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FACULTY OF INFORMATION TECHNOLOGY AND COMMUNICATION STUDIES

DEPARTMENT OF INFORMATION TECHNOLOGY STUDIES

DEVELOPING A USER-CENTRIC MANAGEMENT SYSTEM FOR UPSA CLINIC

BY

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**Project Work Submitted To The Department Of Information Technology Studies, Faculty
Of Information Technology And Communication Studies, University Of Professional
Studies, Accra, In Partial Fulfilment Of The Requirements For The Award Of A Bachelor
Of Science Degree In Information Technology Management.**

2024

CANDIDATES' DECLARATION

We, the undersigned do hereby declare that this dissertation is the result of our original research and that no part of it has been presented for another Degree in any University. We are convinced that this project was not copied from any other person. All sources of information have, however been acknowledged with due respect.

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SUPERVISOR'S DECLARATION

I declare that the preparation and presentation of this Dissertation were in accordance with the guidelines on supervision of Dissertation laid down by the University of Professional Studies, Accra (UPSA).

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Supervisor's Signature.....

Date: 17th July 2024

DEDICATION

This dissertation is dedicated to God Almighty, who has been of tremendous help in making this study a success. Also, to our beloved parents and benefactors for sponsoring our education and to all UPSA teaching and non-teaching staff for their explicit support, we dedicate this work to you all.

ABSTRACT

In this project, we aim to enhance UPSA Clinic by addressing challenges such as cumbersome booking, stressful feedback processes for ID cards, and limited health center information. Our user-centric design seeks to improve accessibility, efficiency, and overall user experience. By implementing a user-centric approach, our primary objective is to significantly elevate the overall healthcare experience for UPSA's diverse community of students, faculty, and staff. Our methodology will encompass extensive research and data collection to understand user needs, user-centered design principles to ensure the interface meets users' expectations, prototyping and testing for iterative improvements, and a meticulously planned implementation and deployment strategy. We recognize the importance of user-centricity in modernizing healthcare services and aim to create a user interface that not only mitigates existing challenges but also aligns seamlessly with contemporary healthcare expectations. Anticipated outcomes include improved accessibility to medical processes, reduced stress in obtaining medical feedback for student ID cards, comprehensive and readily available health center information, easier access to pertinent health data, and a streamlined and efficient medical appointment scheduling process. This project's significance lies in its potential to revolutionize healthcare services within UPSA, fostering a healthcare ecosystem that prioritizes user needs and preferences, ultimately contributing to the well-being and academic success of our university's community.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

In the age of digitization, a seamless user experience can significantly transform healthcare services. The University of Professional Studies Accra (UPSA) provides high-quality healthcare services to its diverse community of students, faculty, and staff. However, with advancements in technology and growing user expectations, there's a pressing need to introduce a digital approach in improving the Health Centre activities. This project is an effort in that direction. In alignment with this commitment, the present project is proposed to significantly introduce a user-centric management system for the UPSA Clinic. The user in this context means understanding and addressing the unique needs and preferences of our university's community. This initiative arises from the recognition that the conventional approach to healthcare management poses several challenges, including the inability to efficiently book medical processes, the cumbersome and outdated system for obtaining medical feedback necessary for student ID cards, a shortage of essential information regarding health center services and facilities, difficulties in accessing pertinent health information, and the intricate process of scheduling medical appointments. In response to these challenges, the University seeks to revolutionize its healthcare services by prioritizing user-centered design principles, ultimately aiming to improve the overall healthcare experience for its stakeholders.

1.2 BACKGROUND OF THE STUDY

Healthcare services have seen a significant transformation in recent years with the advent and evolution of online healthcare services. The Internet has become a vital tool in the healthcare

sector, reshaping how medical information is accessed, consultations are conducted, and medications are dispensed (Awad et al., 2021). The background of the study offers insight into the evolution of online healthcare services and provides context for the need to develop a user-centric management system for UPSA's healthcare Centre. The modern healthcare platform could allow students to procure medicines from the school's online pharmacy, eliminating the need to purchase externally. Additionally, virtual consultations can save students the hassle of waiting at the clinic, especially during instances of doctor absences. The evolution of online healthcare services has not only improved accessibility but also increased the convenience of healthcare interactions worldwide.

1.3 PROBLEM STATEMENT

The University of Professional Studies, Accra (UPSA) faces several critical issues in its healthcare services for students. These issues include the inability to book sessions for medical processes, reliance on an outdated and stressful system for obtaining medical feedback necessary for students to receive their ID cards, and a lack of accessible information regarding the health center's services and facilities. These inefficiencies hinder not only physical health but also potentially impact the academic performance and well-being of the student body.

1.4 SCOPE OF THE PROJECT

The scope of this project will encompass several key aspects of the University of Professional Studies, Accra (UPSA), healthcare user-centric management system to address pressing issues identified in the problem statement. Specifically, the project will focus on the following areas:

1. **Appointment Booking System:** To enhance the user experience, the project will aim to implement a user-friendly appointment booking system.
2. **Streamlining Medical Feedback Process:** The project will seek to modernize and streamline obtaining medical feedback necessary for students to receive their ID cards. Modernization, that is, updating and bringing the process in line with contemporary technological and administrative standards and streamlining the process which means simplifying and making the process more efficient.
3. **Information Dissemination:** We aim to develop a module offering detailed insights into the health center's services and facilities.
4. **Pharmacy Integration:** Introducing an online pharmacy on the website will allow students to access common medications without external purchases easily (Dunn et al., 2022).

By addressing these specific areas within the healthcare management system, the project aims to improve the overall efficiency and accessibility of UPSA's healthcare services.

1.5 RESEARCH QUESTIONS

1. How can we improve the process of booking medical appointments and procedures to enhance accessibility and convenience for UPSA students and staff?
2. What technological and procedural steps can be taken to modernize and simplify the process of obtaining medical feedback for student ID cards, reducing stress and inefficiencies?
3. How can we ensure that students, faculty, and staff have access to comprehensive and up to-date information about the services and facilities offered by the UPSA health center?

1.6 LIMITATIONS OF THE STUDY

1. **Scope Limitation:** This project will focus solely on the development and improvement of the healthcare website, temporarily postponing the creation of a mobile application to address identified issues.
2. **Hosting Limitation:** Due to financial constraints, the website will be initially hosted on a local server, while initial hosting will be on a local server, we are exploring efficient cost-effective solutions to transition to a more scalable solution in the future, potentially limiting scalability and performance compared to external hosting solutions.
3. **Resource Constraints:** Limited resources may impact the speed and extent of project implementation, potentially leading to longer development timelines and fewer features in the initial release.

1.7 OBJECTIVE OF THE STUDY

1.7.1 General Objective

The primary goal is to optimize the healthcare services for UPSA students by launching a user-friendly website. This site aims to streamline medical feedback collection for student IDs, offer detailed health center information, and elevate the efficiency and user experience within given constraints.

1.7.2 Specific Objectives

1. To introduce intuitive features and user feedback loops to streamline the booking system within the UPSA healthcare platform.

2. To revamp the system for obtaining medical feedback necessary for student ID cards, making it more efficient, user-friendly, and stress-free for all stakeholders.
3. To develop and implement a robust information dissemination strategy that ensures all users of the UPSA healthcare platform have easy access to detailed information about health center services and facilities.

1.8 SIGNIFICANCE OF STUDY

The transformation of healthcare services began in the late 1990s with the emergence of online pharmacies and health information websites (Lee & Lee, 2021). These digital platforms provided individuals with the opportunity to access medical information, purchase medications, and even consult with healthcare professionals from the comfort of their homes (Trenfield et al., 2022). Over the years, online healthcare services have evolved into a diverse landscape, encompassing telemedicine, mobile health applications, and wearable health technology. This evolution has been driven by several factors, including advances in technology, changes in consumer behavior, and the need for more accessible and efficient healthcare solutions. As a result, government regulatory bodies, such as the United States Food and Drug Administration (FDA), have established dedicated divisions to oversee and regulate the online health sector, ensuring the safety and efficacy of medications and treatments sold over the Internet (Hong et al., 2021).

The significance of this evolution is reflected in its ability to address various healthcare challenges, including improving access to healthcare information, reducing geographical barriers to medical consultations, and providing convenient medication delivery options. Understanding this evolution is paramount as we strive to enhance the UPSA Health Care,

ensuring it resonates with the contemporary healthcare paradigm and meets the needs of our stakeholders. Given this backdrop, UPSA, with its unique demographic and healthcare requirements, stands at a pivotal juncture to harness these advancements for the well-being of its members.

1.9 PROPOSED METHODOLOGY

The proposed methodology provides an overview of the research and development processes that will be employed to create a user-centric interface for the healthcare platform. The success of this project hinges on a meticulously planned and executed methodology (George, 2020). It involves a comprehensive approach that encompasses the following key components:

1.9.1 Research and Data Collection

Effective decision-making in the development of the user-centric healthcare management system necessitates a solid foundation of research and data collection (Zahid et al., 2021). This phase entails the rigorous examination of user preferences, needs, and pain points. By conducting surveys and interviews with students, faculty, and on-campus healthcare professionals, we aim to gather a holistic understanding of the community's healthcare interface needs.

1.9.2 User-Centered Design Principles

At the core of this project is the commitment to user-centered design principles. We understand that a healthcare interface's effectiveness hinges on its ability to cater to the unique needs of its users. Therefore, the design process prioritizes user empathy and engagement. We will actively involve users in the design process, frequently seeking their feedback and making necessary adjustments to ensure the interface is tailored to their needs. Through iterative design, feedback

loops, and usability testing, we ensure that every aspect of the interface aligns with the users' expectations and requirements. This approach guarantees that the final product is not only functional but also user-friendly and intuitive.

1.9.3 Prototyping and Testing

To mitigate risks and validate design decisions, prototyping, and testing play a pivotal role. Prototyping allows us to create tangible representations of the interface, enabling stakeholders to interact with it in a simulated environment. Subsequently, thorough testing is conducted to identify potential flaws, bottlenecks, and areas of improvement. Usability tests provide valuable feedback, helping us refine the design iteratively. This process ensures that the final user interface is both robust and efficient (Wang et al., 2023).

1.9.4 Implementation and Deployment

The culmination of the project lies in the implementation and deployment of the user-centric management system. Following a meticulous development process, the interface is will go under a rigorous compatibility testing and version control mechanisms to ensure a seamless implementation. A well-planned deployment strategy ensures minimal disruptions to users while maximizing the benefits of the new system (Taherdoost, 2023).

This methodology is not just about addressing the current needs; it's also about future-proofing. By employing a modular design and committing to periodic reviews, we ensure that our interface remains responsive to the evolving healthcare landscape.

1.10 ORGANIZATION OF THE STUDY

Chapter One: Introduction

It introduces the research, defines relevant concepts, outlines the aim and objectives, discusses limitations, defines the scope, highlights the significance of the study, and provides an overview of the research organization.

Chapter Two: Literature Review

It involves a comprehensive review of literature related to project tracking systems, including theoretical and empirical perspectives from previous research.

Chapter Three: Research Methodology

It details the qualitative (or quantitative or mixed) research methods employed. The research methods employed for developing the healthcare platform, include research design, subject selection, data collection instruments, and data analysis techniques.

Chapter Four: System Implementation and Testing

It focuses on the practical aspects of implementing the user-centric management system, where the implementation occurred, and the testing procedures conducted during the development process.

Chapter Five: Conclusion and Future Work

The final chapter in the proposal aligns with Chapter Five of the study.

It summarizes the study's findings, conclusions, and recommendations, highlighting the research's outcomes and implications. Additionally, it explores avenues such as potential integrations, system upgrades, or community outreach for future work.

1.11 CONCLUSION

This proposal emphasizes the need and significance of a user-centric management system for UPSA Clinic. By addressing challenges like appointment booking, ID card feedback retrieval, and health center information accessibility, the system aims to elevate healthcare services within the university. Our goal is to streamline processes, enhance user experience, and align with modern healthcare expectations, ensuring a robust and efficient system for the UPSA community. With these enhancements, UPSA not only adapts to the changing landscape of healthcare but also sets a standard for academic institutions in championing student and staff well-being

CHAPTER 2

LITERATURE REVIEW

2.0 INTRODUCTION:

Healthcare services play a pivotal role in ensuring the holistic well-being and academic success of students in higher education institutions (Khatri et al., 2024). At the University of Professional Studies, Accra (UPSA), situated in the vibrant city of Accra, Ghana, the provision of efficient healthcare services is paramount to fostering a conducive learning environment and supporting students' overall health needs. UPSA, known for its commitment to academic excellence and student welfare, recognizes the critical role that healthcare plays in nurturing a healthy and thriving student community.

The significance of efficient healthcare services cannot be overstated, particularly in a dynamic and bustling academic environment like UPSA. As students engage in rigorous academic pursuits, they often encounter various health-related challenges that can impact their ability to excel academically (Khatri et al., 2024). From common ailments to more complex medical needs, students require access to timely and effective healthcare resources to address their diverse health concerns.

In the context of UPSA, where students come from diverse backgrounds and experiences, ensuring access to high-quality healthcare services is essential for promoting equity and inclusivity. Whether domestic or international students, each individual's health needs must be met with sensitivity, respect, and professionalism (Jiang et al., 2022). Moreover, considering the demanding nature of academic life, the availability of efficient healthcare services directly contributes to the overall satisfaction and well-being of the student body (Pérez-Villalobos et al., 2023).

Amidst the bustling campus life and academic commitments, UPSA's healthcare services serve as a cornerstone of support for students, providing them with the necessary medical care and guidance to navigate both their academic and personal journeys successfully. Through a comprehensive range of healthcare offerings, including medical consultations, diagnostic services, and health education initiatives, UPSA endeavors to empower students to prioritize their health and make informed decisions about their well-being.(Haleem et al., 2021)

In this introduction, we embark on a journey to explore the challenges and opportunities in healthcare service management at UPSA. By delving into the intricacies of healthcare delivery within the university context, we aim to underscore the critical importance of efficient healthcare services in fostering a healthy, resilient, and thriving student community. As we delve deeper into the nuances of healthcare management, we uncover the multifaceted dimensions of healthcare provision at UPSA and the strategies employed to enhance the overall student experience.

2.1 CHALLENGES IN HEALTHCARE SERVICE MANAGEMENT AT UPSA:

Inefficient Appointment Booking System:

One of the primary challenges confronting students at UPSA is the inefficiency of the appointment booking system at the university's health center. The current process for scheduling medical sessions often proves cumbersome and time-consuming, resulting in frustration and inconvenience for students seeking timely healthcare assistance. Similar to the complexities encountered in managing appointments in online art galleries, where the seamless coordination of schedules is paramount, UPSA's healthcare system grapples with the need to streamline the booking process to enhance accessibility and convenience for students.

The inefficiencies in the appointment booking system can be attributed to various factors, including limited technological infrastructure, inadequate staff resources, and outdated administrative processes (Zhang & Chen, 2023). As a result, students may encounter difficulties in securing appointments within reasonable timeframes, leading to prolonged waiting periods and potential delays in receiving essential medical care. Moreover, the lack of transparency and visibility into appointment availability exacerbates the challenges faced by students, hindering their ability to plan and manage their healthcare needs effectively (Nigatu et al., 2023).

To address these challenges, UPSA must invest in modernizing its appointment booking system, leveraging advanced technologies and digital solutions to facilitate seamless scheduling and management of medical sessions (Selvan & Vivek, 2023). By implementing an online booking platform or mobile application, students can easily access real-time appointment availability, select preferred time slots, and receive instant confirmations, thereby eliminating the need for cumbersome manual processes and reducing administrative burdens (Shabli et al., 2023).

Outdated Feedback System:

In addition to challenges with appointment scheduling, UPSA's healthcare service management is hindered by an outdated feedback system that contributes to inefficiencies and administrative bottlenecks (Matchanova et al., 2020). The reliance on manual feedback mechanisms for obtaining medical feedback necessary for students to receive their ID cards creates unnecessary stress and delays in the issuance of essential identification documents. This outdated feedback system is reminiscent of the limited awareness and adoption of new technologies observed in online art gallery management, where traditional approaches may impede progress and innovation (Hron et al., 2022).

The current feedback system at UPSA's health center often involves cumbersome paperwork, manual data entry, and prolonged processing times, leading to frustration among students awaiting their ID cards. Moreover, the lack of transparency and visibility into the feedback submission process exacerbates students' anxiety and uncertainty, as they are left unaware of the status of their requests and the expected timelines for resolution (López-Hernández et al., 2023).

To overcome these challenges, UPSA must transition to a modernized feedback system that leverages digital technologies and automation to streamline processes and enhance efficiency. Implementing an electronic feedback portal or mobile application can empower students to submit feedback conveniently, track the progress of their requests in real time, and receive timely updates on the status of their ID card applications (Bikanga Ada, 2023).

2.1.2 Communication and Engagement in Healthcare Services:

Effective communication and engagement are fundamental pillars in the delivery of healthcare services at the University of Professional Studies, Accra (UPSA) (Asimah & van der Walt, 2023). Recognizing the diverse needs and preferences of its student population, UPSA places great emphasis on fostering transparent, informative, and accessible communication channels to ensure that students are well-informed about the healthcare resources available to them and are actively engaged in managing their health and well-being (Adams et al., 2021). Drawing parallels with the importance of communication and engagement in online art gallery management, UPSA endeavors to leverage innovative strategies and technologies to enhance the overall student experience and promote a culture of health and wellness on campus (Pessot et al., 2023).

At UPSA's health center, communication plays a pivotal role in facilitating seamless interactions between students and healthcare providers, fostering trust, and promoting patient-centered care. From initial inquiries about healthcare services to follow-up consultations and health education

initiatives, effective communication channels are essential for delivering timely, accurate, and personalized information to students, empowering them to make informed decisions about their health(Haleem et al., 2021).

In line with the principles of patient-centered care, UPSA adopts a multi-faceted approach to communication, leveraging a combination of traditional and digital channels to reach students across diverse demographics and preferences. These communication channels may include:

In-Person Interactions: Face-to-face interactions between students and healthcare providers serve as invaluable opportunities to establish rapport, address concerns, and provide personalized guidance on health-related matters (Drossman et al., 2021). Through one-on-one consultations, students can receive individualized care and support tailored to their unique needs and circumstances.

Digital Platforms: In an increasingly interconnected world, digital platforms play a central role in facilitating communication and engagement among students (Haleem, Javaid, Qadri, et al., 2022). UPSA utilizes various digital channels, such as the university's official website, social media platforms, and mobile applications, to disseminate important health-related information, promote upcoming events and workshops, and facilitate online interactions between students and healthcare professionals.

Email Communication: Email remains a popular and effective means of communication for delivering targeted messages and announcements to students (Brown et al., 2024). UPSA utilizes email newsletters, alerts, and updates to communicate important healthcare information, such as changes in operating hours, upcoming health screenings, and wellness tips.

Health Education Workshops and Events: UPSA organizes regular health education workshops, seminars, and events aimed at empowering students with the knowledge and skills to make healthy lifestyle choices and prevent common health problems(Organization, 2024). By engaging students in interactive learning experiences, UPSA promotes active participation and ownership of health outcomes among its student community(Ussher et al., 2023).

Feedback Mechanisms: To ensure continuous improvement and responsiveness to students' needs, UPSA provides various feedback mechanisms through which students can share their experiences, suggestions, and concerns regarding healthcare services. These feedback channels may include online surveys, suggestion boxes, and focus group discussions, allowing students to voice their opinions and contribute to the ongoing enhancement of healthcare delivery at UPSA.

By embracing a holistic approach to communication and engagement, UPSA strives to foster a culture of health and well-being that transcends traditional healthcare delivery models. Through proactive outreach, collaborative partnerships, and innovative communication strategies, UPSA aims to empower students to take ownership of their health and become active participants in their wellness journey.

2.1.3 Curating Diverse Healthcare Services:

At the University of Professional Studies, Accra (UPSA), the provision of healthcare services extends beyond mere medical treatment; it encompasses a comprehensive approach to addressing the diverse health needs and preferences of the student population(Abelson et al., 2022). Recognizing the unique backgrounds, lifestyles, and healthcare requirements of its students, UPSA is committed to curating a diverse range of healthcare offerings that not only meet the immediate medical needs but also promote holistic well-being and preventive care. Drawing parallels with

the importance of curating diverse art collections in online galleries, UPSA recognizes the significance of offering a varied and inclusive spectrum of healthcare services to cater to the multifaceted needs of its student community(Taneja-Johansson & Singal, 2021).

The significance of curating diverse healthcare services lies in its ability to address the unique health challenges and preferences of individuals, thereby promoting inclusivity, accessibility, and equity in healthcare delivery (Ojo et al., 2024). By offering a comprehensive portfolio of services, UPSA endeavors to empower students to access the care and support they need, regardless of their backgrounds or health status.

2.1.5 Key components of UPSA's approach to curating diverse healthcare services include:

Primary Care Services: UPSA's health center serves as the primary point of contact for students seeking medical assistance, offering a wide range of primary care services, including routine medical consultations, preventive screenings, immunizations, and minor procedures. By providing comprehensive primary care services, UPSA aims to address the majority of students' healthcare needs in a timely and efficient manner, promoting early intervention and continuity of care(Mabuza & Moshabela, 2023).

Specialized Care Clinics: In addition to primary care services, UPSA offers specialized clinics and services tailored to specific health concerns and conditions prevalent among students. These may include mental health counseling services, sexual and reproductive health clinics, nutrition counseling, and chronic disease management programs(El Bizri et al., 2021). By offering specialized care clinics, UPSA ensures that students have access to targeted interventions and support services designed to address their unique health challenges comprehensively.

Health Promotion and Wellness Initiatives: Beyond traditional medical interventions, UPSA places a strong emphasis on health promotion and wellness initiatives aimed at fostering a culture of prevention and proactive self-care among students (Klein & McCarthy, 2022). These initiatives may include health education workshops, fitness classes, stress management seminars, and smoking cessation programs. By promoting health literacy and empowering students with the knowledge and skills to make informed lifestyle choices, UPSA seeks to prevent the onset of health problems and promote overall well-being (Davhana, 2020).

Cultural Competency and Inclusivity: In curating diverse healthcare services, UPSA prioritizes cultural competency and inclusivity to ensure that all students feel respected, valued, and understood in their healthcare interactions. This may involve offering language interpretation services, incorporating culturally sensitive practices into service delivery, and providing resources and support tailored to the unique needs of diverse student populations (Khatri & Assefa, 2022). By embracing cultural diversity and sensitivity, UPSA aims to eliminate barriers to healthcare access and promote health equity among all students.

Collaborative Partnerships: UPSA collaborates with external healthcare providers, community organizations, and government agencies to expand the scope of healthcare services available to students and enhance access to specialized care resources. Through strategic partnerships, UPSA can leverage external expertise, resources, and networks to address complex health issues and bridge gaps in service delivery, ultimately enriching the overall healthcare experience for students (Ngoasong, 2022).

2.1.6 Information Technology Solutions for Healthcare Management:

In today's digital age, the integration of information technology (IT) solutions has become increasingly vital in optimizing healthcare management processes and enhancing service delivery (Prema & Senthil, 2024). At the University of Professional Studies, Accra (UPSA), leveraging IT solutions offers immense potential for transforming healthcare operations, improving efficiency, and enhancing the overall quality of care provided to students. Inspired by the success of web-based project management systems in online art galleries, UPSA recognizes the value of implementing innovative IT solutions, such as web-based appointment systems and database management systems (DBMS), to streamline healthcare management processes and ensure seamless access to medical services for students.

2.1.7 Web-Based Appointment Systems:

The implementation of a web-based appointment system represents a transformative step towards modernizing healthcare service delivery at UPSA. Inspired by the user-friendly interfaces and intuitive functionalities of web-based project management systems used in online art galleries, a web-based appointment system offers numerous benefits in streamlining the booking process for medical services and enhancing the overall patient experience (Tanbeer & Sykes, 2021).

By adopting a web-based appointment system, UPSA can empower students to schedule medical appointments conveniently and efficiently through an online platform accessible via computers, tablets, or mobile devices (Haleem, Javaid, Singh, et al., 2022). Students can easily view available appointment slots, select preferred dates and times, and receive instant confirmations, eliminating the need for time-consuming phone calls or in-person visits to the health center.

Moreover, a web-based appointment system enables UPSA to optimize resource allocation and capacity planning by providing real-time visibility into appointment bookings and staff schedules(Ghazal et al., 2022). Through data analytics and reporting functionalities, UPSA can identify trends, forecast demand, and allocate resources effectively to meet the fluctuating needs of students.

Furthermore, the implementation of a web-based appointment system facilitates communication and engagement between students and healthcare providers, enabling seamless interactions, appointment reminders, and follow-up communications(Tanbeer & Sykes, 2021). By enhancing communication channels and promoting transparency, UPSA can foster trust, satisfaction, and loyalty among students, thereby strengthening the student-provider relationship and promoting positive health outcomes.

2.1.8 Database Management Systems (DBMS) for Medical Records:

In addition to web-based appointment systems, the adoption of database management systems (DBMS) for managing students' medical records represents a fundamental component of UPSA's IT-enabled healthcare management strategy. Drawing parallels with the use of DBMS in managing art collections in online galleries, a robust DBMS offers a centralized and secure platform for storing, organizing, and accessing students' medical information efficiently (Praveen et al., 2022).

By implementing a DBMS for medical records management, UPSA can overcome the limitations of paper-based record-keeping systems and achieve significant improvements in data accuracy, accessibility, and security(Ganiron Jr, 2023). Medical records, including patient demographics, medical history, diagnostic reports, treatment plans, and medication records, can be digitized and

stored in a structured format within the DBMS, enabling healthcare providers to retrieve information quickly and make informed clinical decisions.

Moreover, a DBMS facilitates seamless integration with other IT systems and applications used in healthcare delivery, such as electronic health records (EHR) systems, laboratory information systems (LIS), and billing systems. This interoperability enhances data sharing, collaboration, and continuity of care across various healthcare settings, ensuring that students' medical information is readily available to authorized personnel whenever and wherever needed(Miao et al., 2023).

2.2 REVIEW OF EXISTING SYSTEMS

Existing management systems for hospitals can be broadly categorized into manual and computerized systems.

Manual systems maintain patient data, medical records, and appointment scheduling using paper documents and forms(Akbulut et al., 2023). It can take time to access and update information in these labor-intensive, error prone systems. Furthermore, the inability of manual systems to deliver real-time information hinders management's ability to make defensible decisions(Pearlson et al., 2024).

However, many of the tasks related to hospital management systems are automated by computerized systems through the use of software applications. Features including appointment booking, online health information accessibility, and recordkeeping can be included in these systems. Additionally, they can give the administration up-to-date information about the hospital's quality, availability, and other factors(Kelly et al., 2023). A web-based interface is another feature of many computerized systems that enables patients to access information and services online,

scheduling their appointments with doctors, and checking their availability. Several user management systems for hospitals have been developed and implemented across Ghana and beyond. Some examples of computerized user management systems reviewed in this documentation include:

Here are two examples of management systems used in hospitals, along with their merits and demerits:

1. Allscripts Sunrise Clinical Manager:

Merits:

- a. Comprehensive Functionality: Allscripts Sunrise Clinical Manager offers a wide range of functionalities beyond user management, including electronic health records (EHR), clinical decision support, and revenue cycle management.
- b. Interoperability: It is designed to integrate seamlessly with other healthcare systems and external data sources, facilitating efficient data exchange and interoperability.
- c. Scalability: Allscripts provides scalable solutions suitable for hospitals of various sizes, allowing for customization and expansion as the institution grows.
- d. Security Features: The system includes robust security features such as role based access control (RBAC), audit trails, and encryption to ensure data security and compliance with regulations.

Demerits:

1. Cost: Implementing Allscripts Sunrise Clinical Manager can be expensive, including upfront costs for licensing, implementation, and ongoing maintenance.

2. Complexity: Due to its comprehensive nature, the system may have a steep learning curve for users and administrators, requiring training and dedicated IT support.
3. Vendor Dependency: Hospitals relying on Allscripts may face challenges related to vendor locking, including dependence on the vendor for updates, support, and customization.

2. Meditech Expanse User Management System:

Merits:

1. Cloud Based Solution: Meditech Expanse offers a cloud based option, providing flexibility, scalability, and accessibility for hospital staff from various locations.
2. Usability: It is known for its user-friendly interface and intuitive workflows, making it easier for healthcare professionals to navigate and utilize the system effectively.
3. Interoperability: Meditech Expanse supports interoperability with other healthcare systems and standards, facilitating data exchange and continuity of care.
4. Security: The system incorporates robust security measures, including access controls, encryption, and audit logs, to protect patient data and ensure compliance with privacy regulations.

Demerits:

1. Customization Limitations: While Meditech Expanse offers customization options, some hospitals may find limitations in terms of tailoring the system to their specific workflows and requirements.

2. **Integration Challenges:** Integrating Meditech Expanse with existing hospital systems or third-party applications may require additional effort and resources, depending on the complexity of the integration.
3. **Support and Training:** Adequate training and ongoing support are essential for hospitals using Meditech Expanse to maximize its benefits and address any technical or usability issues.

2.3 COMPARATIVE ANALYSIS OF THE EXAMINED SYSTEM

The characteristics, capabilities, and limits of several management systems for hospitals would be analyzed and compared in comparative research(Dion & Evans, 2024). This would entail assessing the system's automation level, user interface and experience, compatibility with other systems, security and data protection measures, and automation level. The study would assist in evaluating the benefits and drawbacks of various systems and selecting the best solution to meet the needs of a hospital management system mostly for a university(Etemadi et al., 2023).

Below is a Table comparing the features of various user management systems for hospitals under our consideration:

Table 1:Table 1: A Summary of Comparative Study of Reviewed Systems

Systems	User accounts for patients	Dynamic accounts for students and doctors for student's medical sessions	Reporting and analytics feature for tracking doctors availability	Online feedback system for users	Online appointment scheduling with doctors.	Security and access control mechanism to ensure safety of the system	Dashboard for tracking doctor's appointment schedules	A self-service portal for users to book appointments.

AllScripts Sunrise Clinical Manager	✓	✗	✗	✓	✗	✓	✗	✓
Meditech Expanse manager	✓	✗	✗	✓	✓	✓	✗	✓
EMC UManager (Proposed System)	✓	✓	✓	✓	✓	✓	✓	✓

2.4 CONCLUSION

In conclusion, hospital management systems are software applications designed to assist with the administration and management of patients who seek service from the hospitals (Khang et al., 2023). These systems can provide a wide range of functionality, including managing appointments schedules, online accessibility of patients' medical reports, availability of doctors, and maintaining patient records.

Numerous management systems, including automated and manual systems, have been developed and put into use in hospitals all around the world, according to the literature review (Ali et al., 2023). In order to better manage patients, computerized systems have become more common in recent years and offer a wide range of functions. They do, however, have certain restrictions. In order to decide which system is most suited for a certain hospital user's management need, a comparative analysis of the examined systems would evaluate a number of factors, including user interface, automation, integration, and security (Pulimamidi, 2024).

Overall, using a user-centric management system for University of Professional Studies Accra, Clinic can play a critical role in ensuring that both external patients, staffs and students on the campus get their medical feedbacks easily, book appointments, and schedule meetings with doctors at ease. This will ensure an efficient and cost-effective management process.

CHAPTER 3

SOFTWARE DEVELOPMENT LIFECYCLE OF THE SYSTEM

A school medical system is a software application designed to streamline and automate multiple facets of medical operations within educational institutions (Ooi et al., 2023). It encompasses functionalities tailored for managing student health records, scheduling appointments, generating medical reports, and more. This system serves as a comprehensive tool for both medical staff, including nurses and physicians, as well as students, facilitating easy access to medical information and enabling necessary actions related to student health management. The system's development adheres to a structured life cycle approach, comprising phases such as planning, analysis, design, implementation, deployment, and maintenance, ensuring its efficient development and ongoing functionality (Elahi et al., 2023).

3.2 CRYSTALLIZATION OF THE PROBLEM

The issue at hand revolves around the need for an efficient and comprehensive system to manage medical services within educational institutions. Currently, many schools lack a centralized platform to handle student health records, appointments, and medical reports effectively. This absence often leads to inefficiencies, such as delays in accessing critical medical information, difficulties in scheduling appointments, and challenges in generating accurate reports. Consequently, the health and well-being of students may be compromised due to inadequate medical management systems. Thus, the development of a robust school medical system emerges as a crucial solution to address these challenges, ensuring seamless access to medical services and promoting the overall health of students within educational settings.

Some Specific challenges which have necessitated the need for a system include:

1. **Inefficient management of medical appointments and resources:** Many systems struggle with scheduling medical appointments and allocating resources effectively, leading to delays and resource wastage.
2. **Difficulty in maintaining accurate and accessible student health records:** There's a challenge in organizing and updating student health information, resulting in inaccurate or inaccessible health records.
3. **Lack of transparent communication regarding medical procedures and health updates:** Lack of transparency in communicating medical procedures and updates to students, hinders their understanding and cooperation in medical matters.
4. **Insufficient security measures for safeguarding medical information and ensuring patient privacy:** There's a lack of robust security protocols to protect medical data, posing risks to patient privacy and confidentiality.

Defining and understanding the specific problems the system aims to solve is crucial for the development team. By doing so, they can tailor the system design to effectively address these issues and deliver value.

3.3 ANALYSIS AND DESIGN OF THE SYSTEM

The analysis and design of our proposed school medical system will follow a structured approach to ensure alignment with stakeholders' needs and effective resolution of identified challenges. We outline the key steps in this process as follows:

1. **Requirements Gathering:** Collaborating with stakeholders, including medical staff, students, and administrative personnel, to gather insights into their requirements,

processes, and limitations. This phase aims to define both functional and non-functional requirements essential for the system's success.

2. **System Architecture Design:** Crafting the system architecture based on the collected requirements. This involves selecting appropriate technologies, determining the system's overall structure, and outlining the interactions among various components.
3. **Database Design:** Designing the database to efficiently and securely store medical data. This entails choosing the appropriate database management system, designing the data model, and establishing relationships between different data entities.
4. **User Interface Design:** Creating an intuitive and user-friendly interface for seamless interaction with the system. Design considerations include layout, color scheme, typography, and overall user experience to ensure ease of navigation and functionality.
5. **Technical Design:** Defining the technical specifications for system implementation. This encompasses selecting programming languages, frameworks, and methodologies, as well as outlining testing and debugging procedures to ensure system reliability and performance.
6. **Prototype Development:** Building a prototype of the system to provide stakeholders with a visual representation and to validate the system's design. This iterative process allows for early identification of potential issues and incorporation of necessary adjustments before full-scale development.

Once the design phase is complete and stakeholders are satisfied with the prototype, the system can proceed to implementation, testing, and deployment, thereby fulfilling its intended purpose of enhancing medical management within educational institutions.

3.3.1 System Requirement

In the context of our school medical system, system requirements are critical specifications that dictate its functionality and effectiveness. These requirements are derived from extensive collaboration with stakeholders, including medical staff, students, and administrative personnel, during the system's analysis phase. The system requirements can be categorized into two main types: functional and non-functional.

3.3.2 Function Requirement

In the context of our school medical system, functional requirements outline the essential features and capabilities that the system must possess. These include:

- **Patient Appointment Scheduling:** The system should allow for the scheduling of medical appointments for students, ensuring efficient utilization of medical resources and timely access to healthcare services.
- **Medical Record Management:** Capability to store and manage student health records securely, enabling authorized medical staff to access and update patient information as necessary.
- **Medical Reporting and Analysis:** The system should facilitate the generation of medical reports and analytics to track various health metrics, identify trends, and support informed decision-making by medical professionals.
- **Communication and Notification:** The system should provide channels for communication between medical staff and students, allowing for the dissemination of important health-related information, appointment reminders, and notifications about medical services or updates.

3.3.3 Non-Function Requirements

In the context of our school medical system, non-functional requirements define the operational characteristics and performance expectations necessary for optimal system functionality. These encompass:

- **Security:** The system must uphold robust security measures to safeguard sensitive medical data and prevent unauthorized access or breaches.
- **Scalability:** It should possess the capability to accommodate a large user base and manage increasing volumes of medical data effectively as the system usage grows over time.
- **Performance:** The system must exhibit high performance, ensuring swift responsiveness and minimal downtime to facilitate efficient medical services and operations.
- **Usability:** It should offer an intuitive user interface that is easy to navigate for both medical staff and students, promoting seamless interaction with the system and enhancing user satisfaction.
- **Compatibility:** The system must seamlessly integrate with existing university systems and technologies, ensuring smooth interoperability and minimizing disruptions to existing workflows.

Adhering to these non-functional requirements will guarantee that the school medical system effectively mitigates the challenges identified during the problem crystallization phase, thereby enhancing medical management within the educational institution.

3.3.4 Hardware Requirement

In the context of our school medical system, hardware requirements encompass the essential physical components needed to support its operation effectively. These include:

1. **Server Infrastructure:** Robust server systems are necessary to host and manage the medical system software application. These servers should have sufficient processing power, memory, and storage capacity to handle the system's workload and data storage requirements securely.
2. **Networking Equipment:** Reliable networking infrastructure, including routers, switches, and cables, is essential to facilitate communication and data exchange between different system components, as well as to provide connectivity for users accessing the system from various locations within the educational institution.
3. **Client Devices:** Suitable computing devices such as desktop computers, laptops, or mobile devices are required for accessing the medical system's user interface. These devices should meet minimum specifications to ensure compatibility and optimal performance when interacting with the system.
4. **Peripheral Devices:** Additional peripheral devices such as printers, scanners, and barcode readers may be necessary to support specific functionalities within the medical system, such as printing medical reports, scanning patient documents, or capturing barcode information for inventory management.

By fulfilling these hardware requirements, our school medical system can operate seamlessly, providing reliable access to medical services and enhancing healthcare management within the educational institution.

3.3.5 Software Requirements

In the context of our school medical system, software requirements encompass the necessary software programs and tools essential for the system's operation. These requirements are vital to ensure optimal performance, scalability, and security while also maintaining compatibility with existing university systems and technologies. Here are some of the software requirements for our medical system:

1. **Operating System:** The system is compatible with popular operating systems such as Windows, macOS, and Linux to accommodate a diverse user base.
2. **Programming Languages:** The system's development requires programming languages such as HTML, CSS, BOOTSTRAP, JAVASCRIPT and PHP to implement its functionalities efficiently.
3. **Database Management System (DBMS):** A reliable DBMS such as MySQL, PostgreSQL, or MongoDB is necessary to manage and store medical data securely.
4. **Security Tools:** Implementing security tools and protocols such as SSL/TLS encryption, firewalls, and intrusion detection systems is essential to safeguard sensitive medical data and prevent unauthorized access.

5. **Compatibility with Existing Systems:** Ensuring compatibility with existing university systems and technologies, such as authentication systems and student information systems, is critical to facilitate seamless integration and data exchange.

By fulfilling these software requirements, our school medical system can operate effectively, providing reliable access to medical services and contributing to improved healthcare management within the educational institution.

3.4. FLOW CHART DIAGRAM

The Flowchart of the proposed System is shown below:

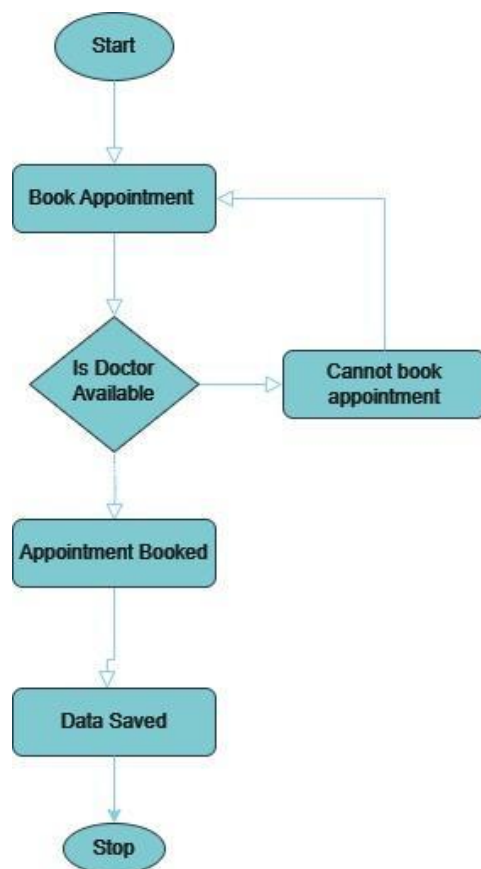


Figure 1:Flow chart of the Proposed System

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Flow chart of the Proposed System.

The flow chart above gives sequential representation of the various procedures to be followed in the implementation of a new proposed user-centric management system for UPSA Clinic. It is a flowchart of the actual work of this system, explaining how data and tasks flow from one process to another. They commonly involve log-in by the users, appointment scheduling, submission of medical feedbacks and information search. Each step is linked by arrows to show the direction whereby practicality is achieved in explicating how the system works and how the end-users engage with the system.

Explanation of Work Performed in this Figure:

1. Start: The process starts when a user such as: Student, faculty, staff etc. activates a conversation with the system.
 2. User Login: The users themselves provide the necessary authentication by keying in their details.
 3. Dashboard Access: The user is then redirected to he or she's personal dashboard once log in is complete.
 4. Appointment Booking: This system also has the capability to let the user make appointments with the healthcare providers.
- Input Details: Users make choices that refer to date, time and the type of the appointment.
 - Confirmation: After the scheduling the system ensures that the doctor is available at the appointed date and time to attend to the patient.

5. Medical Feedback Submission: For instance, after a medical appointment, the doctor can possibly give feedback.

- Input Feedback: It involves inputting of feedback about the treatment the user received.
- Store Feedback: It also holds the feedback records in case there is need to refer back to them in the future.

6. Information Retrieval: Some of the services include access to medical records and other health related information.

- Query Data: Users request certain data to be provided to them.
- Display Data: It is with regard to this system, that returns and presents the data that has been sought.

7. End: Lasting, the process is finished when the user logs out from the given system.

3.4.1. Context Diagram

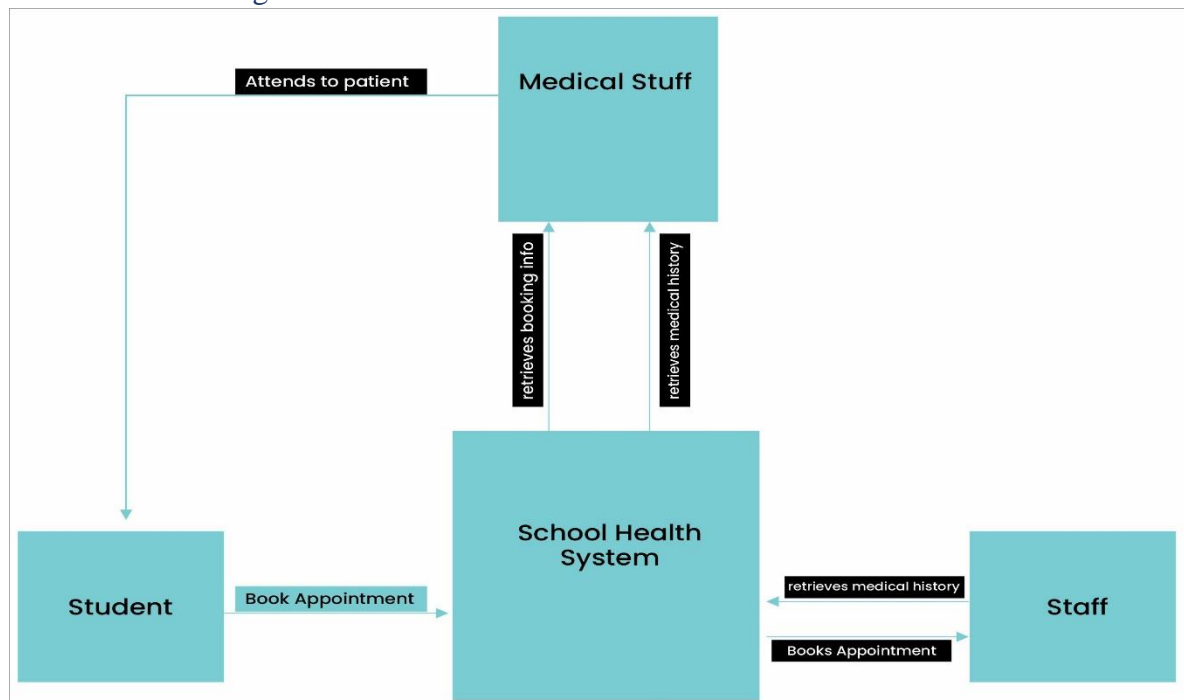


Figure 2:Context diagram of the Proposed System

The context diagram provides an initial understanding of the general of the system and outsiders connected to this system. This diagram shows the extent of the system and how the external personnel like students, faculties, staffs and healthcare givers are connected to the system. Using the context diagram provided here, one has a clear understanding of how such entities transact with the system inclusive of booking appointments, giving feedback, obtaining their health status and information, this figure is essential for analysis of the setting of the system as well as understanding the transmission of data between the system and the outer entities.

Explanation of Work Performed in this Figure:

1. System Boundaries: The context diagram shows system's scope of interaction with the external entities.

2. External Entities:

- Students: Include booking appointments, being able to get health information and doctor's feedback.
- Faculty and Staff: The same kinds of interactions as students although they may also be required to perform administrative tasks or responsibilities.
- Healthcare Providers: Scheduling of appointments, patient records checking and feedback on the details provided.

3.4.2 Entity Relationship Diagram

An entity-relationship diagram (ERD) provides a visual representation of the relationships between entities within our school medical system. It encompasses entities like patients, medical staff, appointments, and medical records. Relationships between these entities are depicted as lines connecting them, with labels denoting the type of relationship. We present the entity-relationship diagram (ERD) for our proposed system as follows:

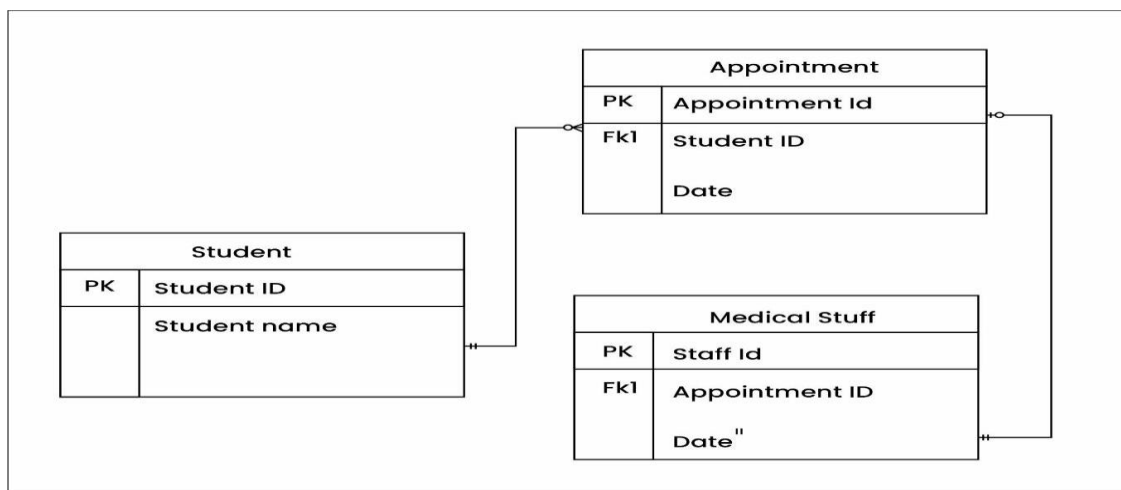


Figure 3:Entity Relationship Diagram of the Proposed System

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ERD gives a clear picture of the working structure of data in the proposed system which highlights different entities in relation to one another. Entities stand for data objects which are patients, appointments, medical feedback, and health services as well. Every entity has attributes and the connection between entities is depicted based on relationship types (for instance one-to-many, many-to-many relationships). For instance, one patient can have multiple appointments; thus, each appointment they make can produce feedback. This figure helps in the design of the database to facilitate easy retrieval of data and errors free data storage.

Explanation of Work Performed in this Figure:

1. Entities and Attributes:

- Users: Contains attributes like user ID, name, role, and contact information.
- Appointments: Attributes include appointment ID, date, time, type, and status.
- Feedback: Includes feedback ID, user ID, appointment ID, rating, and comments.
- Health Records: Contains record ID, user ID, medical history, prescriptions, and test results.

2. Relationships:

- User Appointment: A user can have multiple appointments (one-to-many relationship).
- User Feedback: A user can submit multiple feedback entries (one-to-many relationship).
- User Health Records: A user has one health record (one-to-one relationship).

- Appointment Feedback: Each appointment can generate one feedback entry (one-to-one relationship)

3.4.3 Dataflow Diagram

A data flow diagram (DFD) represents data flow in a university hostel management system. The DFD typically consists of several levels that describe the flow of data from external sources, through the system, and to external users. Each level of the DFD is represented as a set of shapes that depict the processes, inputs, outputs, and data stores involved in the system. We present the dataflow diagram of our proposed model as follows:

Data Flow Process:

- Appointment Data: Bi-directional traffic, that is the circulation of personal health information between the users and healthcare givers.
- Feedback Data: Patients obtained feedback from the service received.
- Health Records: Browsed by the users and modified by the healthcare personnel.

3.4.4 Use Case Diagram

A use case diagram serves as a visual representation of the interactions between users and the school medical system. Actors represent different users of the system, while use cases illustrate the specific actions performed by these actors. We present the Use Case diagram for our proposed school medical system as follows:

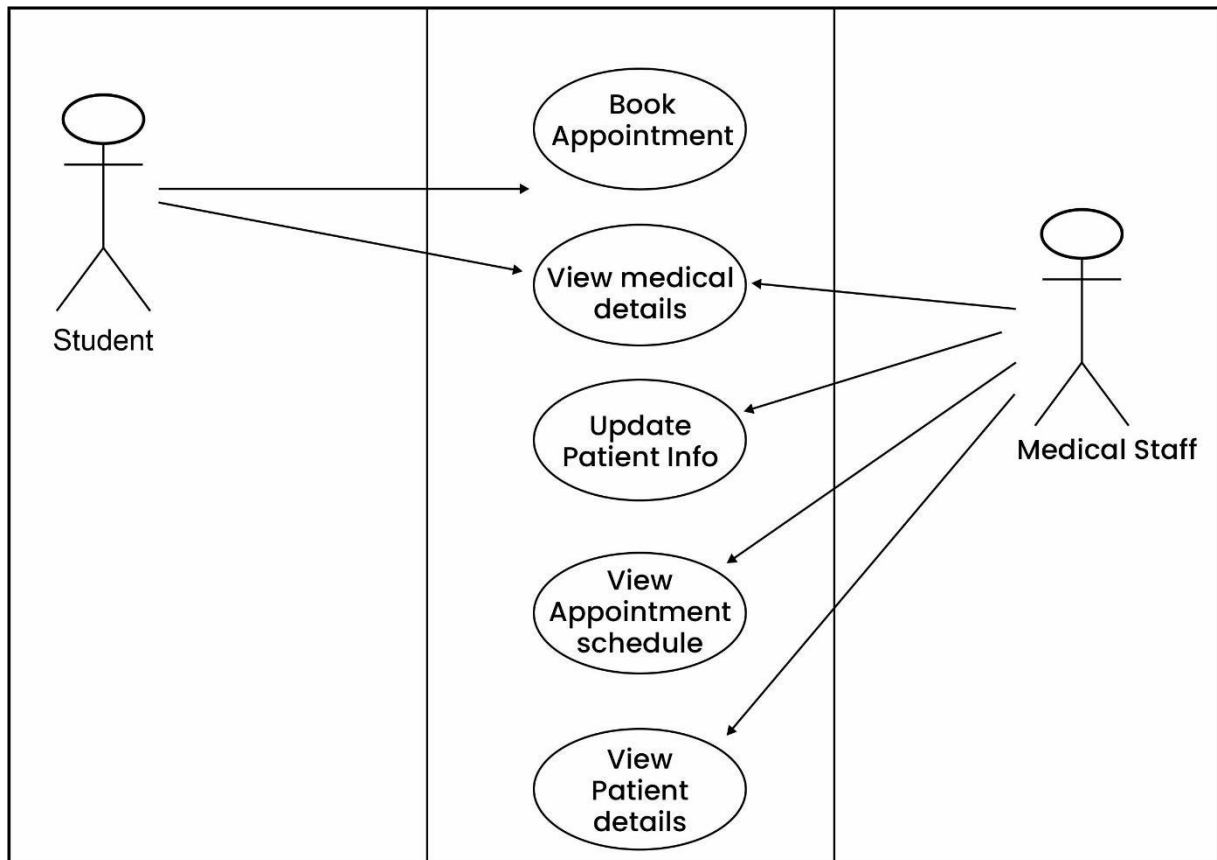


Figure 4:Use case diagram of the Proposed System

The use case diagram gives the view of functional requirement of the system from the user point of view. It defines the stakeholders and the main object-oriented components and the functions they perform. Every use case corresponds to an operation of the system which includes making an appointment, accessing patient record, and giving feedback, it assists in comprehending the structure of the system regarding its effectiveness and helps the analysis determine whether all the users' needs are being met and helps in directing the system's development to meet the users' requirements as desired.

Explanation of Work Performed in this Figure:

1. Actors:

- Students: Some examples of the primary user are the individuals who make bookings to make appointments, those who access information related to their health, and those who give feedback about the recorded information.
- Faculty and Staff: Similar with that of students but with extra administrative functions.
- Healthcare Providers: Communicate with patients, look over records and input and analyze the feedback received.
- System Administrator: Spearheads users' identities, system administration, and patches.

2. Use Cases:

- Book Appointment: Self-organized by the students, faculty, and the staff to organize a medical appointment.
- Access Health Records: Enables the user to get a look at his or her records and lab results.
- Submit Feedback: Allows doctors to give their opinion on the medical provided.
- Manage Appointments: From the perspective of the healthcare providers the appointment can be viewed and the details of the appointment can be changed.
- System Maintenance: These maintenance activities are done by the administrator to meet specific objectives of the system.

All these figures explain a different concept of the system, indicating how it functions and how the users and various sub systems 'interact' with the proposed system. It helps identify the way the proposed system works, gets structured, and interacts with users, which are all vital aspects for the proper establishment of the target system.

3.5 TOOLS USED

In this section, we present the tools selected for the development of our proposed school medical system:

1. Programming Languages:

- HTML 5
- CSS 3
- JAVASCRIPT
- PHP
- BOOTSTRAP

2. Database Management System:

- MYSQL

3. Integrated Development Environment (IDE):

- Visual Studio: An IDE utilized for writing, debugging, and testing the system's code, ensuring robust development practices.

4. Version Control System:

- Git: A widely-used version control system chosen to manage the system's codebase effectively, enabling efficient tracking and storage of changes.

These tools are instrumental in streamlining the development process, ensuring efficient collaboration among team members, and ultimately contributing to the successful and effective development of our school medical system.

3.6 CONCLUSION

In conclusion, the proposed school medical system stands as a tailored solution crafted to tackle the unique challenges encountered in managing medical services within our educational institution. Embracing a meticulous life cycle design methodology, spanning planning, analysis, design, implementation, deployment, and maintenance phases, the system ensures a methodical approach to development and sustained support.

The system's blueprint intricately weaves together key steps, including requirements gathering, system architecture design, database design, user interface design, and technical design. These steps are meticulously tailored to meet the diverse functional and non-functional requirements specific to our medical system, encompassing critical aspects such as security, scalability, performance, usability, and compatibility with existing university systems.

Moreover, the system's hardware requisites are carefully calibrated to encompass essential components such as servers, networking infrastructure, and computing devices. This ensures seamless operation and accessibility of medical services across our educational campus.

Throughout the development journey, close collaboration with stakeholders remains central, ensuring that the system resonates with their needs and effectively addresses the challenges inherent in medical service management within our educational institution. By leveraging cutting-edge technologies and adhering to industry best practices, the proposed system holds immense promise in streamlining medical service operations, enhancing patient care delivery, and fostering an environment of health and well-being within our academic community.

CHAPTER 4

SYSTEM TESTING, IMPLEMENTATION, AND DOCUMENTATION:

4.0 INTRODUCTION

System testing, implementation, and documentation are crucial aspects of software development. Testing ensures that the system is free from errors and meets the specified requirements. Implementation involves the actual deployment of the system in a production environment, while documentation provides a comprehensive guide for the system's users. In this chapter, we discuss the testing, implementation, and documentation of the hostel management system that we have developed.

4.1 SYSTEM TESTING:

To address the critical issues facing healthcare services for students at the University of Professional Studies, Accra (UPSA), rigorous system testing is imperative to ensure reliability and usability (Jibril et al., 2024). Inspired by best practices in software testing, UPSA adopts a comprehensive testing framework encompassing various methodologies to validate the functionality, performance, security, compatibility, and usability of healthcare management systems.

Functional Testing:

Functional testing ensures that healthcare management systems at UPSA meet the specified requirements and perform the intended functions accurately. By simulating typical user interactions and scenarios, functional testing verifies that essential features such as appointment booking, medical feedback submission, and access to information about health center services and

facilities function as expected. Through thorough functional testing, UPSA ensures that students can rely on healthcare systems to fulfill their needs efficiently and effectively (Haleem, Javaid, Singh, et al., 2022).

Functional testing involves conducting test cases to validate each functional aspect of the system, including input validation, data manipulation, and output generation. UPSA employs both manual and automated testing techniques to verify that all functionalities operate correctly and produce the expected results. Test scenarios are designed to cover various use cases and edge cases to ensure comprehensive coverage of system functionality.

Performance Testing:

Performance testing evaluates the speed, responsiveness, and scalability of healthcare management systems at UPSA to ensure optimal performance under varying workload conditions. By subjecting systems to simulated user traffic and stress testing scenarios, UPSA assesses their ability to handle peak loads, process transactions efficiently, and deliver timely responses (Taheri & Taft, 2024). Performance testing enables UPSA to identify and address performance bottlenecks, ensuring that healthcare services remain accessible and responsive to students' needs.

Performance testing involves measuring key performance metrics such as response time, throughput, and resource utilization under different load levels. UPSA utilizes performance testing tools and techniques to simulate realistic user scenarios and analyze system behavior under various conditions. By optimizing system performance, UPSA enhances user experience and ensures that healthcare services are delivered in a timely and efficient manner.

Security Testing:

Security testing is essential to safeguard the confidentiality, integrity, and availability of students' medical information within healthcare management systems at UPSA. By conducting vulnerability assessments, penetration testing, and compliance audits, UPSA evaluates the resilience of systems against unauthorized access, data breaches, and cyber threats. Security testing helps UPSA identify and remediate security vulnerabilities, ensuring that students' sensitive data remains protected and secure.

Security testing encompasses various techniques, including threat modeling, security scanning, and access control testing, to identify potential security risks and vulnerabilities (Wong et al., 2023). UPSA works closely with cybersecurity experts to implement robust security measures and protocols to mitigate security threats and protect sensitive information. By prioritizing security testing, UPSA demonstrates its commitment to safeguarding student privacy and maintaining the integrity of healthcare data.

Compatibility Testing:

Compatibility testing ensures that healthcare management systems at UPSA function seamlessly across different devices, browsers, and operating systems used by students. By testing system compatibility with a variety of platforms and configurations, UPSA verifies that students can access healthcare services consistently from desktop computers, laptops, tablets, and smartphones. Compatibility testing enhances user accessibility and convenience, facilitating greater engagement with healthcare systems.

Compatibility testing involves validating system functionality and user interface across multiple devices and platforms to ensure consistent performance and user experience (Jabbar et al., 2024).

UPSA utilizes compatibility testing tools and techniques to identify any compatibility issues or inconsistencies and address them proactively. By supporting a wide range of devices and platforms, UPSA enhances accessibility and usability of healthcare services for students.

Usability Testing:

Usability testing focuses on evaluating the user experience and interface design of healthcare management systems at UPSA to ensure intuitive navigation, ease of use, and overall user satisfaction. Through usability testing sessions and feedback surveys, UPSA gathers insights into users' interactions with system interfaces, identifying areas for improvement and refinement. Usability testing helps UPSA optimize system usability, enhancing user adoption and satisfaction.

Usability testing involves observing users as they interact with the system and collecting feedback on their experience, preferences, and pain points (Alao et al., 2022). UPSA analyzes usability testing results to identify usability issues and design flaws and iteratively improve system usability based on user feedback. By prioritizing usability testing, UPSA ensures that healthcare systems are user-friendly, intuitive, and aligned with students' needs and expectations.

Implementation:

The successful implementation of healthcare management systems at UPSA requires meticulous planning, configuration, data migration, training, and rollout strategies to ensure seamless transition and adoption. Drawing inspiration from phased and pilot implementation approaches, UPSA adopts a structured implementation framework tailored to its unique needs and challenges.

Planning:

The planning phase is a pivotal stage in the implementation of healthcare management systems at the University of Professional Studies, Accra (UPSA), serving as the bedrock upon which the entire project is built. This phase encompasses a series of strategic activities aimed at conducting a thorough assessment of existing healthcare systems, gathering comprehensive requirements, and formulating a robust implementation plan. By engaging stakeholders in collaborative decision-making processes, UPSA lays the groundwork for a successful implementation journey that aligns with organizational objectives and meets the diverse needs of its stakeholders.

Initial Assessment:

The planning phase commences with an in-depth assessment of UPSA's current healthcare systems, infrastructure, and processes. This assessment involves evaluating the strengths, weaknesses, opportunities, and threats associated with existing systems, identifying areas for improvement, and understanding the unique challenges faced by stakeholders. UPSA conducts comprehensive audits, interviews key stakeholders, and analyzes existing data to gain insights into the current state of healthcare services and infrastructure. By conducting a thorough initial assessment, UPSA lays the foundation for informed decision-making and strategic planning in subsequent stages of the implementation process.

Requirement Gathering:

Requirement gathering is a critical aspect of the planning phase, involving the systematic collection and documentation of functional and non-functional requirements for the new healthcare management systems. UPSA collaborates closely with stakeholders representing diverse perspectives, including students, healthcare providers, administrators, IT specialists, and regulatory authorities. Through workshops, focus groups, surveys, and interviews, UPSA elicits

stakeholders' expectations, preferences, and priorities for the new systems. Requirements gathering activities encompass a wide range of considerations, including system functionality, user interface design, data security, regulatory compliance, scalability, and interoperability. By capturing stakeholders' needs and expectations, UPSA ensures that the new healthcare systems are designed to address the specific challenges and requirements of its healthcare environment.

Development of Implementation Plan:

Based on the findings from the initial assessment and requirement gathering activities, UPSA develops a comprehensive implementation plan that outlines the project objectives, scope, timelines, and resource requirements. The implementation plan serves as a roadmap for guiding the execution of the project from inception to completion, providing a structured framework for coordinating activities and managing dependencies. UPSA collaborates with cross-functional teams comprising project managers, subject matter experts, technical specialists, and external vendors to develop a detailed project plan that accounts for all phases of the implementation process. The implementation plan includes key milestones, deliverables, dependencies, risk mitigation strategies, and communication protocols to ensure alignment with organizational goals and stakeholder expectations.

Stakeholder Collaboration:

Throughout the planning phase, UPSA fosters active collaboration and engagement with stakeholders to ensure their involvement and ownership in the implementation process. UPSA adopts a participatory approach, involving stakeholders in decision-making, planning, and review activities to solicit their input, address concerns, and gain buy-in for the project. Regular communication channels, such as stakeholder meetings, workshops, progress reports, and

feedback sessions, facilitate open dialogue and transparency, fostering a sense of shared responsibility and commitment among stakeholders. By promoting stakeholder collaboration, UPSA cultivates a supportive environment conducive to successful project outcomes and stakeholder satisfaction.

Risk Assessment and Mitigation:

As part of the planning phase, UPSA conducts a comprehensive risk assessment to identify potential risks, uncertainties, and challenges that may impact the implementation process. UPSA evaluates various risk factors, including technical complexity, resource constraints, regulatory compliance, change management, and stakeholder resistance. By anticipating potential risks and vulnerabilities, UPSA develops proactive mitigation strategies and contingency plans to address them effectively. UPSA prioritizes risk management activities, allocates appropriate resources, and monitors risk indicators throughout the implementation journey to minimize disruptions and maximize project success.

Configuration:

Configuration is a pivotal aspect of the implementation process at the University of Professional Studies, Accra (UPSA), as it involves tailoring healthcare management systems to align with the institution's specific requirements and preferences. Through strategic configuration of system settings, user permissions, and workflow processes, UPSA ensures that healthcare systems are seamlessly integrated into its operational environment, facilitating efficient service delivery and user satisfaction.

Customization of System Settings:

Configuration begins with the customization of system settings to optimize the functionality and performance of healthcare management systems at UPSA. This entails fine-tuning various parameters, such as user interface layouts, data entry forms, report templates, and notification preferences, to align with the institution's workflows and preferences. UPSA collaborates with system administrators, IT specialists, and end-users to identify configurable options and tailor them to meet specific requirements. By customizing system settings, UPSA enhances usability, productivity, and user experience, empowering stakeholders to accomplish tasks more effectively within the healthcare environment.

Definition of User Permissions:

User permissions play a crucial role in governing access to sensitive information and functionalities within healthcare management systems at UPSA. During the configuration process, UPSA defines role-based access controls and user permissions to regulate the level of access granted to different user groups, including students, healthcare providers, administrators, and support staff. UPSA adopts a granular approach to permissions management, assigning privileges based on user roles, responsibilities, and organizational hierarchy. By enforcing security policies and access restrictions, UPSA safeguards the confidentiality, integrity, and availability of sensitive data, ensuring compliance with regulatory requirements and industry best practices.

Streamlining Workflow Processes:

Configuration also involves streamlining workflow processes within healthcare management systems to optimize efficiency and productivity. UPSA analyzes existing workflows, identifies bottlenecks, and redesigns processes to eliminate redundancies, automate routine tasks, and enhance collaboration among stakeholders. Through workflow configuration tools and customization features, UPSA tailors workflows to meet specific business requirements, such as

appointment scheduling, patient registration, medical record management, and billing processes. By streamlining workflow processes, UPSA reduces administrative overhead, accelerates task completion, and improves overall service delivery within the healthcare environment.

Integration with Existing Systems:

Configuration efforts extend beyond standalone healthcare management systems, encompassing integration with existing institutional systems and external platforms. UPSA leverages integration capabilities and interoperability standards to establish seamless data exchange and communication channels between healthcare systems and other enterprise applications, such as student information systems, financial systems, and electronic health record systems. By integrating disparate systems and consolidating data silos, UPSA enhances data visibility, accuracy, and accessibility, facilitating informed decision-making and coordinated care delivery across the institution.

Continuous Optimization and Adaptation:

Configuration is an iterative process that requires continuous optimization and adaptation to evolving requirements and feedback from stakeholders. UPSA monitors system performance, gathers user feedback, and conducts periodic reviews to identify opportunities for improvement and refinement. Through regular updates, patches, and enhancements, UPSA ensures that healthcare management systems remain aligned with organizational objectives, technological advancements, and industry standards. By embracing a culture of continuous improvement, UPSA maximizes the value and effectiveness of configured systems, driving innovation and excellence in healthcare service delivery.

Data Migration:

Data migration stands as a pivotal phase in the implementation process at the University of Professional Studies, Accra (UPSA), serving to transfer critical medical records, appointment schedules, and pertinent data from legacy systems to newly adopted healthcare management systems. The meticulous execution of data migration, facilitated by advanced tools and techniques, ensures the accuracy, integrity, and completeness of data, thereby minimizing disruptions and downtime while optimizing the efficiency and effectiveness of healthcare services provided to the student community.

Comprehensive Inventory and Assessment:

The data migration process at UPSA begins with a comprehensive inventory and assessment of existing data housed within legacy systems. This involves cataloging medical records, appointment schedules, patient demographics, treatment histories, diagnostic reports, and other pertinent information stored across diverse data repositories. UPSA conducts a thorough analysis to understand the volume, complexity, and quality of existing data, laying the groundwork for informed decision-making and strategic planning during the migration process.

Data Cleansing and Standardization:

Prior to migration, UPSA undertakes data cleansing and standardization measures to enhance the quality, consistency, and reliability of data. This encompasses identifying and rectifying errors, inconsistencies, duplicates, and obsolete records within the dataset. Through data cleansing tools and techniques, UPSA standardizes data formats, resolves discrepancies, and enforces data integrity constraints, ensuring that migrated data aligns with predefined quality standards and regulatory requirements.

Selection of Migration Strategies:

UPSA evaluates various migration strategies and approaches to determine the most suitable method for transferring data from legacy systems to new healthcare management systems. This may include batch processing, extract-transform-load (ETL) pipelines, direct database migration, or hybrid migration models, depending on factors such as data volume, complexity, and compatibility with target systems. UPSA collaborates with data migration specialists and system integrators to select and customize migration strategies that align with organizational objectives and technical requirements.

Validation and Verification:

Throughout the migration process, UPSA places a strong emphasis on data validation and verification to ensure the accuracy and completeness of migrated data. This involves conducting rigorous testing and validation exercises to compare source and target datasets, identify discrepancies, and validate data integrity constraints. UPSA employs data validation tools, automated scripts, and manual inspections to verify the fidelity of migrated data and address any anomalies or inconsistencies that may arise during the transition.

Parallel Testing and Rollback Procedures:

Prior to finalizing the migration, UPSA conducts parallel testing and rollback procedures to validate the reliability and performance of migrated data within the new healthcare management systems. This involves running parallel instances of legacy and new systems in tandem to compare outputs, reconcile discrepancies, and verify data consistency. UPSA establishes rollback procedures and contingency plans to address unforeseen issues or failures encountered during the migration, ensuring minimal disruption to healthcare operations and patient care delivery.

Training and Change Management:

As part of the data migration process, UPSA provides comprehensive training and change management support to stakeholders involved in using and interacting with the newly migrated data within healthcare management systems. This includes training sessions, workshops, and user documentation materials designed to familiarize users with the structure, content, and usage of migrated data. UPSA emphasizes the importance of change management practices to facilitate smooth transition and user adoption of the new systems, addressing any resistance or concerns among stakeholders through proactive communication and support.

Post-Migration Monitoring and Optimization:

Following the completion of data migration, UPSA implements post-migration monitoring and optimization measures to ensure the ongoing integrity, accuracy, and usability of migrated data within the new healthcare management systems. This involves establishing data quality controls, performance metrics, and feedback mechanisms to track the effectiveness and performance of migrated data over time. UPSA conducts periodic reviews, audits, and assessments to identify opportunities for optimization, refinement, and enhancement, driving continuous improvement and innovation in data management practices.

Training:

Training programs play a vital role in ensuring the successful adoption and utilization of healthcare management systems at the University of Professional Studies, Accra (UPSA). By equipping users with the necessary knowledge and skills, UPSA fosters proficiency, confidence, and engagement in system usage among students, healthcare providers, and administrative staff. Through a multifaceted approach encompassing interactive workshops, online tutorials, hands-on training

sessions, and continuous support mechanisms, UPSA delivers comprehensive training initiatives tailored to diverse learning preferences and user roles.

Needs Assessment and Curriculum Development:

The training process at UPSA begins with a thorough needs assessment to identify the specific learning requirements and objectives of different user groups within the institution. UPSA collaborates with stakeholders representing students, healthcare providers, administrators, and support staff to gather insights into their knowledge gaps, skill levels, and training preferences. Based on the needs assessment findings, UPSA develops customized training curricula and learning materials tailored to address the unique needs and challenges faced by each user group. The curriculum encompasses essential topics such as system navigation, data entry, reporting, troubleshooting, and best practices in system usage.

Delivery of Interactive Workshops:

UPSA conducts interactive workshops and training sessions to facilitate hands-on learning experiences and knowledge transfer among users. These workshops may be conducted in-person or virtually, depending on user availability and preferences. Experienced trainers and subject matter experts lead the workshops, guiding participants through practical exercises, case studies, and role-playing scenarios to reinforce learning objectives. Interactive workshops provide users with opportunities to ask questions, share experiences, and collaborate with peers, fostering a supportive learning environment conducive to skill acquisition and knowledge retention.

Access to Online Tutorials and Resources:

In addition to in-person training sessions, UPSA provides access to online tutorials, training modules, and self-paced learning resources through its learning management system (LMS) or dedicated training portal. Online tutorials offer users the flexibility to learn at their own pace and convenience, accessing training materials anytime, anywhere. UPSA curates a repository of instructional videos, user guides, FAQs, and troubleshooting resources to supplement formal training efforts and support users in overcoming common challenges encountered during system usage. By leveraging online resources, UPSA extends the reach of training initiatives and accommodates diverse learning styles and preferences.

Hands-On Training and Simulation Labs:

UPSA offers hands-on training opportunities and simulation labs to allow users to practice system functionalities in a controlled environment. Simulation labs replicate real-world scenarios and workflows encountered within healthcare management systems, enabling users to gain practical experience and confidence in using system features. Trainers provide guidance, feedback, and support as users navigate through simulated tasks, fostering skill development and proficiency. Hands-on training sessions allow users to explore system capabilities, experiment with different workflows, and troubleshoot issues in a risk-free setting, preparing them for real-world usage scenarios.

Continuous Support and Feedback Mechanisms:

UPSA emphasizes the importance of continuous support and feedback mechanisms to sustain learning momentum and address evolving training needs. Trainers, helpdesk support personnel, and system administrators are available to provide ongoing assistance, guidance, and technical support to users as they navigate through system challenges and issues. UPSA encourages users to

provide feedback on training programs, user experiences, and system usability through surveys, focus groups, and feedback channels. By soliciting user input and acting upon feedback, UPSA ensures that training initiatives remain relevant, responsive, and effective in meeting the evolving needs of its user community.

Performance Evaluation and Certification:

To assess learning outcomes and measure the effectiveness of training programs, UPSA conducts performance evaluations and certification assessments for users completing training courses. Performance evaluations may include quizzes, exams, or practical assessments to gauge users' understanding and proficiency in system usage. Upon successful completion of training requirements, users receive certifications or badges recognizing their achievement and competency in using healthcare management systems. Certification programs provide users with tangible evidence of their skills and knowledge, motivating them to continue their professional development and contribute to the successful adoption of healthcare systems at UPSA.

Rollout:

The rollout phase represents a pivotal stage in the implementation journey of healthcare management systems at the University of Professional Studies, Accra (UPSA). This phase encompasses a series of strategic activities aimed at deploying the newly implemented systems across UPSA's campus, ensuring widespread adoption, acceptance, and engagement among stakeholders. By effectively communicating rollout plans, providing comprehensive user support resources, and facilitating seamless transition activities, UPSA minimizes disruptions and maximizes user engagement, thereby optimizing the success of the implementation process.

Strategic Communication and Stakeholder Engagement:

The rollout phase begins with strategic communication and stakeholder engagement initiatives aimed at building awareness, generating excitement, and garnering support for the newly implemented healthcare management systems. UPSA communicates rollout plans, timelines, and objectives to stakeholders through various channels, including emails, newsletters, intranet portals, and town hall meetings. Key stakeholders, including students, faculty, healthcare providers, administrators, and support staff, are actively engaged throughout the rollout process, providing input, addressing concerns, and fostering a sense of ownership and commitment to the project.

Comprehensive User Training and Support:

As part of the rollout process, UPSA provides comprehensive user training and support resources to empower stakeholders with the knowledge and skills needed to effectively utilize healthcare management systems. Training sessions, workshops, and hands-on demonstrations are conducted to familiarize users with system functionalities, workflows, and best practices. UPSA offers online tutorials, user guides, FAQs, and helpdesk support to address common questions, troubleshoot issues, and facilitate continuous learning. By investing in user training and support, UPSA ensures that stakeholders are equipped to navigate the transition and maximize the benefits of the new systems.

Facilitation of Transition Activities:

UPSA facilitates transition activities to streamline the adoption of healthcare management systems and minimize disruptions to ongoing operations. This may include data migration, system configuration, user provisioning, and integration with existing institutional systems. UPSA

collaborates with cross-functional teams comprising IT specialists, system administrators, project managers, and end-users to coordinate transition activities effectively. Regular communication, progress updates, and coordination meetings ensure alignment and collaboration among stakeholders, facilitating a smooth and efficient transition process.

User Acceptance Testing and Feedback Collection:

During the rollout phase, UPSA conducts user acceptance testing (UAT) and solicits feedback from stakeholders to assess system usability, functionality, and performance. UAT involves validating system features, conducting test scenarios, and identifying any discrepancies or issues that may impact user experience. UPSA actively collects feedback from users through surveys, focus groups, and feedback channels, leveraging insights to address concerns, make improvements, and enhance user satisfaction. By incorporating user feedback into the rollout process, UPSA demonstrates responsiveness to stakeholder needs and promotes continuous improvement in system design and implementation.

Continuous Monitoring and Adaptation:

Following the initial rollout of healthcare management systems, UPSA engages in continuous monitoring and adaptation to ensure ongoing success and sustainability. This involves monitoring system usage, performance metrics, and user feedback to identify areas for optimization and refinement. UPSA remains responsive to evolving user needs, technological advancements, and industry best practices, making iterative enhancements and adjustments to the systems as needed. By fostering a culture of continuous improvement and innovation, UPSA maximizes the long-term value and impact of healthcare management systems on student health and well-being.

Celebration of Milestones and Achievements:

As the rollout phase concludes, UPSA celebrates milestones and achievements attained throughout the implementation journey, recognizing the contributions of stakeholders and acknowledging the transformative impact of healthcare management systems on campus. This may include awards ceremonies, recognition events, and public acknowledgments to highlight successes, share lessons learned, and inspire future initiatives. By celebrating achievements, UPSA reinforces a culture of collaboration, innovation, and excellence, motivating stakeholders to continue their efforts in leveraging technology to enhance student health outcomes and academic success.

Documentation:

Comprehensive documentation stands as a cornerstone of the implementation and ongoing maintenance of healthcare management systems at the University of Professional Studies, Accra (UPSA). Through the creation of user manuals, administrator guides, technical documentation, training materials, and support resources, UPSA provides stakeholders with invaluable reference materials and guidance to navigate healthcare systems effectively and address any challenges that may arise. By documenting system functionalities, configurations, troubleshooting procedures, and best practices, UPSA ensures the successful adoption, utilization, and optimization of healthcare management systems across the institution.

User Manuals:

User manuals serve as essential reference guides for stakeholders interacting with healthcare management systems at UPSA. These manuals provide comprehensive instructions on system navigation, feature usage, data entry procedures, report generation, and other key functionalities.

User manuals are designed to be user-friendly and accessible, featuring clear explanations, step-by-step instructions, screenshots, and troubleshooting tips to help users maximize their effectiveness and productivity. UPSA continuously updates and improves user manuals to reflect system enhancements, new features, and user feedback, ensuring their relevance and usefulness over time.

Administrator Guides:

Administrator guides offer detailed insights and instructions for system administrators responsible for configuring, managing, and maintaining healthcare management systems at UPSA. These guides cover a wide range of topics, including system setup, configuration options, user management, security settings, data management, and system maintenance procedures. Administrator guides provide administrators with the knowledge and tools needed to customize system settings, enforce security policies, perform routine maintenance tasks, and troubleshoot technical issues effectively. UPSA emphasizes the importance of continuous learning and skill development for system administrators, offering ongoing training and support resources to enhance their proficiency and expertise.

Technical Documentation:

Technical documentation provides in-depth information and specifications on the underlying technology, architecture, and infrastructure supporting healthcare management systems at UPSA. This includes system requirements, database schemas, API documentation, integration protocols, and data exchange formats. Technical documentation serves as a valuable resource for IT professionals, developers, and technical specialists involved in system implementation, customization, integration, and support. UPSA maintains comprehensive technical documentation

to facilitate collaboration, interoperability, and innovation in the development and enhancement of healthcare systems.

Training Materials:

Training materials encompass a variety of resources designed to support the training and professional development of stakeholders using healthcare management systems at UPSA. These materials may include training modules, presentations, instructional videos, e-learning courses, and interactive tutorials. Training materials cater to diverse learning preferences and styles, offering both self-paced and instructor-led training options. UPSA provides access to training materials through its learning management system (LMS) or dedicated training portal, enabling stakeholders to acquire and refresh their knowledge and skills at their own convenience. Training materials are regularly updated and expanded to address emerging needs, new features, and evolving best practices in healthcare management.

Support Resources:

Support resources play a crucial role in providing timely assistance, guidance, and troubleshooting support to stakeholders encountering challenges or issues with healthcare management systems at UPSA. These resources may include helpdesk support services, online forums, knowledge bases, FAQs, and community-driven support platforms. UPSA maintains a dedicated support team comprising technical specialists, subject matter experts, and customer service representatives to address user inquiries, resolve technical issues, and escalate complex problems as needed. Support resources empower stakeholders to overcome obstacles, increase their confidence in system usage, and optimize their productivity within the healthcare environment.

Compliance and Regulatory Documentation:

Compliance and regulatory documentation encompass policies, procedures, and documentation required to ensure adherence to legal and regulatory requirements governing healthcare data privacy, security, and confidentiality. UPSA complies with relevant laws, regulations, and industry standards, such as the Health Insurance Portability and Accountability Act (HIPAA) and the General Data Protection Regulation (GDPR), by implementing robust policies, procedures, and safeguards to protect sensitive healthcare information. Compliance documentation outlines UPSA's commitment to data protection, privacy rights, breach notification procedures, and accountability measures, providing assurance to stakeholders and regulatory authorities of its compliance posture.

Version Control and Change Management:

UPSA implements version control and change management processes to ensure the accuracy, integrity, and traceability of documentation throughout the lifecycle of healthcare management systems. Version control mechanisms track revisions, updates, and modifications made to documentation assets, maintaining a historical record of changes and facilitating audit trails. Change management processes govern the review, approval, and dissemination of documentation updates, ensuring that stakeholders are informed of changes and revisions in a timely manner. UPSA follows standardized documentation practices and quality assurance protocols to uphold the reliability and credibility of documentation assets, promoting transparency, accountability, and trust among stakeholders.

Pilot Implementation:

Incorporating phased and pilot implementation approaches, UPSA conducts iterative pilot implementations to assess the effectiveness, usability, and reliability of healthcare management systems in real-world settings. This strategic approach allows UPSA to validate system

functionalities, gather user feedback, and address potential challenges on a smaller scale before full-scale deployment across the institution. Through careful planning, execution, and evaluation, UPSA minimizes disruptions, maximizes user adoption, and iteratively improves the quality and reliability of healthcare services provided to its student community.

Selection of Representative User Groups:

UPSA begins the pilot implementation process by selecting representative user groups that encompass a diverse range of stakeholders, including students, healthcare providers, administrative staff, and support personnel. These user groups are chosen based on factors such as role, responsibility, workflow complexity, and system interaction frequency. By involving diverse user groups in the pilot phase, UPSA ensures that the system's usability, functionality, and performance are thoroughly evaluated from different perspectives, addressing the unique needs and requirements of each user category.

Setup of Pilot Sites:

UPSA sets up designated pilot sites within the campus environment to serve as testing grounds for the healthcare management systems. These pilot sites are equipped with the necessary infrastructure, hardware, software, and network connectivity to support system usage and data exchange. UPSA collaborates with IT specialists, system administrators, and facility managers to ensure that pilot sites are configured according to specifications and aligned with organizational requirements. Pilot sites may include healthcare clinics, student health centers, administrative offices, and academic departments, allowing UPSA to assess system performance across different operational contexts and environments.

Provision of User Training:

Prior to commencing pilot testing, UPSA provides comprehensive user training to participants involved in the pilot phase. Training sessions cover system navigation, feature usage, data entry procedures, and best practices in system utilization. UPSA emphasizes hands-on learning experiences, interactive workshops, and practical exercises to familiarize users with the system's functionalities and workflows. Training materials, user manuals, and support resources are made available to participants to facilitate ongoing learning and reference. By investing in user training, UPSA ensures that pilot participants are equipped with the knowledge and skills needed to engage with the healthcare management systems effectively during the testing phase.

Collection of User Feedback:

Throughout the pilot implementation, UPSA actively solicits feedback from pilot participants to evaluate their experiences, identify usability issues, and gather suggestions for improvement. Feedback mechanisms may include surveys, focus group discussions, user interviews, and usability testing sessions. UPSA encourages participants to provide candid feedback on various aspects of the system, including user interface design, workflow efficiency, data accuracy, system reliability, and overall user satisfaction. Feedback collected during the pilot phase serves as valuable input for iterative refinement and enhancement of the healthcare management systems.

Iterative System Refinement:

Based on the feedback received from pilot participants, UPSA iteratively refines and enhances the healthcare management systems to address identified issues, optimize system performance, and align with user needs and preferences. This iterative refinement process may involve software updates, configuration adjustments, workflow modifications, and usability enhancements. UPSA

collaborates closely with system vendors, developers, and user representatives to prioritize and implement changes effectively. By adopting an agile approach to system refinement, UPSA ensures that the healthcare management systems evolve iteratively in response to user feedback and changing organizational requirements.

Evaluation of Pilot Outcomes:

At the conclusion of the pilot phase, UPSA conducts a comprehensive evaluation of pilot outcomes to assess the effectiveness, usability, and reliability of the healthcare management systems. Evaluation criteria may include system functionality, user satisfaction, data accuracy, workflow efficiency, system performance, and stakeholder engagement. UPSA analyzes pilot data, feedback, and performance metrics to identify strengths, weaknesses, opportunities, and threats associated with the systems. Lessons learned from the pilot phase inform decision-making processes and guide future implementation strategies, enabling UPSA to make informed decisions about system rollout and scaling efforts.

Scaling and Full-Scale Deployment:

Upon successful completion of the pilot phase and validation of system effectiveness, UPSA proceeds with scaling and full-scale deployment of healthcare management systems across the institution. This involves extending system access to additional user groups, expanding system functionalities, and integrating the systems with existing institutional infrastructure. UPSA leverages insights gained from the pilot phase to inform rollout strategies, training programs, and change management initiatives aimed at maximizing user adoption and acceptance. By building

upon the successes and lessons learned from the pilot phase, UPSA ensures a smooth transition to full-scale implementation and optimization of healthcare management systems.

Benefits of Phased and Pilot Implementations:

Phased and pilot implementations offer numerous benefits to the University of Professional Studies, Accra (UPSA), encompassing minimized disruptions, maximized user adoption, and enhanced quality and reliability of healthcare services. Through these iterative approaches, UPSA can systematically assess, refine, and optimize healthcare management systems, fostering continuous improvement and innovation in healthcare service delivery. The benefits of phased and pilot implementations extend beyond the initial deployment phase, positively impacting the institution's operational efficiency, stakeholder satisfaction, and overall organizational effectiveness. Below are detailed insights into the benefits UPSA derives from these implementation strategies:

Minimized Disruptions:

Phased and pilot implementations allow UPSA to minimize disruptions to ongoing operations by gradually introducing changes and enhancements to healthcare management systems. Rather than implementing large-scale changes all at once, UPSA can stagger implementation activities, focusing on specific functionalities, user groups, or departments at a time. This phased approach reduces the risk of system failures, workflow interruptions, and user resistance, ensuring a smoother transition to new systems while maintaining continuity in healthcare service delivery. By minimizing disruptions, UPSA mitigates potential negative impacts on student health outcomes, academic activities, and institutional productivity.

Maximized User Adoption:

Phased and pilot implementations facilitate maximized user adoption by actively involving stakeholders in the system development and deployment process. By engaging representative user groups in iterative testing, training, and feedback collection activities, UPSA promotes user participation, ownership, and acceptance of healthcare management systems. Pilot participants have the opportunity to experience firsthand the benefits of new systems, provide input on system design and functionality, and contribute to the identification of usability issues and improvement opportunities. This collaborative approach fosters a sense of empowerment, confidence, and trust among users, leading to higher levels of system utilization and satisfaction across the institution.

Improved Quality and Reliability of Healthcare Services:

Phased and pilot implementations enable UPSA to improve the quality and reliability of healthcare services by iteratively assessing system effectiveness, usability, and performance. Through iterative testing, refinement, and validation cycles, UPSA can identify and address issues, gaps, and inefficiencies in healthcare management systems before full-scale deployment. Pilot outcomes provide valuable insights into system functionality, user preferences, and operational requirements, allowing UPSA to make data-driven decisions and prioritize enhancements that enhance service quality and reliability. By continuously improving healthcare management systems, UPSA enhances its ability to deliver timely, accurate, and personalized healthcare services that meet the diverse needs of its student population.

Enhanced Organizational Learning and Adaptation:

Phased and pilot implementations foster enhanced organizational learning and adaptation by promoting a culture of continuous improvement and innovation at UPSA. Through iterative testing, evaluation, and refinement processes, UPSA cultivates a dynamic feedback loop where lessons learned from pilot outcomes inform future decision-making, system enhancements, and

strategic initiatives. This iterative approach encourages experimentation, flexibility, and resilience in the face of evolving challenges and opportunities. By embracing change and adaptation, UPSA positions itself as a learning organization capable of leveraging technology and best practices to drive positive outcomes in healthcare service delivery, student support, and institutional effectiveness.

Stakeholder Engagement and Collaboration:

Phased and pilot implementations foster stakeholder engagement and collaboration by actively involving users, administrators, IT specialists, and other stakeholders in the implementation process. By soliciting feedback, addressing concerns, and incorporating user input into system design and development decisions, UPSA builds trust, transparency, and alignment among stakeholders. Pilot participants become advocates for change, championing the adoption of healthcare management systems and driving cultural transformation within the institution. This collaborative approach strengthens partnerships, fosters interdisciplinary collaboration, and fosters a shared commitment to improving healthcare services and student outcomes at UPSA.

Informed Decision-making:

Throughout the implementation process of healthcare services at the University of Professional Studies, Accra (UPSA), informed decision-making serves as a guiding principle, driving strategic initiatives, optimizing resource allocation, and ensuring alignment with organizational goals and stakeholder needs. UPSA adopts a data-driven approach to decision-making, leveraging a wealth of information, insights, and feedback gathered from various sources, including system testing, stakeholder consultations, performance evaluations, and industry best practices. By analyzing quantitative data, qualitative feedback, and key performance indicators (KPIs), UPSA gains

valuable insights into the effectiveness, efficiency, and impact of healthcare services, enabling informed decisions that enhance service delivery and student well-being.

Thorough Assessments:

Informed decision-making at UPSA begins with thorough assessments of existing processes, systems, and organizational capabilities. Through comprehensive needs assessments, gap analyses, and SWOT (Strengths, Weaknesses, Opportunities, Threats) analyses, UPSA identifies areas for improvement, challenges, and opportunities in healthcare service delivery. These assessments provide a holistic understanding of the current state of affairs, informing decision-makers of the key factors influencing the implementation process and shaping strategic priorities moving forward.

Stakeholder Feedback:

UPSA actively solicits and incorporates stakeholder feedback throughout the implementation process, ensuring that decision-making is guided by the perspectives, priorities, and preferences of the student community, healthcare providers, administrators, and other key stakeholders. By conducting focus groups, surveys, town hall meetings, and one-on-one consultations, UPSA engages stakeholders in meaningful dialogues, gathers diverse viewpoints, and fosters a sense of ownership and collaboration. Stakeholder feedback serves as a valuable source of insights, informing decisions related to system design, functionality prioritization, and change management strategies.

Performance Evaluations:

Informed decision-making at UPSA is supported by ongoing performance evaluations, which assess the effectiveness, efficiency, and impact of healthcare services and systems. Through the analysis of performance metrics, key performance indicators (KPIs), and benchmarking data, UPSA evaluates the attainment of strategic objectives, identifies areas of success and improvement, and benchmarks performance against industry standards and best practices. Performance evaluations enable UPSA to make data-driven decisions regarding resource allocation, process optimization, and service enhancement initiatives, ensuring that healthcare services remain aligned with institutional goals and stakeholder expectations.

Adaptation to Organizational Needs:

UPSA prioritizes adaptability and flexibility in decision-making processes, recognizing the dynamic nature of organizational needs, technological advancements, and external factors shaping the healthcare landscape. By monitoring emerging trends, market dynamics, and regulatory changes, UPSA anticipates future challenges and opportunities, proactively adjusting implementation strategies and priorities accordingly. This proactive approach enables UPSA to remain agile and responsive to evolving demands, ensuring that healthcare services remain relevant, effective, and sustainable in a rapidly changing environment.

Alignment with Best Practices:

Informed decision-making at UPSA is informed by a commitment to leveraging industry best practices, standards, and evidence-based approaches in healthcare service delivery. By staying abreast of advancements in healthcare technology, quality improvement methodologies, and patient-centered care principles, UPSA benchmarks its practices against recognized benchmarks of excellence and innovation. This alignment with best practices ensures that decision-making

processes are informed by proven strategies, empirical evidence, and expert recommendations, enhancing the likelihood of successful implementation outcomes and positive impacts on student well-being.

About the system

The school medical system, developed using PHP and basic web development languages with MySQL DB as the database management system, embodies a comprehensive approach to managing healthcare services within our educational institution. It is meticulously crafted to streamline medical operations, prioritize patient care, and enhance overall health and well-being within our academic community.

The system's robust feature set makes it an indispensable tool for healthcare management, boasting capabilities such as patient information management, appointment scheduling, medical record keeping, and report generation. It empowers medical staff to efficiently access and update patient information, schedule appointments seamlessly, and generate insightful reports for informed decision-making.

Furthermore, the system's user-friendly interface ensures ease of use for medical staff and students alike, promoting seamless interaction and enhancing user satisfaction. Its scalable architecture and adaptable design enable it to evolve and meet the dynamic needs of our educational institution's healthcare environment.

In addition, the system prioritizes security, incorporating stringent access controls and authentication mechanisms to safeguard sensitive medical data and prevent unauthorized access.

In conclusion, the school medical system serves as a cornerstone in our commitment to providing exceptional healthcare services within our educational institution. Through its advanced features, intuitive design, and unwavering focus on security, the system stands poised to revolutionize healthcare management and promote a healthier campus community.

4.4.2 User Access Level

The school medical system is structured with distinct user access levels to cater to varying roles and responsibilities: administrator, medical staff, and students. Each access level is tailored with specific permissions and restrictions to ensure streamlined access to relevant features and data.

At the administrator level, comprehensive access is granted, allowing full control over the system's settings, user management, report generation, and other administrative tasks vital for efficient medical system management.

Medical staff, operating at a staff level, are granted limited yet essential access to manage patient information, schedule appointments, update medical records, and access reports. However, they are restricted from modifying system settings or user management functionalities.

Students, accessing the system at the guest level, have minimal access privileges, primarily limited to viewing their medical appointments, accessing relevant medical records.

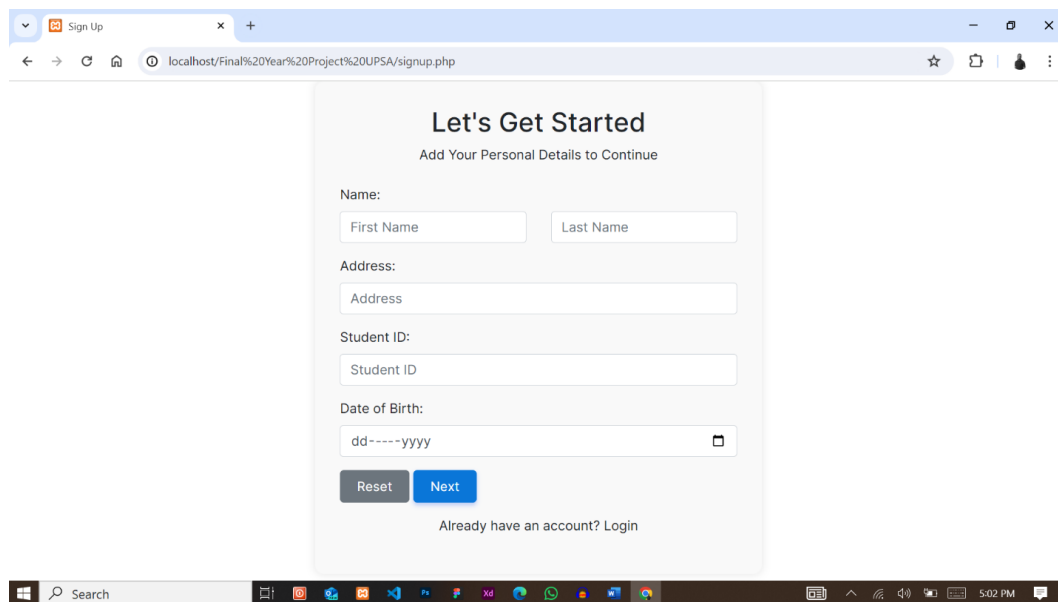
These distinct user access levels are meticulously designed to ensure adherence to role-specific functionalities, thereby enhancing system security and mitigating unauthorized access to sensitive medical data. Such a structured approach not only fosters efficient workflow management but also upholds stringent data protection standards within our educational healthcare environment.

4.4.3. Getting Started

Beginning with the school medical system is a seamless process, thanks to its intuitive interface designed for user convenience. Here's how users can kick start their journey with the system:

1. **Sign up and Log in to the System:** Users initiate their interaction by signing up and logging in securely to the system using their designated credentials.

Sign Up Page



The screenshot displays a web browser window with a single tab titled 'Sign Up'. The address bar shows the URL 'localhost/Final%20Year%20Project%20UPSA/signup.php'. The main content area features a light gray card with the heading 'Let's Get Started' and the subtext 'Add Your Personal Details to Continue'. The form includes the following fields: 'Name:' with 'First Name' and 'Last Name' sub-fields; 'Address:' with a single text field; 'Student ID:' with a single text field; and 'Date of Birth:' with a date picker showing 'dd-----yyyy'. At the bottom of the form are 'Reset' and 'Next' buttons. Below the buttons is a link that says 'Already have an account? Login'. The browser's taskbar at the bottom shows various application icons and the system clock indicating 5:02 PM.

Figure 5: Sign Up Page of the Proposed System

Login Page

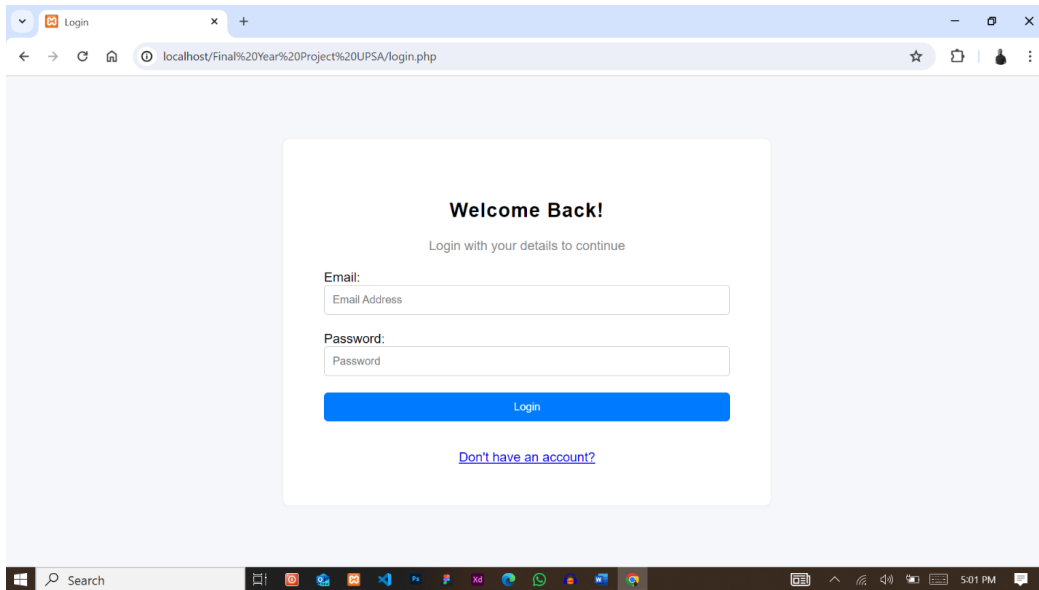


Figure 6:Login page of the Proposed System

2. **Navigate Dashboard:** Upon logging in, users are greeted with a clear and organized dashboard, providing easy access to essential features and functionalities.

Student Dashboard

Benjamin..
10281193@upsamail.edu.

Log out

- Home
- All Doctors
- Scheduled Sessions
- My Bookings
- Status
- Settings

Home

Today's Date
2024-04-09

Welcome!

Benjamin.

Don't have any idea about available doctors? no problem let's jumping to "All Doctors" section or "Sessions"
Track your past and future appointments history.
Also find out the expected arrival time of your doctor or medical consultant.

Channel a Doctor Here

Status

2

All Doctors

3

All Patients

Your Upcoming Booking

Appoint. Number	Session Title	Doctor	Scheduled Date & Time

Figure 7: Student Dashboard of the Proposed System

3. **Select Desired Action:** Users can effortlessly navigate through the menu options to select their desired actions, whether it's scheduling medical appointments, accessing medical records.

Booking Session

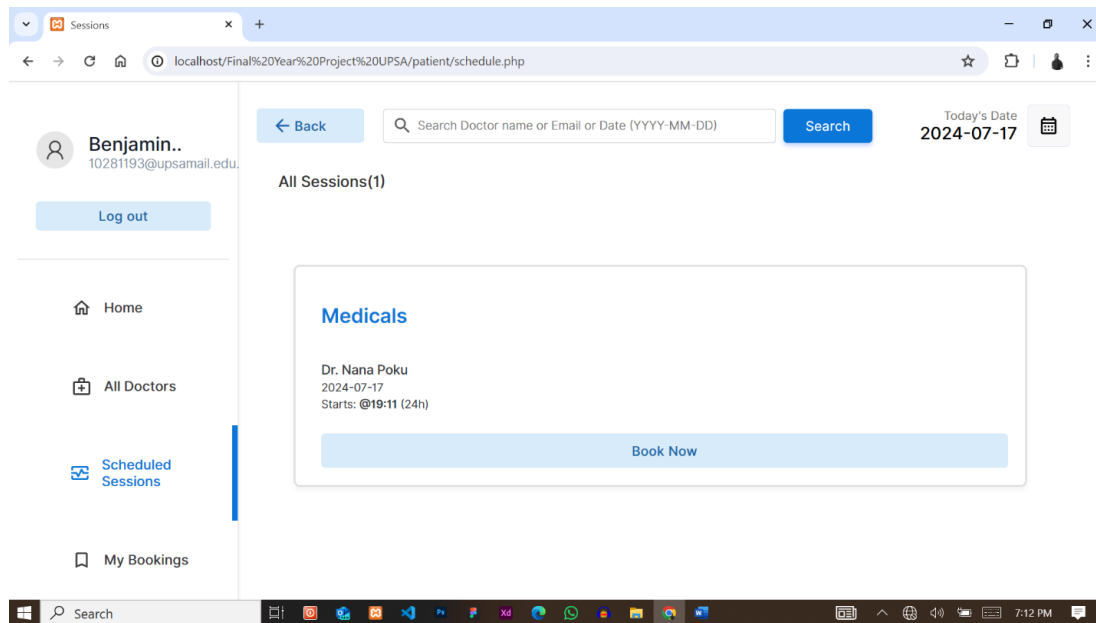


Figure 8: Booking session of the Proposed System

4. **Follow On-screen Prompts:** The system guides users through each step with clear and concise on-screen prompts, ensuring smooth navigation and task completion.

Medical Booking Session prompt

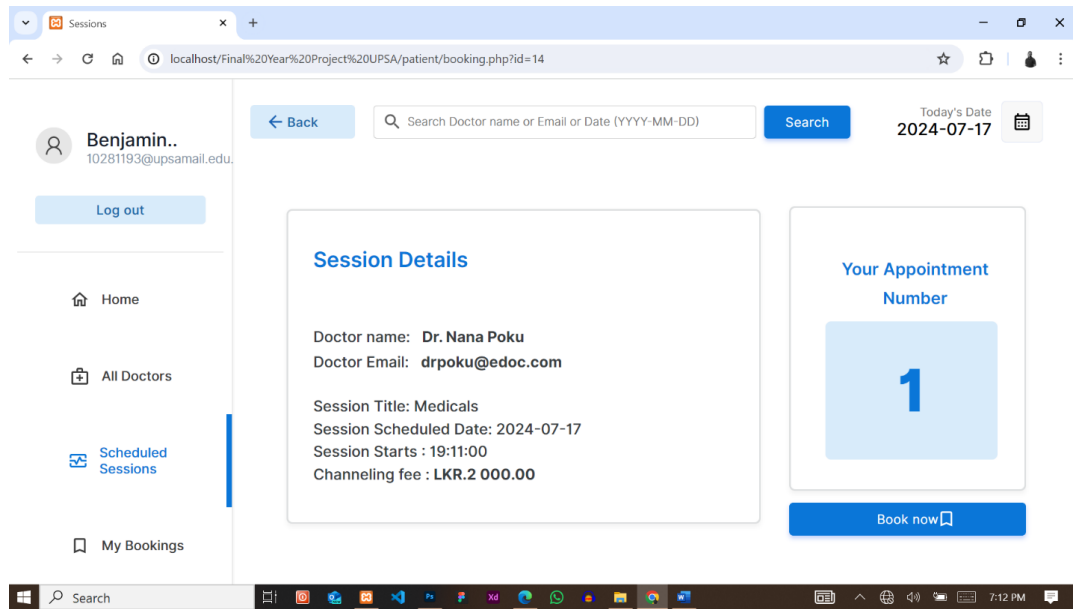


Figure 9: Successful medical booking session of the Proposed System

5. **Perform Tasks with Ease:** With the system's user-friendly design, users can perform their tasks efficiently, whether they are medical staff managing appointments or students accessing medical records.

Student Profile Update

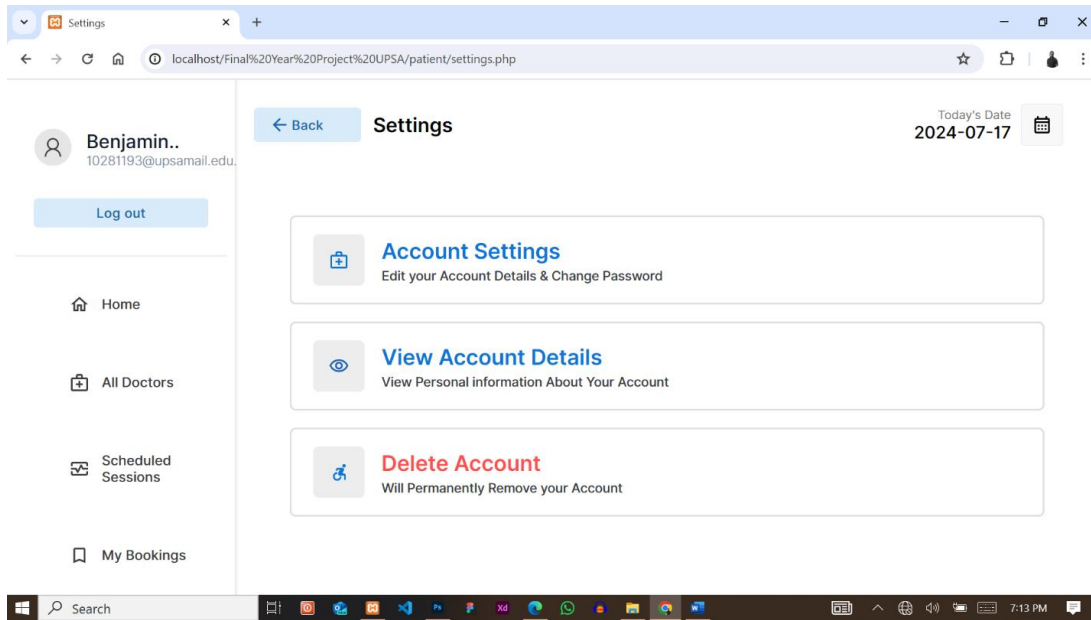


Figure 10:User profile settings of the Proposed System

By following these straightforward steps, users can quickly familiarize themselves with the school medical system and begin utilizing its capabilities to enhance healthcare management within our educational institution.

Other User Interfaces of the System:

Doctors Dashboard

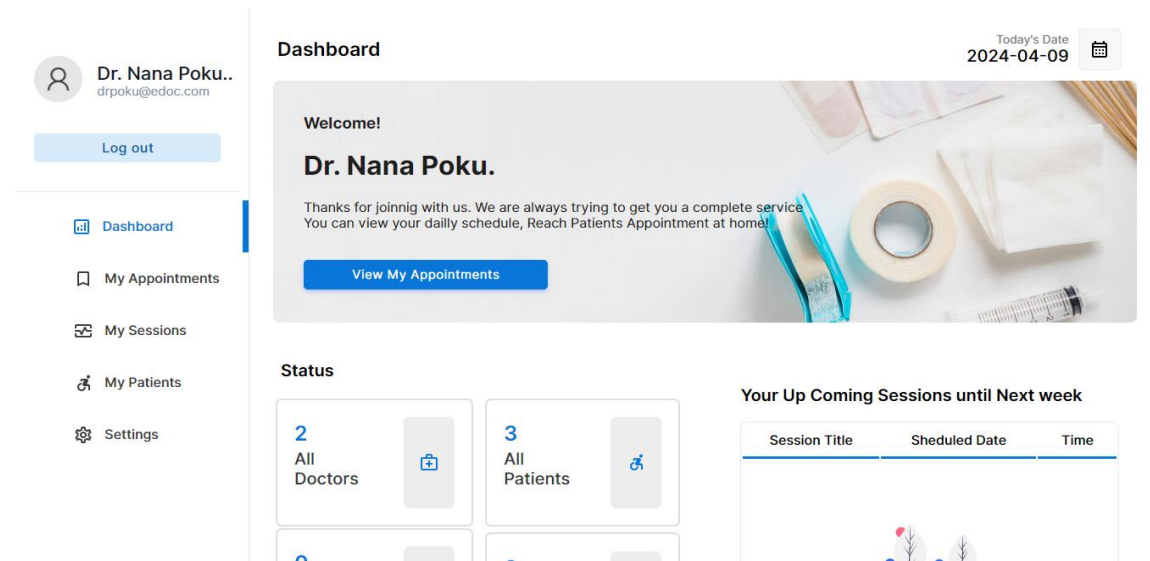


Figure 11: Doctor's Dashboard of the Proposed System

Appointment Manager On The Doctor's Page

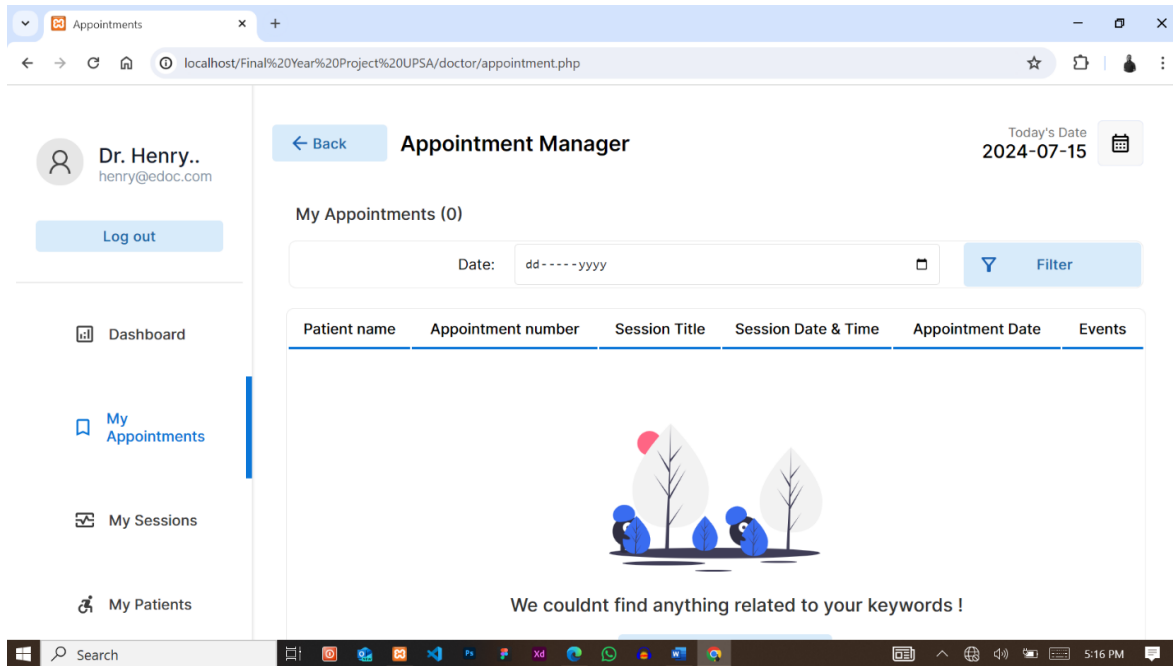


Figure 12: Appointment manager on doctor's page of the Proposed System

Session On The Doctor's Page

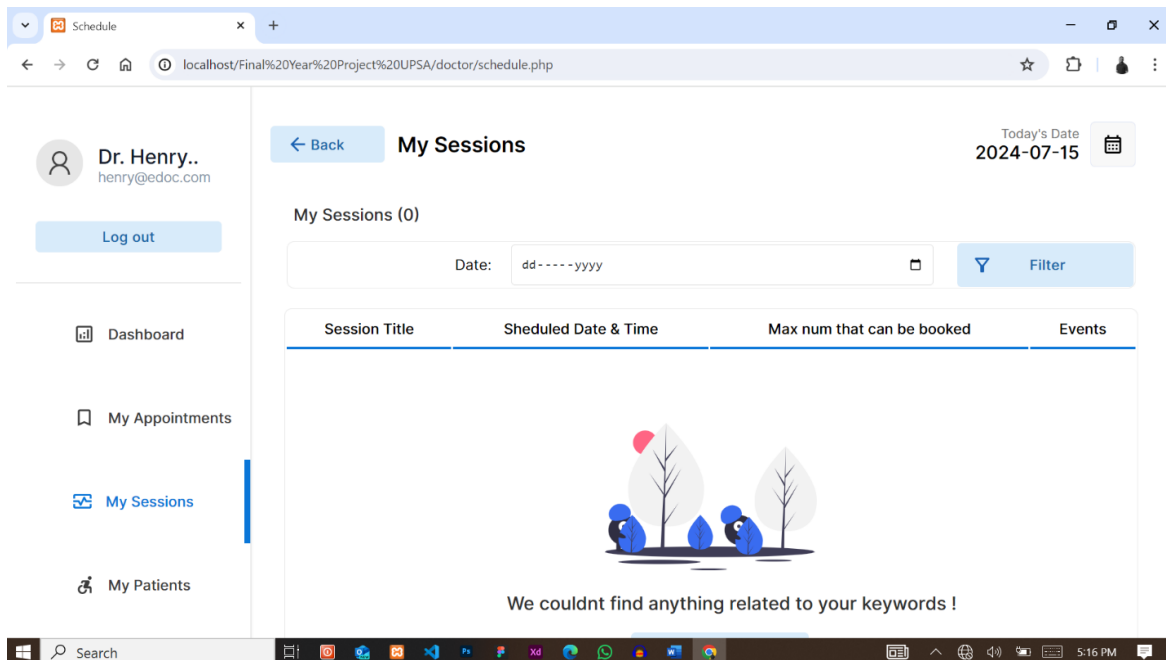


Figure 13: My Session on the Doctor's Page of the Proposed System

My Patients/Students On The Doctor's Page

Dr. Henry..
henry@edoc.com

Log out

Dashboard

My Appointments

My Sessions

My Patients

Back

Search Patient name or Email

Search

Today's Date
2024-07-15

my Patients (6)

Show Details About : My patients Only

Filter

Name	NIC	Telephone	Email	Date of Birth	Events
Francis Smith	10281195	0549490541	10281195@upsamail.ed	1999-06-03	View
Nana Poku	10281194	0549490541	10281194@gmail.com	2024-02-25	View
Benjamin	10281193	0549490541	10281193@upsamail.ed	2002-06-08	View
Alvin Yeboah	10281194	0549490541	10281194@upsamail.ed	2024-04-16	View
EMMA DOSU	10280931	0271002239	10280931@upsamail.ed	1999-08-21	View
DAVID KWAKU DOSU	10280512	0548086855	10280512@upsamail.ed	2014-01-28	View

Figure 14: My Patients on the Doctor's Page of the Proposed System

Administrator Dashboard

Administrator
admin@edoc.com

Log out

Dashboard

Doctors

Schedule

Appointment

Patients

Search Doctor name or Email

Search

Today's Date
2024-04-09

Status

2 Doctors

3 Patients

0 NewBooking

0 Today Sessions

Upcoming Appointments until Next Tuesday

Here's Quick access to Upcoming Appointments until 7 days
More details available in @Appointment section.

Upcoming Sessions until Next Tuesday

Here's Quick access to Upcoming Sessions that Scheduled until 7 days
Add, Remove and Many features available in @Schedule section.

Appointment number	Patient name	Doctor	Session
--------------------	--------------	--------	---------

Session Title	Doctor	Scheduled Date & Time
---------------	--------	-----------------------

Figure 15: Administrator Dashboard of the Proposed System

Add New Doctor on the Administrator Page

The screenshot shows a web browser window with the URL `localhost/Final%20Year%20Project%20UPSA/admin/doctors.php?action=add&id=none&error=0`. The page is titled 'Doctors' and features a sidebar with navigation links: Dashboard, Doctors, Schedule, and Appointment. The main content area displays a modal form titled 'Add New Doctor.' with the following fields:

- Name: Doctor Name
- Email: Email Address
- NIC: NIC Number
- Telephone: Telephone Number
- Choose specialties:

The background shows the Administrator's profile (admin@edoc.com) and a search bar for 'Search Doctor name or Email'. The date 'Today's Date 2024-07-15' is displayed in the top right corner.

Figure 16: Add New Doctor on the Administrator Page of the Proposed System

Add New Doctor Schedule on the Administration Page

The screenshot shows a web browser window with the URL `localhost/Final%20Year%20Project%20UPSA/admin/schedule.php?action=add-session&id=none&error=0`. The page is titled 'Schedule' and features a sidebar with navigation links: Dashboard, Doctors, Schedule, and Appointment. The main content area displays a modal form titled 'Add New Session.' with the following fields:

- Session Title : Name of this Session
- Select Doctor: Choose Doctor Name from the list
- Number of Patients/Appointment Numbers : The final appointment number for this session depen
- Session Date: dd- - - - yyyy
- Schedule Time: - - : - - -

The background shows the Administrator's profile (admin@edoc.com) and a search bar for 'Search Doctor name or Email'. The date 'Today's Date 2024-07-15' is displayed in the top right corner. The modal form includes 'Reset' and 'Place this Session' buttons at the bottom.

Figure 17: Add New Doctor Schedule on the Administrator Page of the Proposed System

Appointment Manager Dashboard on the Administration Page

Appointment Manager

Today's Date: 2024-07-15

All Appointments (4)

Date: dd-yyy Doctor: Choose Doctor Name from the list Filter

Patient name	Appointment number	Doctor	Session Title	Session Date & Time	Appointment Date	Events
DAVID KWAKU DOSU	2	Dr. Nana Poku	Medicals	2024-04-22 10:06	2024-04-22	Cancel

Figure 18: Appointment Manager on the Administrator Page of the Proposed System

All Patients Dashboard on the Administration Page

All Patients (6)

Search Patient name or Email Search

Today's Date: 2024-07-15

Name	NIC	Telephone	Email	Date of Birth	Events
DAVID KWAKU DOSU	10280512	0548086855	10280512@upsamail.ed	2014-01-28	View
EMMA DOSU	10280931	0271002239	10280931@upsamail.ed	1999-08-21	View
Alvin Yeboah	10281194	0549490541	10281194@upsamail.ed	2024-04-16	View
Francis Smith	10281195	0549490541	10281195@upsamail.ed	1999-06-03	View
Nana Poku	10281194	0549490541	10281194@gmail.com	2024-02-25	View
Benjamin	10281193	0549490541	10281193@upsamail.ed	2002-06-08	View

Figure 19: All Patients Dashboard on the Administrator Page of the Proposed System

Database of the proposed system

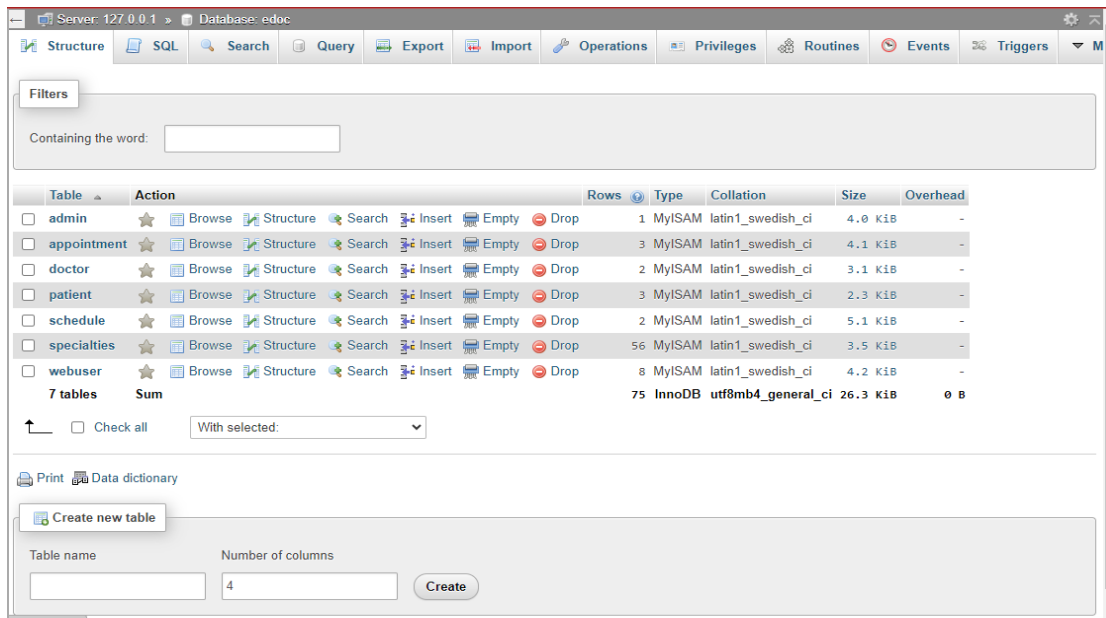


Figure 20: Database of Proposed System

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS:

5.1 Introduction

In conclusion of the development of the user-centric management system for UPSA Clinic, this chapter presents a conclusive statement and recommendations for further improvements. The creation of a user-centric management system for the UPSA clinic is a big step in the right direction for improving medical treatment for both employees and students. The project has established a basis for enhancing accessibility, effectiveness, and user contentment in the healthcare system thorough examination and execution in numerous crucial domains, including scheduling appointments, medical feedback procedures and information sharing. Modern technical solutions were applied to address all of the identified shortcomings, which included restricted access to service information and antiquated mechanisms for medical input. Through the implementation of an intuitive website and optimized workflows, the project seeks to address current inefficiencies that may have an impact on the academic performance and general well-being of the UPSA community.

5.2 Conclusion

In summary, UPSA can sustainably improve its healthcare services to satisfy the changing demands of its student and staff population by using technological improvements and unwavering adherence to user-centric design principles. Adopting these suggestions will promote a healthier and more productive campus environment in addition to strengthening UPSA's dedication to excellence in healthcare services. These strategic initiatives will be essential to UPSA's continued

innovation journey as it advances its healthcare agenda and solidifies its leadership position in higher education.

5.3 Recommendations

Various suggestions are put forward to augment the efficiency and durability of the UPSA healthcare management system, predicated on the conclusions and results of this investigation:

- i. The creation of a mobile application ought to take precedence in order to support the website, especially in light of the temporary delay brought about by scope constraints. This would give consumers who choose mobile platforms even greater accessibility and convenience.
- ii. Scalability and Hosting Solutions: You should move as quickly as possible from local server hosting to a more performance-focused and scalable hosting option. By doing this, you can make sure that the system is capable of handling future expansion and higher user needs.
- iii. Constant Feedback from Users: It's critical to put in place a strong system for gathering and analyzing user input. This will make it possible to continuously enhance and modify the system in response to the changing requirements and tastes of the UPSA community.
- iv. Integration of Additional Services: In addition to the integration of pharmacies, looking into potential partnerships or integrations of other healthcare services could improve the offerings of the UPSA healthcare platform and increase its value for customers.
- v. Instruction and Assistance: It is essential to give system administrators and users with sufficient instruction and assistance. This makes sure that everyone who has an interest in the platform may make the most of its features and advantages.

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APPENDIX

<!DOCTYPE html>

```

<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <link rel="stylesheet" href="../css/animations.css">
  <link rel="stylesheet" href="../css/main.css">
  <link rel="stylesheet" href="../css/admin.css">

  <title>Appointments</title>
  <style>
    .popup{
      animation: transitionIn-Y-bottom 0.5s;
    }
    .sub-table{
      animation: transitionIn-Y-bottom 0.5s;
    }
    .btn-edit.disabled {
      background-color: red;
      color: white;
      pointer-events: none;
      opacity: 0.1;
      cursor: not-allowed;
    }
  </style>
</head>
<body>

```

```
<?php
```

```
session_start();
```

```
if(isset($_SESSION["user"])){
```

```
    if(($_SESSION["user"]==" or $_SESSION['usertype']!= 'd'){
```

```
        header("location: ../login.php");
```

```
    }else{
```

```
        $useremail=$_SESSION["user"];
```

```
    }
```

```
}else{
```

```
    header("location: ../login.php");
```

```
}
```

```
//import database
```

```
include("../connection.php");
```

```
$userrow = $database->query("select * from doctor where docemail='$useremail'");
```

```
$userfetch=$userrow->fetch_assoc();
```

```
$userid= $userfetch["docid"];
```

```
$username=$userfetch["docname"];
```

```
//echo $userid;
```

```
?>
```

```
<div class="container">
```

```
    <div class="menu">
```

```
        <table class="menu-container" border="0">
```

```

<tr>
  <td style="padding:10px" colspan="2">
    <table border="0" class="profile-container">
      <tr>
        <td width="30%" style="padding-left:20px" >
          
        </td>
        <td style="padding:0px;margin:0px;">
          <p class="profile-title"><?php echo substr($username,0,13) ?>..</p>
          <p class="profile-subtitle"><?php echo substr($useremail,0,22) ?></p>
        </td>
      </tr>
      <tr>
        <td colspan="2">
          <a href="../logout.php" ><input type="button" value="Log out"
class="logout-btn btn-primary-soft btn"></a>
        </td>
      </tr>
    </table>
  </td>
</tr>
<tr class="menu-row" >
  <td class="menu-btn menu-icon-dashbord " >
    <a href="index.php" class="non-style-link-menu "><div><p class="menu-
text">Dashboard</p></a></div></a>
  </td>
</tr>
<tr class="menu-row">

```

```

        <td class="menu-btn menu-icon-appointment menu-active menu-icon-appointment-
active">
            <a href="appointment.php" class="non-style-link-menu non-style-link-menu-
active"><div><p class="menu-text">My Appointments</p></a></div>
        </td>
    </tr>

    <tr class="menu-row" >
        <td class="menu-btn menu-icon-session">
            <a href="schedule.php" class="non-style-link-menu"><div><p class="menu-
text">My Sessions</p></div></a>
        </td>
    </tr>

    <tr class="menu-row" >
        <td class="menu-btn menu-icon-patient">
            <a href="patient.php" class="non-style-link-menu"><div><p class="menu-
text">My Patients</p></a></div>
        </td>
    </tr>

    <tr class="menu-row" >
        <td class="menu-btn menu-icon-settings">
            <a href="settings.php" class="non-style-link-menu"><div><p class="menu-
text">Settings</p></a></div>
        </td>
    </tr>

</table>
</div>
<div class="dash-body">

```

```
<table border="0" width="100%" style=" border-spacing: 0;margin:0;padding:0;margin-top:25px; ">
```

```
<tr >
```

```
<td width="13%" >
```

```
<a href="appointment.php" ><button class="login-btn btn-primary-soft btn btn-icon-back" style="padding-top:11px;padding-bottom:11px;margin-left:20px;width:125px"><font class="tn-in-text">Back</font></button></a>
```

```
</td>
```

```
<td>
```

```
<p style="font-size: 23px;padding-left:12px;font-weight: 600;">Appointment Manager</p>
```

```
</td>
```

```
<td width="15%">
```

```
<p style="font-size: 14px;color: rgb(119, 119, 119);padding: 0;margin: 0;text-align: right;">
```

```
Today's Date
```

```
</p>
```

```
<p class="heading-sub12" style="padding: 0;margin: 0;">
```

```
<?php
```

```
date_default_timezone_set('Africa/Accra');
```

```
$today = date('Y-m-d');
```

```
echo $today;
```

```
$list110 = $database->query("select * from schedule inner join appointment on schedule.scheduleid=appointment.scheduleid inner join patient on patient.pid=appointment.pid inner join doctor on schedule.docid=doctor.docid where doctor.docid=$userid ");
```

```
?>
```

```

        </p>

    </td>

    <td width="10%">

        <button class="btn-label" style="display: flex; justify-content: center; align-items:
center;"></button>

    </td>

</tr>

<!-- <tr>

    <td colspan="4" >

        <div style="display: flex; margin-top: 40px;">

            <div class="heading-main12" style="margin-left: 45px; font-
size: 20px; color: rgb(49, 49, 49); margin-top: 5px;">Schedule a Session</div>

            <a href="?action=add-session&id=none&error=0" class="non-style-
link"><button class="login-btn btn-primary btn button-icon" style="margin-
left: 25px; background-image: url('../img/icons/add.svg');">Add a Session</font></button>

        </a>

    </div>

</td>

</tr> -->

<tr>

    <td colspan="4" style="padding-top: 10px; width: 100%;" >

        <p class="heading-main12" style="margin-left: 45px; font-size: 18px; color: rgb(49,
49, 49)">My Appointments (<?php echo $list110->num_rows; ?>)</p>

    </td>

</tr>

```

```

<tr>
  <td colspan="4" style="padding-top:0px;width: 100%;" >
    <center>
      <table class="filter-container" border="0" >
        <tr>
          <td width="10%">

            </td>
            <td width="5%" style="text-align: center;">
              Date:
            </td>
            <td width="30%">
              <form action="" method="post">

                <input type="date" name="sheduledate" id="date" class="input-text filter-
container-items" style="margin: 0;width: 95%;">

                </td>

                <td width="12%">
                  <input type="submit" name="filter" value=" Filter" class=" btn-primary-soft btn
button-icon btn-filter" style="padding: 15px; margin :0;width:100%">
                </form>
              </td>

            </tr>
          </table>

        </center>

```


</td>

</tr>

<?php

```
$sqlmain= "select
appointment.appoid,schedule.scheduleid,schedule.title,doctor.docname,patient.pname,schedule.s
cheduledate,schedule.scheduledtime,appointment.apponum,appointment.appodate,appointment.cl
ear_patient from schedule inner join appointment on
schedule.scheduleid=appointment.scheduleid inner join patient on patient.pid=appointment.pid
inner join doctor on schedule.docid=doctor.docid where doctor.docid=$userid ";
```

```
if($_POST){
```

```
    //print_r($_POST);
```

```
    if(!empty($_POST["sheduledate"])){
```

```
        $sheduledate=$_POST["sheduledate"];
```

```
        $sqlmain.=" and schedule.scheduledate='$sheduledate' ";
```

```
    };
```

```
    //echo $sqlmain;
```

```
}
```

?>

```

<tr>
  <td colspan="4">
    <center>
      <div class="abc scroll">
        <table width="93%" class="sub-table scrolldown" border="0">
          <thead>
            <tr>
              <th class="table-headin">
                Patient name
              </th>
              <th class="table-headin">
                Appointment number
              </th>
              <th class="table-headin">
                Session Title
              </th>
              <th class="table-headin" >
                Session Date & Time

```

```
</th>
```

```
<th class="table-headin">
```

Appointment Date

```
</th>
```

```
<th class="table-headin">
```

Events

```
</tr>
```

```
</thead>
```

```
<tbody>
```

```
<?php
```

```
$result= $database->query($sqlmain);
```

```
if($result->num_rows==0){
```

```
    echo '<tr>
```

```
        <td colspan="7">
```

```
            <br><br><br><br>
```

```
            <center>
```

```
                
```

```

        <br>

        <p class="heading-main12" style="margin-left: 45px;font-size:20px;color:rgb(49, 49, 49)">We couldnt find anything related to your keywords !</p>

        <a class="non-style-link" href="appointment.php"><button class="login-btn btn-primary-soft btn" style="display: flex;justify-content: center;align-items: center;margin-left:20px;">&nbsp; Show all Appointments &nbsp;</font></button>

    </a>

</center>

<br><br><br><br>

</td>

</tr>';

}

else{
for ( $x=0; $x<$result->num_rows;$x++){
    $row=$result->fetch_assoc();
    $appoid=$row["appoid"];
    $scheduleid=$row["scheduleid"];
    $title=$row["title"];
    $docname=$row["docname"];
    $scheduledate=$row["scheduledate"];
    $schedulescheduletime=$row["scheduletime"];
    $pname=$row["pname"];
    $apponum=$row["apponum"];
    $appodate=$row["appodate"];
    $clear_patient=$row["clear_patient"];

    $passButtonDisabled = ($clear_patient == 1) ? 'disabled' : '';
    echo '<tr >

```



```

        </table>

    </div>

</div>

<?php

if($_GET){
    $id=$_GET["id"];
    $action=$_GET["action"];
    if($action=='add-session'){

        echo '

        <div id="popup1" class="overlay">
            <div class="popup">
                <center>

                    <a class="close" href="schedule.php">&times;</a>
                    <div style="display: flex;justify-content: center;">
                        <div class="abc">
                            <table width="80%" class="sub-table scrolldown add-doc-form-container"
border="0">
                                <tr>
                                    <td class="label-td" colspan="2">'.
                                    ""

                                    .'</td>
                                </tr>

                                <tr>

```

```

        <td>
            <p style="padding: 0;margin: 0;text-align: left;font-size: 25px;font-
weight: 500;">Add New Session.</p><br>
        </td>
    </tr>
    <tr>
        <td class="label-td" colspan="2">
            <form action="add-session.php" method="POST" class="add-new-form">
                <label for="title" class="form-label">Session Title : </label>
            </td>
        </tr>
        <tr>
            <td class="label-td" colspan="2">
                <input type="text" name="title" class="input-text" placeholder="Name of
this Session" required><br>
            </td>
        </tr>
        <tr>
            <td class="label-td" colspan="2">
                <label for="docid" class="form-label">Select Doctor: </label>
            </td>
        </tr>
        <tr>
            <td class="label-td" colspan="2">
                <select name="docid" id="" class="box" >
                    <option value="" disabled selected hidden>Choose Doctor Name from the
list</option><br/>';

```



```

$list11 = $database->query("select * from doctor;");

for ($y=0;$y<$list11->num_rows;$y++){
    $row00=$list11->fetch_assoc();
    $sn=$row00["docname"];
    $id00=$row00["docid"];
    echo "<option value=".$id00.">$sn</option><br/>";
};

echo '    </select><br><br>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <label for="nop" class="form-label">Number of Patients/Appointment
Numbers : </label>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <input type="number" name="nop" class="input-text" min="0"
placeholder="The final appointment number for this session depends on this number"
required><br>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <label for="date" class="form-label">Session Date: </label>

```



```

        </form>

    </tr>

</table>

</div>

</div>

</center>

<br><br>

</div>

</div>

';

}elseif($action=='session-added'){

    $titleget=$_GET["title"];

    echo '

<div id="popup1" class="overlay">

    <div class="popup">

        <center>

        <br><br>

        <h2>Session Placed.</h2>

        <a class="close" href="schedule.php">&times;</a>

        <div class="content">

            '.substr($titleget,0,40).' was scheduled.<br><br>

        </div>

        <div style="display: flex;justify-content: center;">

            <a href="schedule.php" class="non-style-link"><button class="btn-primary btn"
style="display: flex;justify-content: center;align-items:

```

[illegible]


```

<a class="close" href="doctors.php">&times;</a>

<div class="content">
    eDoc Web App<br>

</div>

<div style="display: flex;justify-content: center;">
<table width="80%" class="sub-table scrollldown add-doc-form-container"
border="0">

    <tr>
        <td>
            <p style="padding: 0;margin: 0;text-align: left;font-size: 25px;font-
weight: 500;">View Details.</p><br><br>
        </td>
    </tr>

    <tr>

        <td class="label-td" colspan="2">
            <label for="name" class="form-label">Name: </label>
        </td>
    </tr>

    <tr>
        <td class="label-td" colspan="2">
            '.$name.'<br><br>
        </td>
    </tr>

    </tr>

    <tr>

```

```

<td class="label-td" colspan="2">
    <label for="Email" class="form-label">Email: </label>
</td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        '.$email.'<br><br>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <label for="nic" class="form-label">NIC: </label>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        '.$nic.'<br><br>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <label for="Tele" class="form-label">Telephone: </label>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        '.$tele.'<br><br>
    </td>

```



```

</tr>

<tr>

  <td class="label-td" colspan="2">

    <label for="spec" class="form-label">Specialties: </label>


  </td>

</tr>

<tr>

  <td class="label-td" colspan="2">

    '.$spcil_name.'<br><br>

  </td>

</tr>

<tr>

  <td colspan="2">

    <a href="doctors.php"><input type="button" value="OK" class="login-
btn btn-primary-soft btn" ></a>


  </td>

</tr>

</table>

</div>

</center>

<br><br>

</div>

</div>

```

```

        ;
    }
}

?>

</div>

</body>
</html>

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="../css/animations.css">
    <link rel="stylesheet" href="../css/main.css">
    <link rel="stylesheet" href="../css/admin.css">

    <title>Doctors</title>
    <style>
        .popup{
            animation: transitionIn-Y-bottom 0.5s;
        }
        .sub-table{
            animation: transitionIn-Y-bottom 0.5s;

```

```

    }
</style>
</head>
<body>
    <?php

        session_start();

        if(isset($_SESSION["user"])){
            if(($_SESSION["user"]==" or $_SESSION['usertype']!= 'a'){
                //header("location: ../login.php");
            }else{
                $useremail=$_SESSION["user"];
            }

        }else{
            header("location: ../login.php");
        }

        //import database
        include("../connection.php");

    ?>

    <div class="container">

```

```

<div class="menu">
  <table class="menu-container" border="0">
    <tr>
      <td style="padding:10px" colspan="2">
        <table border="0" class="profile-container">
          <tr>
            <td width="30%" style="padding-left:20px" >
              
            </td>
            <td style="padding:0px;margin:0px;">
              <p class="profile-title">Administrator</p>
              <p class="profile-subtitle">admin@edoc.com</p>
            </td>
          </tr>
          <tr>
            <td colspan="2">
              <a href="../logout.php" ><input type="button" value="Log out"
class="logout-btn btn-primary-soft btn"></a>
            </td>
          </tr>
        </table>
      </td>
    </tr>
    <tr class="menu-row" >
      <td class="menu-btn menu-icon-dashbord" >
        <a href="index.php" class="non-style-link-menu"><div><p class="menu-
text">Dashboard</p></a></div></a>

```

```

        </td>
    </tr>
    <tr class="menu-row">
        <td class="menu-btn menu-icon-doctor menu-active menu-icon-doctor-active">
            <a href="doctors.php" class="non-style-link-menu non-style-link-menu-
active"><div><p class="menu-text">Doctors</p></a></div>
        </td>
    </tr>
    <tr class="menu-row" >
        <td class="menu-btn menu-icon-schedule">
            <a href="schedule.php" class="non-style-link-menu"><div><p class="menu-
text">Schedule</p></div></a>
        </td>
    </tr>
    <tr class="menu-row">
        <td class="menu-btn menu-icon-appointment">
            <a href="appointment.php" class="non-style-link-menu"><div><p class="menu-
text">Appointment</p></a></div>
        </td>
    </tr>
    <tr class="menu-row" >
        <td class="menu-btn menu-icon-patient">
            <a href="patient.php" class="non-style-link-menu"><div><p class="menu-
text">Patients</p></a></div>
        </td>
    </tr>

</table>
</div>
<div class="dash-body">

```



```

        <input type="Submit" value="Search" class="login-btn btn-primary btn"
style="padding-left: 25px;padding-right: 25px;padding-top: 10px;padding-bottom: 10px;">

    </form>

</td>

<td width="15%">
    <p style="font-size: 14px;color: rgb(119, 119, 119);padding: 0;margin: 0;text-
align: right;">
        Today's Date
    </p>
    <p class="heading-sub12" style="padding: 0;margin: 0;">
        <?php
date_default_timezone_set('Africa/Accra');

$date = date('Y-m-d');
echo $date;
?>
    </p>
</td>

<td width="10%">
    <button class="btn-label" style="display: flex;justify-content: center;align-items:
center;"></button>
</td>

</tr>

```

```

<tr >

    <td colspan="2" style="padding-top:30px;">

        <p class="heading-main12" style="margin-left: 45px;font-size:20px;color:rgb(49,
49, 49)">Add New Doctor</p>

    </td>

    <td colspan="2">

        <a href="?action=add&id=none&error=0" class="non-style-link"><button
class="login-btn btn-primary btn button-icon" style="display: flex;justify-content: center;align-
items: center;margin-left:75px;background-image: url('../img/icons/add.svg');">Add
New</font></button>

        </a></td>

</tr>

<tr>

    <td colspan="4" style="padding-top:10px;">

        <p class="heading-main12" style="margin-left: 45px;font-size:18px;color:rgb(49,
49, 49)">All Doctors (<?php echo $list11->num_rows; ?>)</p>

    </td>

</tr>

<?php
    if($_POST){
        $keyword=$_POST["search"];

        $sqlmain= "select * from doctor where docemail='$keyword' or
docname='$keyword' or docname like '$keyword%' or docname like '%$keyword' or docname
like '%$keyword%'";

        }else{
            $sqlmain= "select * from doctor order by docid desc";

        }

```


?>

<tr>

<td colspan="4">

<center>

<div class="abc scroll">

<table width="93%" class="sub-table scrolldown" border="0">

<thead>

<tr>

<th class="table-headin">

Doctor Name

</th>

<th class="table-headin">

Email

</th>

<th class="table-headin">

Specialties

</th>

<th class="table-headin">

Events

</tr>

```

</thead>

<tbody>

<?php

$result= $database->query($sqlmain);

if($result->num_rows==0){
    echo '<tr>
    <td colspan="4">
    <br><br><br><br>
    <center>
    

    <br>
    <p class="heading-main12" style="margin-left: 45px;font-
size:20px;color:rgb(49, 49, 49)">We couldnt find anything related to your keywords !</p>
    <a class="non-style-link" href="doctors.php"><button class="login-btn
btn-primary-soft btn" style="display: flex;justify-content: center;align-items: center;margin-
left:20px;">&nbsp; Show all Doctors &nbsp;</font></button>
    </a>
    </center>
    <br><br><br><br>
    </td>
    </tr>';

}

else{

```



```
if($_GET){

    $id=$_GET["id"];
    $action=$_GET["action"];
    if($action=='drop'){
        $nameget=$_GET["name"];
        echo '
<div id="popup1" class="overlay">
    <div class="popup">
        <center>
            <h2>Are you sure?</h2>
            <a class="close" href="doctors.php">&times;</a>
            <div class="content">
                You want to delete this record<br>(' .substr($nameget,0,40).').

            </div>
            <div style="display: flex;justify-content: center;">
                <a href="delete-doctor.php?id='.$id.'" class="non-style-link"><button
class="btn-primary btn" style="display: flex;justify-content: center;align-items:
center;margin: 10px;padding: 10px;"><font class="tn-in-
text">&nbsp;Yes&nbsp;</font></button></a>&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&~
                <a href="doctors.php" class="non-style-link"><button class="btn-primary btn"
style="display: flex;justify-content: center;align-items:
center;margin: 10px;padding: 10px;"><font class="tn-in-
text">&nbsp;No&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&~</font></button></a>

            </div>
        </center>
    </div>
</div>
```

```

';
}elseif($action=='view'){
    $sqlmain= "select * from doctor where docid='$id'";
    $result= $database->query($sqlmain);
    $row=$result->fetch_assoc();
    $name=$row["docname"];
    $email=$row["docemail"];
    $spe=$row["specialties"];

    $spcil_res= $database->query("select sname from specialties where id='$spe'");
    $spcil_array= $spcil_res->fetch_assoc();
    $spcil_name=$spcil_array["sname"];
    $nic=$row['docnic'];
    $tele=$row['doctel'];
    echo '
<div id="popup1" class="overlay">
    <div class="popup">
        <center>
            <h2></h2>
            <a class="close" href="doctors.php">&times;</a>
            <div class="content">
                eDoc Web App<br>

            </div>
            <div style="display: flex;justify-content: center;">
                <table width="80%" class="sub-table scrollldown add-doc-form-container"
border="0">

                    <tr>

```

```

        <td>
            <p style="padding: 0;margin: 0;text-align: left;font-size: 25px;font-
weight: 500;">View Details.</p><br><br>
        </td>
    </tr>

    <tr>

        <td class="label-td" colspan="2">
            <label for="name" class="form-label">Name: </label>
        </td>
    </tr>

    <tr>
        <td class="label-td" colspan="2">
            '.$name.'<br><br>
        </td>

    </tr>

    <tr>
        <td class="label-td" colspan="2">
            <label for="Email" class="form-label">Email: </label>
        </td>
    </tr>

    <tr>
        <td class="label-td" colspan="2">
            '.$email.'<br><br>
        </td>
    </tr>

    <tr>

```

```

<td class="label-td" colspan="2">
    <label for="nic" class="form-label">NIC: </label>
</td>
</tr>
<tr>
<td class="label-td" colspan="2">
    '.$nic.'<br><br>
</td>
</tr>
<tr>
<td class="label-td" colspan="2">
    <label for="Tele" class="form-label">Telephone: </label>
</td>
</tr>
<tr>
<td class="label-td" colspan="2">
    '.$tele.'<br><br>
</td>
</tr>
<tr>
<td class="label-td" colspan="2">
    <label for="spec" class="form-label">Specialties: </label>
</td>
</tr>
<tr>
<td class="label-td" colspan="2">
    '.$specil_name.'<br><br>

```



```

        </td>

    </tr>

    <tr>

        <td colspan="2">

            <a href="doctors.php"><input type="button" value="OK" class="login-
btn btn-primary-soft btn" ></a>

```

```

        </td>

```

```

    </tr>

```

```

</table>

```

```

</div>

```

```

</center>

```

```

<br><br>

```

```

</div>

```

```

</div>

```

```

';

```

```

}elseif($action=='add'){

```

```

    $error_1=$_GET["error"];

```

```

    $errorlist= array(

```

```

        '1'=><label for="promter" class="form-label" style="color:rgb(255, 62, 62);text-align:center;">Already have an account for this Email address.</label>',

```

```

        '2'=><label for="promter" class="form-label" style="color:rgb(255, 62, 62);text-align:center;">Password Conformation Error! Reconform Password</label>',

```

```

        '3'=><label for="promter" class="form-label" style="color:rgb(255, 62, 62);text-align:center;"></label>',

```

```

        '4'=>""

```

```

'0'=>",

);
if($error_1!='4'){
echo '
<div id="popup1" class="overlay">
    <div class="popup">
        <center>

            <a class="close" href="doctors.php">&times;</a>
            <div style="display: flex;justify-content: center;">
                <div class="abc">
                    <table width="80%" class="sub-table scrolldown add-doc-form-container"
border="0">
                        <tr>
                            <td class="label-td" colspan="2">'.
                                $errorlist[$error_1]
                            .'</td>
                        </tr>
                        <tr>
                            <td>
                                <p style="padding: 0;margin: 0;text-align: left;font-size: 25px;font-
weight: 500;">Add New Doctor.</p><br><br>
                            </td>
                        </tr>

                        <tr>
                            <form action="add-new.php" method="POST" class="add-new-form">
                                <td class="label-td" colspan="2">

```

```

        <label for="name" class="form-label">Name: </label>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <input type="text" name="name" class="input-text" placeholder="Doctor
Name" required><br>
    </td>

</tr>
<tr>
    <td class="label-td" colspan="2">
        <label for="Email" class="form-label">Email: </label>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <input type="email" name="email" class="input-text" placeholder="Email
Address" required><br>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <label for="nic" class="form-label">NIC: </label>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">

```

```
        <input type="text" name="nic" class="input-text" placeholder="NIC  
Number" required><br>
```

```
    </td>
```

```
</tr>
```

```
<tr>
```

```
    <td class="label-td" colspan="2">
```

```
        <label for="Tele" class="form-label">Telephone: </label>
```

```
    </td>
```

```
</tr>
```

```
<tr>
```

```
    <td class="label-td" colspan="2">
```

```
        <input type="tel" name="Tele" class="input-text"  
placeholder="Telephone Number" required><br>
```

```
    </td>
```

```
</tr>
```

```
<tr>
```

```
    <td class="label-td" colspan="2">
```

```
        <label for="spec" class="form-label">Choose specialties: </label>
```

```
    </td>
```

```
</tr>
```

```
<tr>
```

```
    <td class="label-td" colspan="2">
```

```
        <select name="spec" id="" class="box" >';
```

```
$list11 = $database->query("select * from specialties;");
```

```
for ($y=0;$y<$list11->num_rows;$y++){
```

```

$row00=$list11->fetch_assoc();
$sn=$row00["sname"];
$id00=$row00["id"];
echo "<option value=\".$id00.\">$sn</option><br/>";
};

```

```

echo '    </select><br>
        </td>
    </tr>
    <tr>
        <td class="label-td" colspan="2">
            <label for="password" class="form-label">Password: </label>
        </td>
    </tr>
    <tr>
        <td class="label-td" colspan="2">
            <input type="password" name="password" class="input-text"
placeholder="Defind a Password" required><br>
        </td>
    </tr><tr>
        <td class="label-td" colspan="2">
            <label for="cpassword" class="form-label">Conform Password: </label>
        </td>
    </tr>
    <tr>
        <td class="label-td" colspan="2">

```

[illegible]


```

$email=$row["docemail"];
$spe=$row["specialties"];

$spcil_res= $database->query("select sname from specialties where id='$spe'");
$spcil_array= $spcil_res->fetch_assoc();
$spcil_name=$spcil_array["sname"];
$nic=$row['docnic'];
$tele=$row['doctel'];

$error_1=$_GET["error"];

$errorlist= array(
    '1'=><label for="promter" class="form-label" style="color:rgb(255, 62, 62);text-align:center;">Already have an account for this Email address.</label>',
    '2'=><label for="promter" class="form-label" style="color:rgb(255, 62, 62);text-align:center;">Password Conformation Error! Reconform Password</label>',
    '3'=><label for="promter" class="form-label" style="color:rgb(255, 62, 62);text-align:center;"></label>',
    '4'=>"",
    '0'=>,

);

if($error_1!='4'){
    echo '
    <div id="popup1" class="overlay">
        <div class="popup">
            <center>

            <a class="close" href="doctors.php">&times;</a>
    
```



```

<div style="display: flex;justify-content: center;">
<div class="abc">
<table width="80%" class="sub-table scrolldown add-doc-form-container"
border="0">
<tr>
<td class="label-td" colspan="2">'.
$errorlist[$error_1]
.'</td>
</tr>
<tr>
<td>
<p style="padding: 0;margin: 0;text-align: left;font-size: 25px;font-
weight: 500;">Edit Doctor Details.</p>
Doctor ID : '.$id.' (Auto Generated)<br><br>
</td>
</tr>
<tr>
<td class="label-td" colspan="2">
<form action="edit-doc.php" method="POST" class="add-new-
form">
<label for="Email" class="form-label">Email: </label>
<input type="hidden" value="'.$id.'" name="id00">
</td>
</tr>
<tr>
<td class="label-td" colspan="2">
<input type="email" name="email" class="input-text"
placeholder="Email Address" value="'.$email.'" required><br>
</td>
</tr>

```

```

<tr>

    <td class="label-td" colspan="2">
        <label for="name" class="form-label">Name: </label>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <input type="text" name="name" class="input-text"
placeholder="Doctor Name" value="".$name." required><br>
    </td>

</tr>

<tr>
    <td class="label-td" colspan="2">
        <label for="nic" class="form-label">NIC: </label>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <input type="text" name="nic" class="input-text" placeholder="NIC
Number" value="".$nic." required><br>
    </td>
</tr>
<tr>
    <td class="label-td" colspan="2">
        <label for="Tele" class="form-label">Telephone: </label>
    </td>

```

```

</tr>

<tr>

<td class="label-td" colspan="2">

<input type="tel" name="Tele" class="input-text"
placeholder="Telephone Number" value="".$tele." required><br>

</td>

</tr>

<tr>

<td class="label-td" colspan="2">

<label for="spec" class="form-label">Choose specialties:
(Current'.$spcil_name.)</label>

</td>

</tr>

<tr>

<td class="label-td" colspan="2">

<select name="spec" id="" class="box">';

$list11 = $database->query("select * from specialties;");

for ($y=0;$y<$list11->num_rows;$y++){
    $row00=$list11->fetch_assoc();
    $sn=$row00["sname"];
    $id00=$row00["id"];
    echo "<option value=".$id00.">$sn</option><br/>";
};

```

```

echo    '    </select><br><br>
        </td>
      </tr>
    <tr>
      <td class="label-td" colspan="2">
        <label for="password" class="form-label">Password: </label>
      </td>
    </tr>
    <tr>
      <td class="label-td" colspan="2">
        <input type="password" name="password" class="input-text"
placeholder="Defind a Password" required><br>
      </td>
    </tr><tr>
      <td class="label-td" colspan="2">
        <label for="cpassword" class="form-label">Conform Password:
</label>
      </td>
    </tr>
    <tr>
      <td class="label-td" colspan="2">
        <input type="password" name="cpassword" class="input-text"
placeholder="Conform Password" required><br>
      </td>
    </tr>

    <tr>

```



```

//import database
include("../connection.php");

if($_POST){
    //print_r($_POST);
    $result= $database->query("select * from webuser");
    $name=$_POST['name'];
    $oldemail=$_POST["oldemail"];
    $nic=$_POST['nic'];
    $spec=$_POST['spec'];
    $email=$_POST['email'];
    $tele=$_POST['Tele'];
    $password=$_POST['password'];
    $cpassword=$_POST['cpassword'];
    $id=$_POST['id00'];

    if ($password==$cpassword){
        $error='3';

        $result= $database->query("select doctor.docid from doctor inner join webuser on
doctor.docemail=webuser.email where webuser.email='$email'");

        //$resultqq= $database->query("select * from doctor where docid='$id'");
        if($result->num_rows==1){
            $id2=$result->fetch_assoc()["docid"];
        }else{
            $id2=$id;
        }
    }
}

```

```

echo $id2."jdfjdfdh";
if($id2!=$id){
    $error='1';

    //$resultqq1= $database->query("select * from doctor where docemail='$email'");

    //$did= $resultqq1->fetch_assoc()["docid"];

    //if($resultqq1->num_rows==1){

}

        // $sql1="insert into doctor(docemail,docname,dopassword,docnic,doctel,specialties)
        values('$email','$name','$password','$nic','$tele','$spec)";

        $sql1="update doctor set
        docemail='$email',docname='$name',dopassword='$password',docnic='$nic',doctel='$tele',speci
        alties=$spec where docid=$id ";

        $database->query($sql1);

        $sql1="update webuser set email='$email' where email='$oldemail' ";

        $database->query($sql1);

        echo $sql1;

        //echo $sql2;

        $error= '4';

    }

}

}

}

```



```
}else{  
    //header('location: signup.php');  
    $error='3';  
}
```

```
header("location: settings.php?action=edit&error=".$error."&id=".$id);  
?>
```

```
</body>
```

```
</html>
```

```
<?php
```

```
//import database  
include("../connection.php");  
  
if($_POST){  
    //print_r($_POST);  
    $result= $database->query("select * from webuser");  
    $name=$_POST['name'];  
    $oldemail=$_POST['oldemail'];  
    $nic=$_POST['nic'];  
    $spec=$_POST['spec'];  
    $email=$_POST['email'];  
    $tele=$_POST['Tele'];
```

```

$password=$_POST['password'];
$password=$_POST['cpassword'];
$id=$_POST['id00'];

if ($password==$cpassword){
    $error='3';

    $result= $database->query("select doctor.docid from doctor inner join webuser on
doctor.docemail=webuser.email where webuser.email='$email'");

    //$resultqq= $database->query("select * from doctor where docid='$id'");
    if($result->num_rows==1){
        $id2=$result->fetch_assoc()["docid"];
    }else{
        $id2=$id;
    }

    echo $id2."jdfjdfdh";

    if($id2!=$id){
        $error='1';

        //$resultqq1= $database->query("select * from doctor where docemail='$email'");
        //$did= $resultqq1->fetch_assoc()["docid"];
        //if($resultqq1->num_rows==1){

    }else{

        //$sql1="insert into doctor(docemail,docname,dopassword,docnic,doctel,specialties)
values('$email','$name','$password','$nic','$tele',$spec)";

        $sql1="update doctor set
docemail='$email',docname='$name',dopassword='$password',docnic='$nic',doctel='$tele',speci
alties=$spec where docid=$id ";

        $database->query($sql1);
    }
}

```

```

        $sql1="update webuser set email='$email' where email='$oldemail' ";
        $database->query($sql1);

        echo $sql1;
        //echo $sql2;
        $error= '4';

    }

    }else{
        $error='2';
    }

    }else{
        //header('location: signup.php');
        $error='3';
    }

    header("location: settings.php?action=edit&error=".$error."&id=".$id);
    ?>

</body>
</html>

```

