CampusCare System provides a centralized, automated solution for booking appointments, accessing medical records, and streamlining healthcare management within the campus, ensuring efficient service delivery and improved patient care.

CHAPTER 4

EXPERIMENTAL SETUP

4. EXPERIMENTAL SETUP

4.1 SOFTWARE SETUP

- Visual Studio Code
- Node Package Manager(10.0 or higher)
- React JS(16.8 or higher)
- Supabase
- Python(3.7 or higher)
- OS: Windows 7 or later, macOS, Linux(Ubuntu, Debian, Alpine)

4.2 HARDWARE SETUP

- Processor: Intel i3 or higher
- Ram: 4GB or higher
- HDD/SSD: 256GB or higher

CHAPTER 5

PROPOSED SYSTEM & IMPLEMENTATION

5. PROPOSED SYSTEM & IMPLEMENTATION

5.1 BLOCK DIAGRAM OF PROPOSED SYSTEM

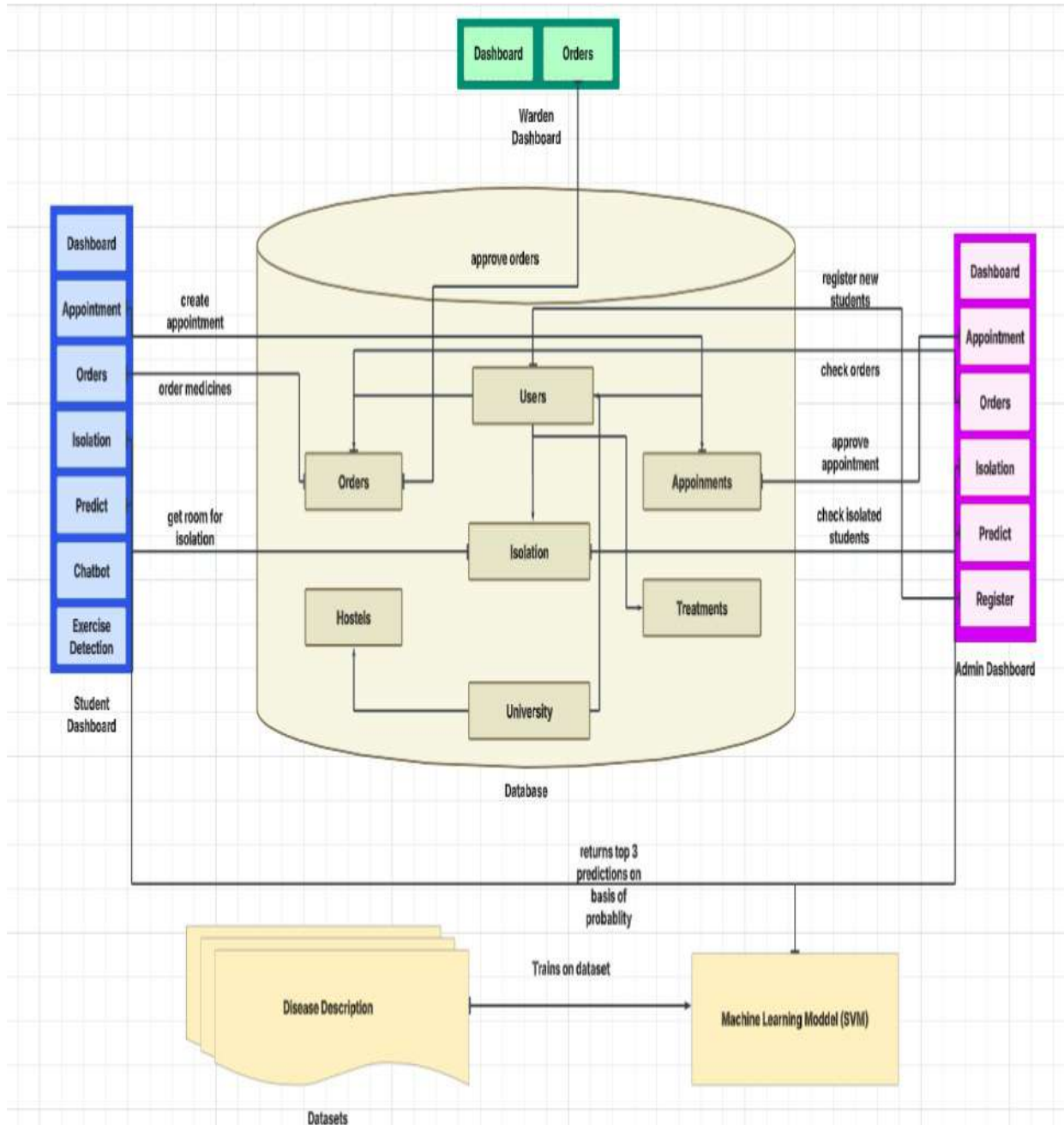


Fig. 1: Block Diagram

5.2 DESCRIPTION OF BLOCK DIAGRAM

Fig 1 represents a Block Diagram for the CampusCare system, which facilitates healthcare management for students and administrators. The system starts with a Login process, directing users to either the Student Dashboard or the Admin Dashboard, each offering distinct functionalities.

Student Dashboard Features:

- Dashboard – Overview of health-related information.
- Appointment – Allows students to book appointments.
- Orders – Students can order medicines.
- Isolation – Requests isolation rooms in case of illness.
- Predict – Uses a machine learning model to predict diseases.
- Chatbot – Assists students with medical queries.
- Exercise Detection – Suggests exercises based on health conditions.

Admin Dashboard Features:

- Dashboard – Monitors system-wide health data.
- Appointment – Approves or rejects student appointments.
- Orders – Manages medicine orders.
- Isolation – Oversees isolated students.
- Predict – Reviews and manages health predictions.
- Register – Registers new students into the system.

Warden Dashboard Features:

- Dashboard – Manages hostel-related medical concerns.
- Orders – Approves student orders for medicines.

This system ensures efficient healthcare management, real-time tracking, and seamless communication between students and Administrators

5.3 IMPLEMENTATION

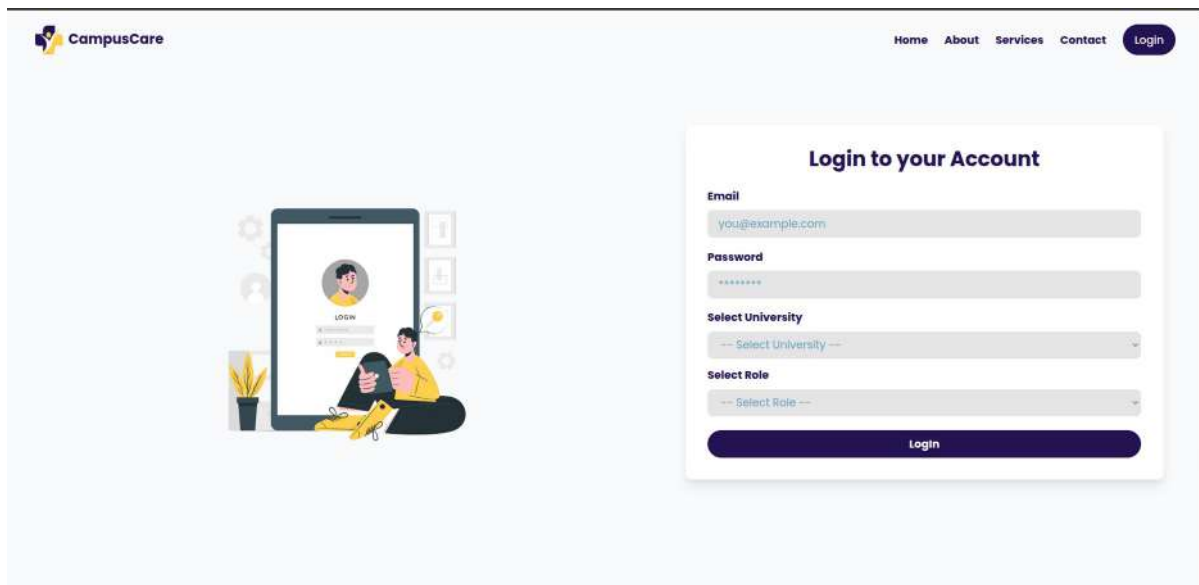


Fig 2: Login

Fig 2 presents the login page through which Students, Admins, and Wardens can log in to the system.

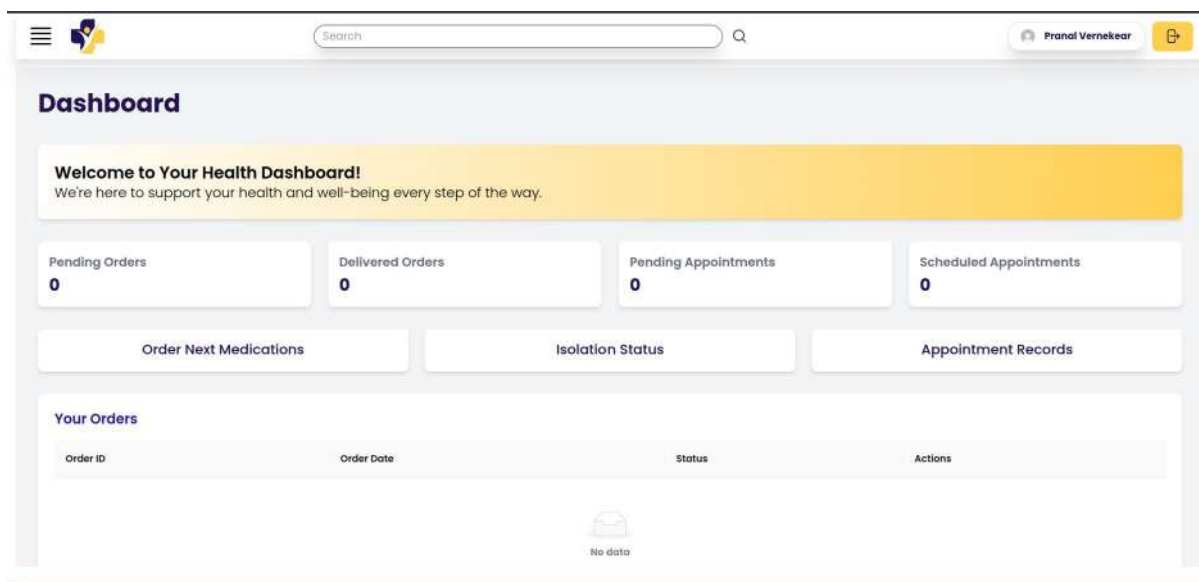


Fig 3: Student's Dashboard

Fig 3 presents the Student's Dashboard page, where students can view information about orders and appointments.

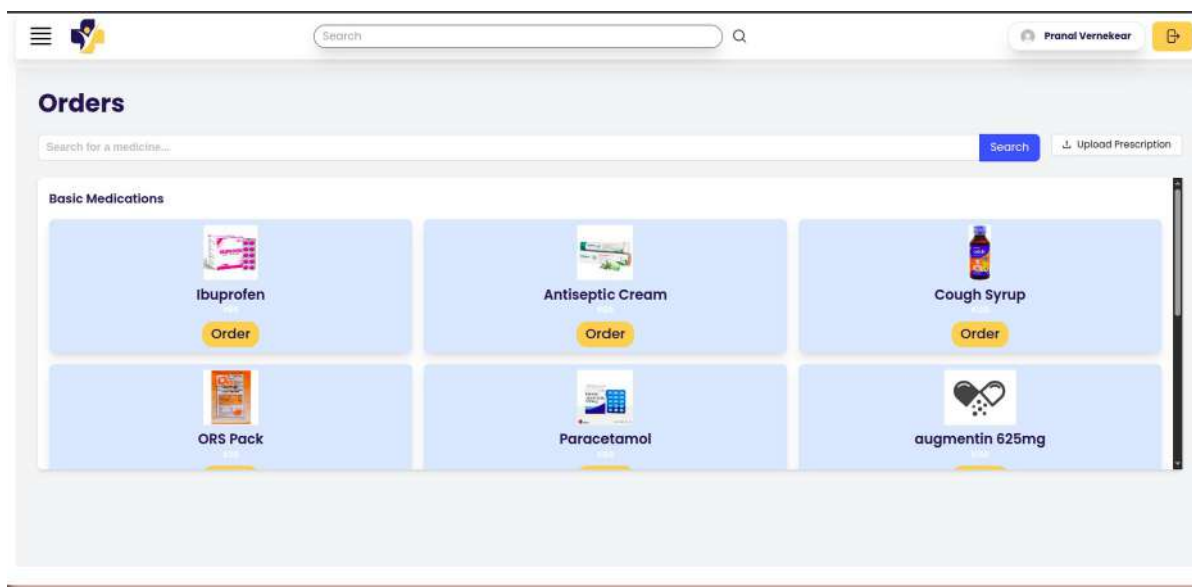


Fig 4: Student's Order

Fig 4 presents the Student's Order page, where students can order medicines and upload a doctor's prescription for medicines that are not listed.

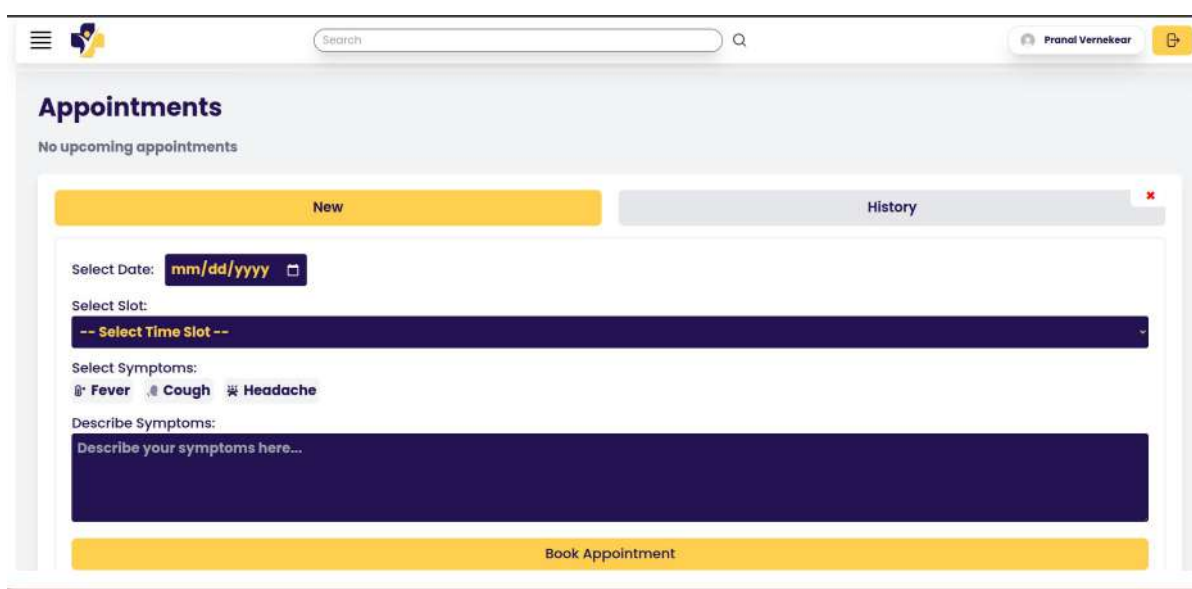


Fig 5: Student's Appointment

Fig 5 presents the Student's Appointment page, where students can book appointments with a doctor.

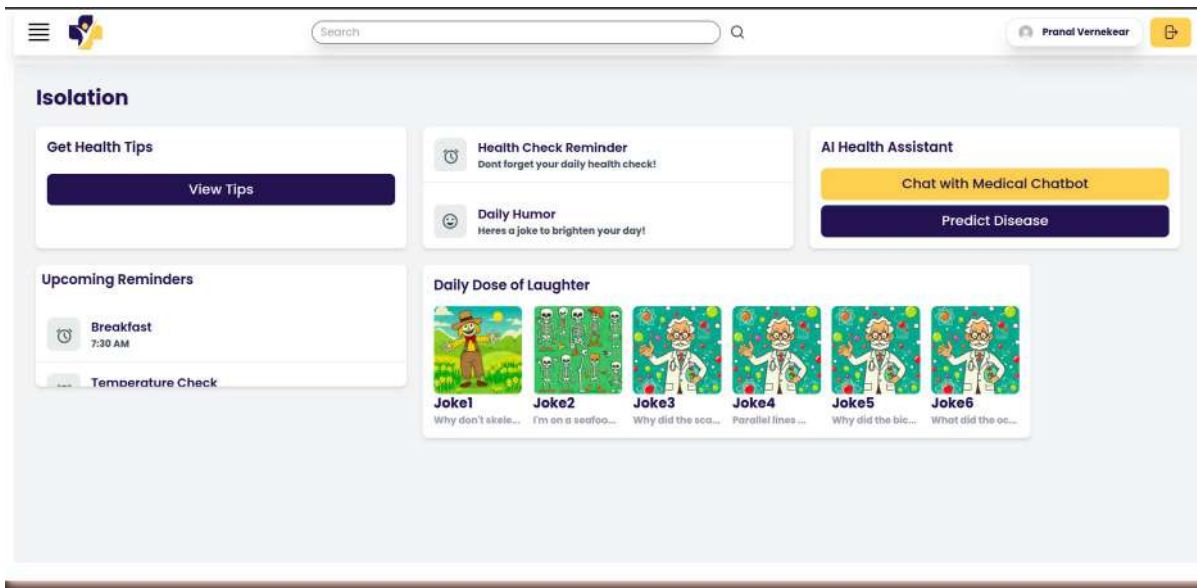


Fig 6: Student's Isolation

Fig 6 presents the Student's Isolation page, where alerts are given based on upcoming reminders for isolated students, and jokes are shown to keep them entertained.

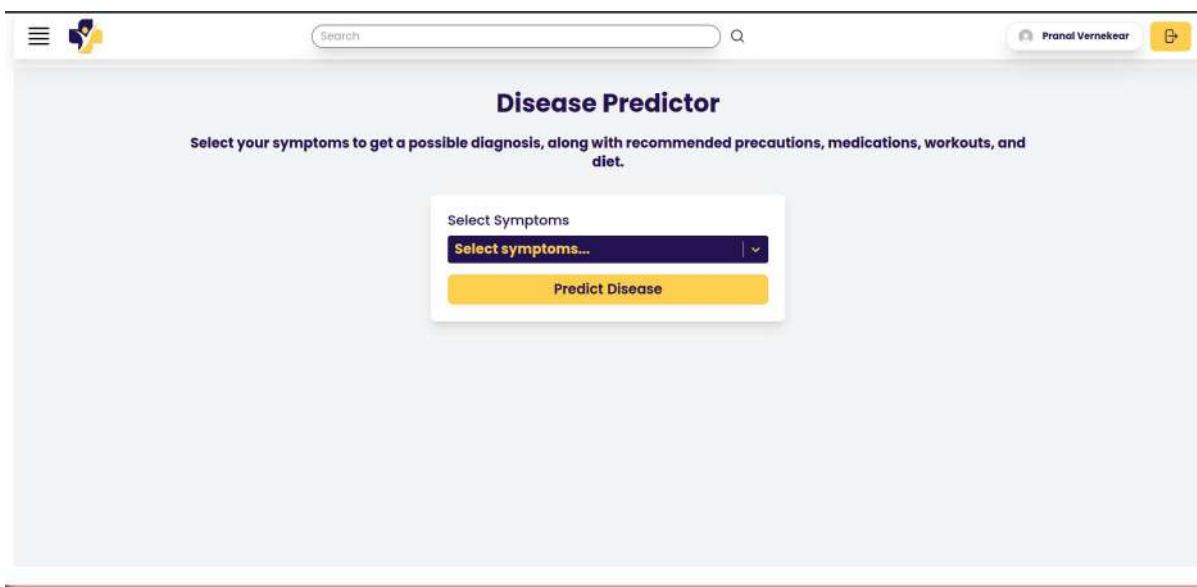


Fig 7: Disease Predictor

Fig 7 presents the Disease Predictor, where students can enter their symptoms and check which disease they might have.

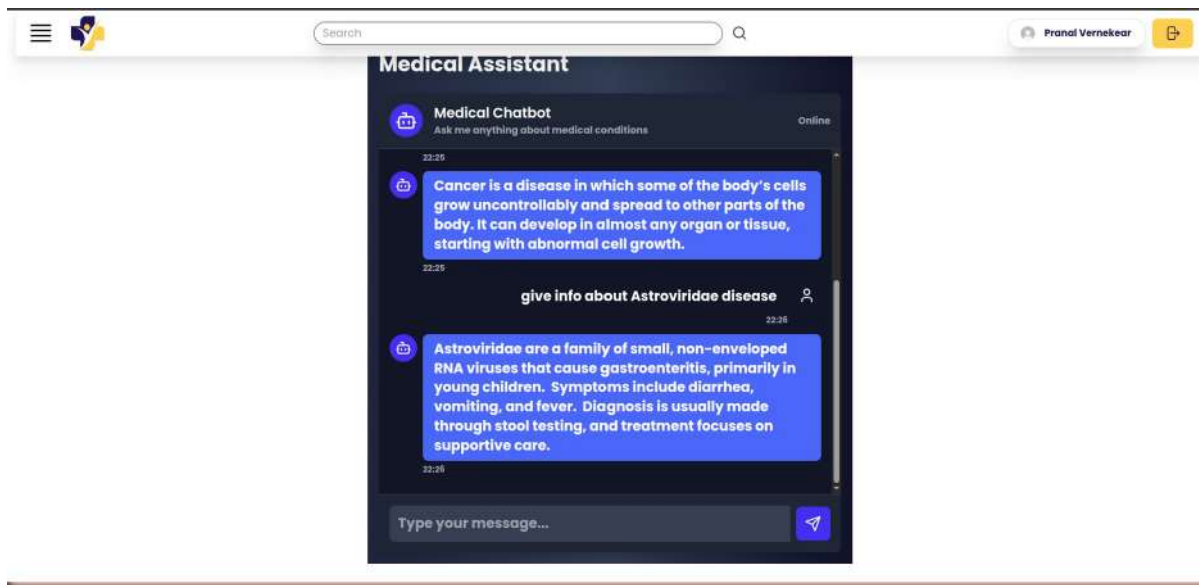


Fig 8: Medical Chatbot

Fig 8 presents the Medical Chatbot, through which students can chat and get their medical-related queries resolved.

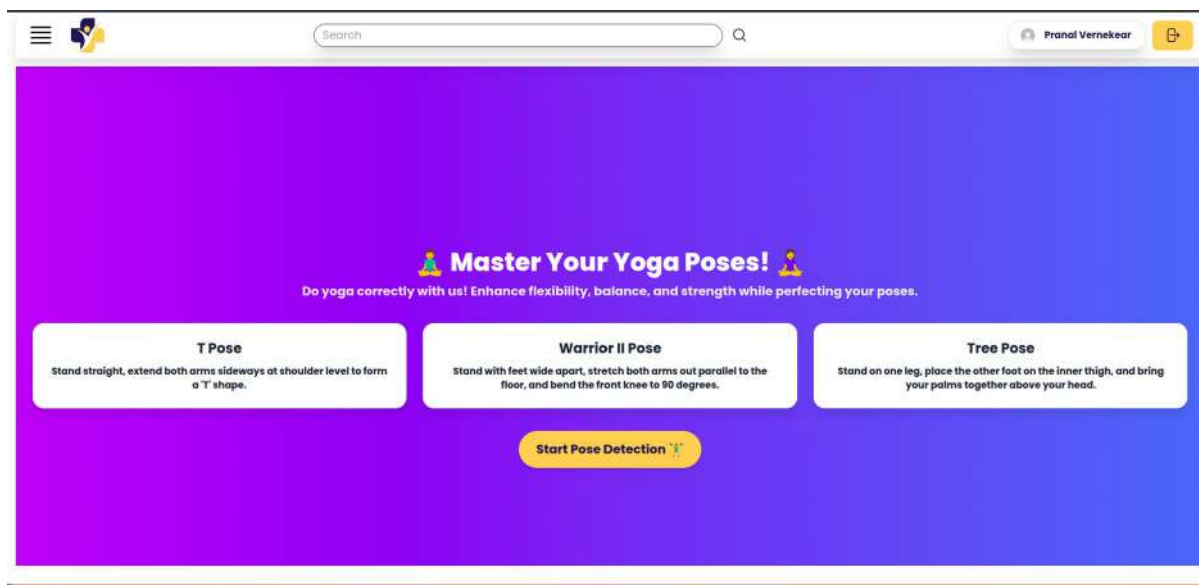


Fig 9: Pose Detection

Fig 9 presents the Pose Detection feature, where students perform yoga poses live in front of a camera, and the system detects whether they are doing them correctly or not.

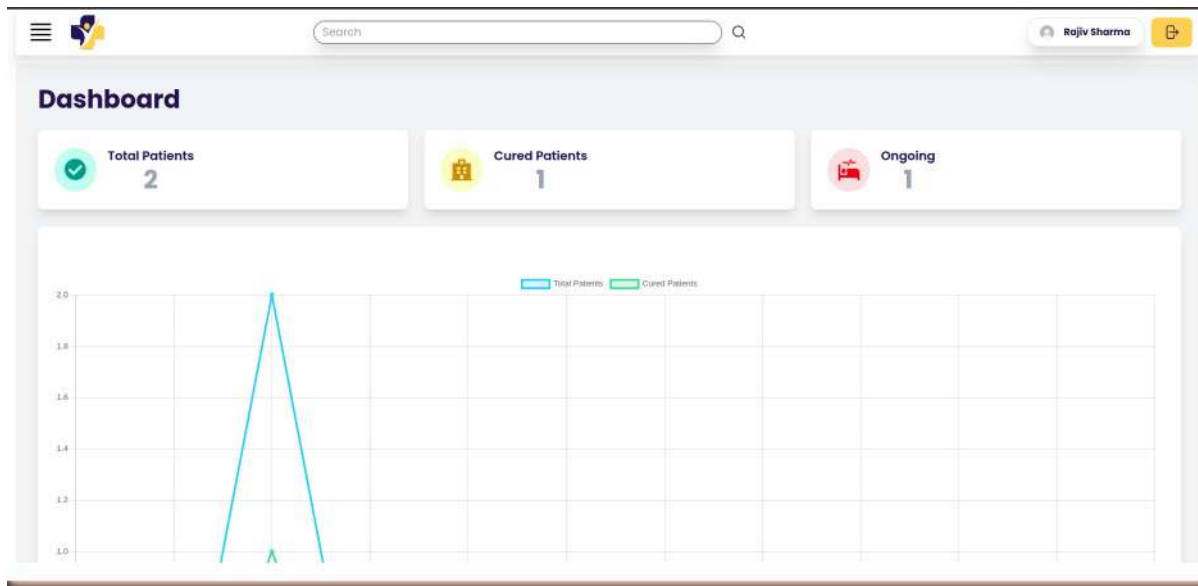


Fig 10: Admin's Dashboard

Fig 10 presents the Admin Dashboard, where they can view the total number of patients, those who have been cured, and those currently undergoing treatment.

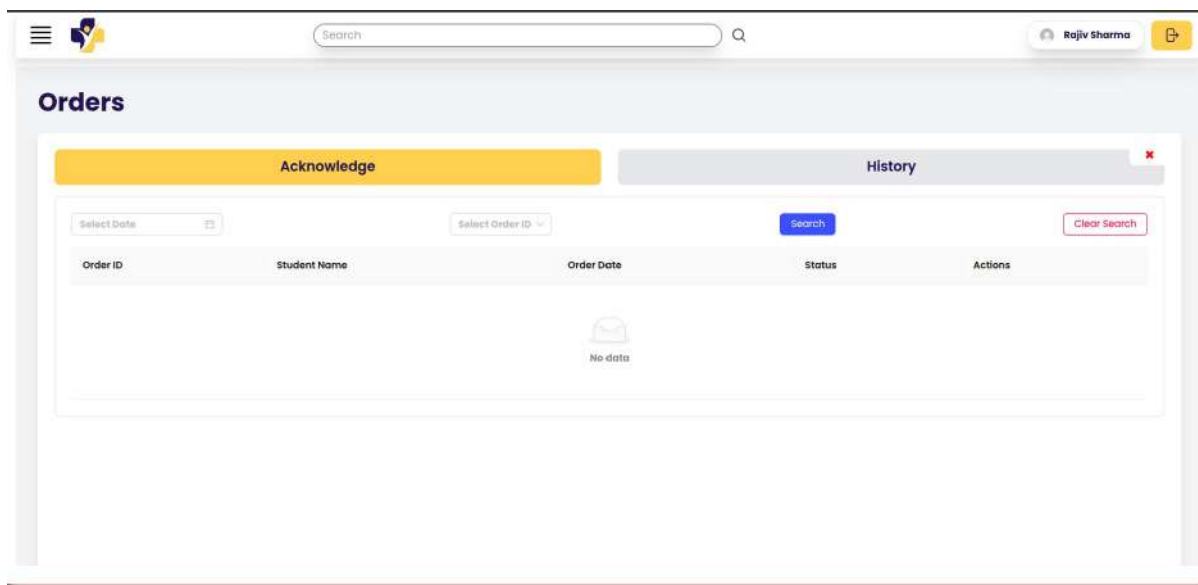


Fig 11:Admin's Orders

Fig 11 presents the Admin Orders page, where the admin can view new orders, acknowledge them, and review previous orders.

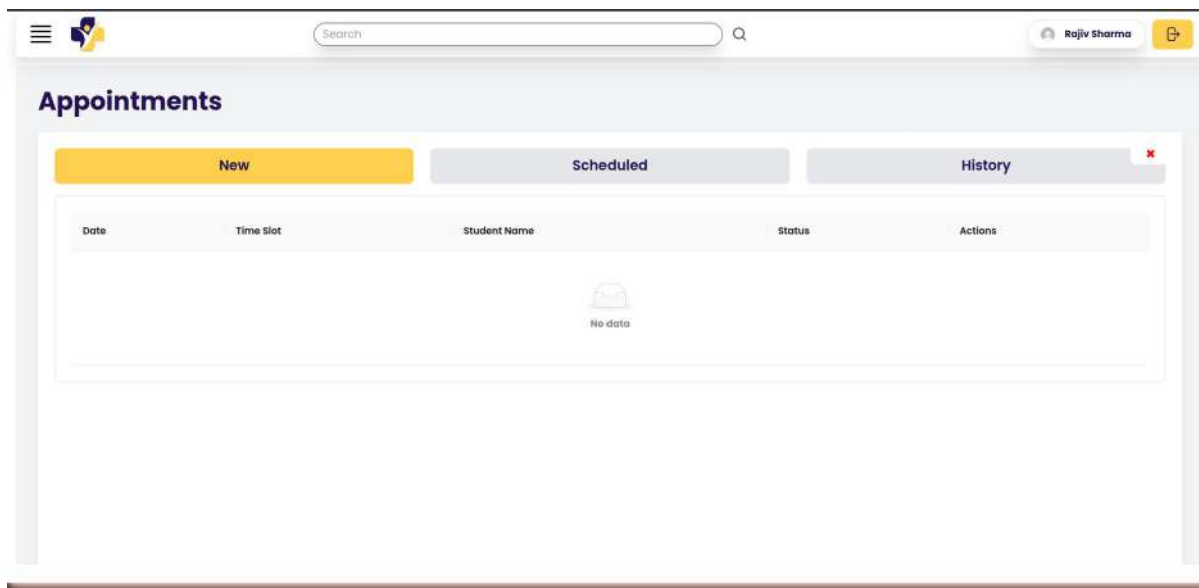


Fig 12: Admin's Appointment

Fig 12 presents the Admin Appointment page, where the admin can acknowledge new appointments, check the schedule, and previous appointments.

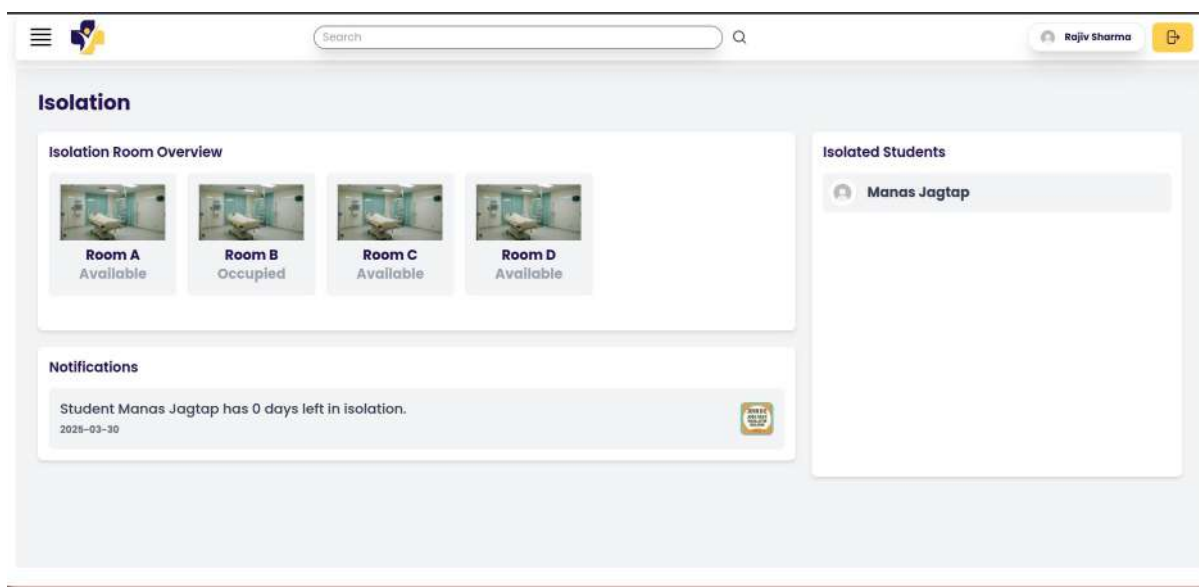


Fig 13: Admin's Isolation

Fig 13 presents the Admin Isolation page, where the admin can check which students are in isolation, view their room assignments, and create notification alerts for their upcoming tasks.

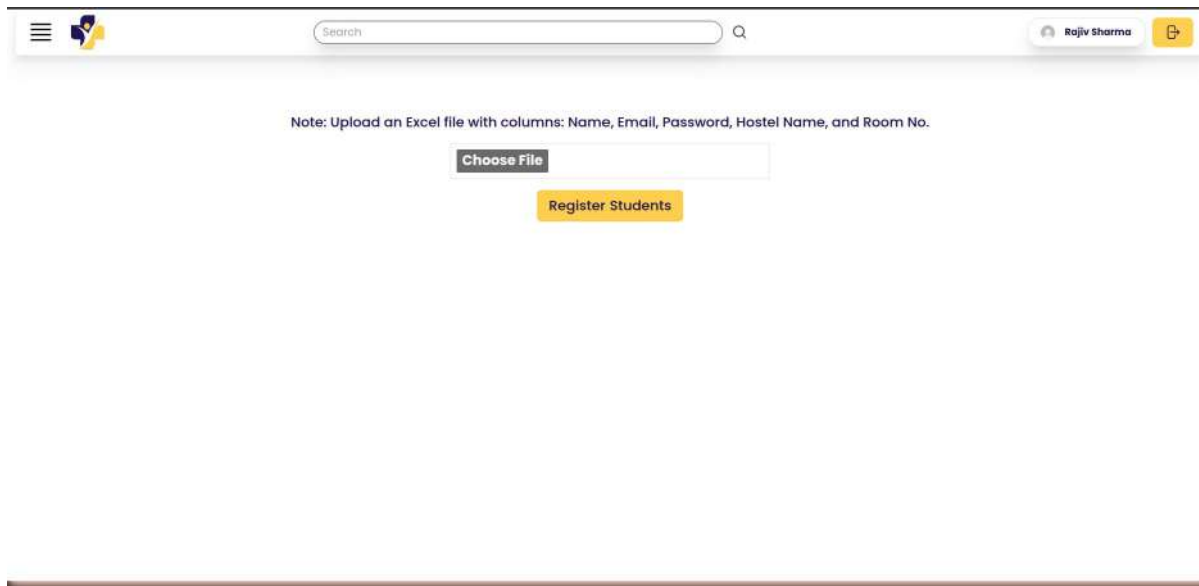


Fig 14: Registration

Fig 14 presents the Registration page, where the admin can register multiple new students by uploading an Excel file.

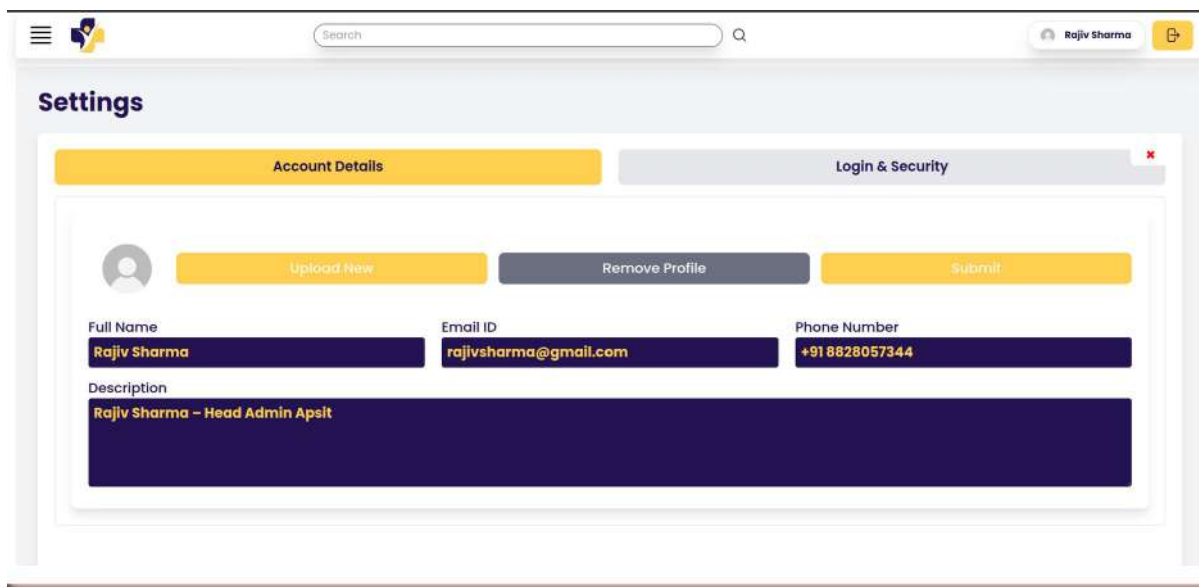


Fig 15: Update Details

Fig 15 presents the Update Details page, where the user can update their personal information.

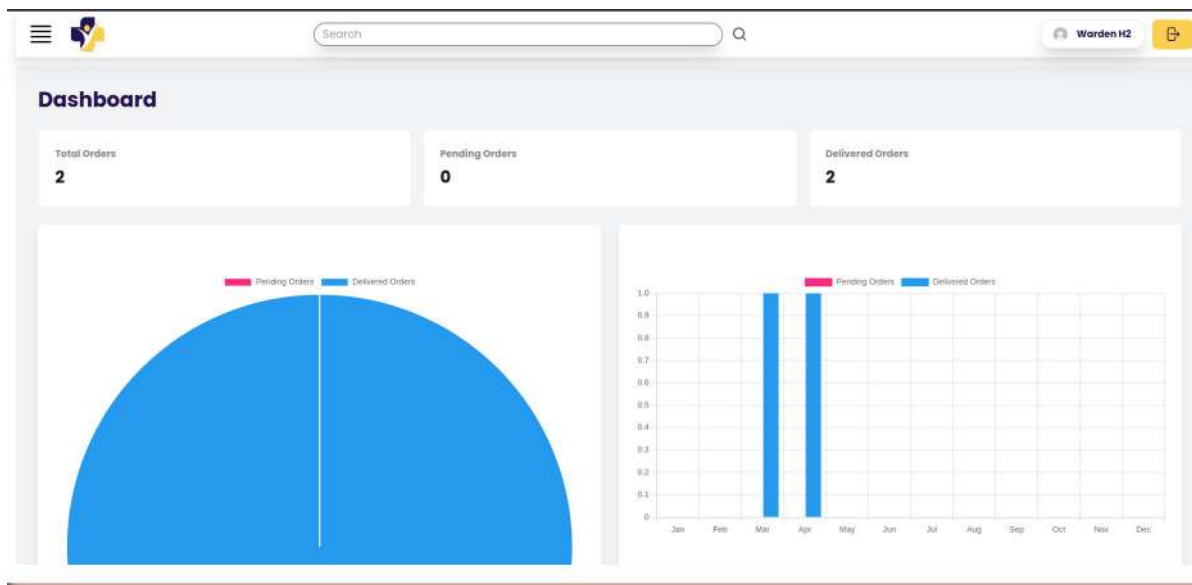


Fig 16: Warden’s Dashboard

Fig 16 presents the Warden Dashboard, where wardens can view order details.

The page includes search filters and a table with the following headers:

Order ID	Student Name	Order Date	Status	Actions
No data				

Fig 17: Warden’s Order

Fig 17 presents the Warden’s Orders page, where wardens can acknowledge and view medicine orders.

5.4 ADVANTAGES

- Efficient Healthcare Management: The system provides a structured and centralized platform for managing medical records, appointments, and emergencies within a campus environment. Both students and administrators have dedicated dashboards, ensuring easy access to relevant healthcare services.
- Streamlined Appointment Booking & Confirmation: Students can conveniently book medical appointments through the platform. Administrators can confirm or reject appointments, ensuring better scheduling and reducing overcrowding at medical centers.
- Improved Medicine Order Management: Students can directly place medicine orders, reducing the need for manual coordination with pharmacies. The admin dashboard allows medicine stock tracking, preventing shortages.
- User-Friendly Interface & Role-Based Access: The platform offers a simple yet effective interface for students and admins. Role-based access ensures that only authorized personnel can manage sensitive data, enhancing security and data privacy.
- Reduced Paperwork & Manual Effort: The system digitalizes health records, appointments, and medicine orders, significantly reducing paperwork and manual data entry. This leads to a faster and more reliable healthcare management process.

CHAPTER 6

CONCLUSION

6. CONCLUSION

The CampusCare revolutionizes healthcare management within educational institutions by providing a streamlined, digital solution for appointment scheduling, medical record tracking, and efficient communication between students and healthcare providers. By eliminating traditional inefficiencies, such as long wait times and data mismanagement, the system enhances accessibility, improves patient care, and ensures a well-organized approach to campus healthcare. With its user-friendly interface and real-time appointment tracking, CampusCare not only benefits students but also helps administrators manage hospital resources effectively. Ultimately, this system fosters a more efficient, transparent, and responsive healthcare environment within educational institutions, ensuring that students receive timely medical attention and proper record management.

REFERENCES

- [1] "Online Hostel Management System", Choudhury, Bikash, Deepak Kumar, Deepika Priyadarshani Khatua & Ajit Kumar Patro, An International Journal of Engineering Technology 4, no. 3 (2017).
- [2] "Online Hostel Automation",K V Chandrashekar, Kishor Kumar, Monisha B & Nikitha A, Journal of Computer Science and Engineering Vol.3(2017)
- [3] "Development of an Automated Hostel Facility Management System", Kola Ayanlowo, O. Shoewu, Segun Olatinwo, Olusegun Omitola, Damilola Babalola, Journal of Science and Engineering Vol.5(2014)
- [4] "Symptoms Based Disease Prediction Using Machine Learning Techniques",P. Hamsagayathri & S. Vigneshwaran, 2021 Third International Conference on Intelligent Communication Technologies and Virtual Mobile Networks(2021)
- [5] "A Framework for Predictive - Diagnosis of Prevalent Illness among University Students", Dauda Olorunkemi Isiaka, Joshua Babatunde Agbogun, Taiwo Kolajo, Journal of Applied Artificial Intelligence Vol.3 (2022)
- [6] "A Qualitative Study Investigating the Impact of Hostel Life", Ajmal Asir & Iftikhar Amina, International Journal of Emergency Mental Health (2015)