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An evaluation of the usability and user experience of WellCampus as a school health management system

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Abstract

There has been an increasing usage of digital systems across the academic field such that it is necessary to come up with a quick way of processing students' health services. This study investigates usability of WellCampus, a School Health Management System that facilitates the process of writing health records, making an appointment, and tracking student wellness. Functionality, accuracy, and acceptability were surveyed in order to assess with school staff and students based on the System Usability Scale (SUS). The system achieved an aggregate SUS score of 86.3, indicating excellent usability. WellCampus was said to promote efficiency, precision, and complete a task while limiting manual errors. Minor issues such as occasional delays and limited navigation options were identified; however, these did not significantly affect overall performance. Results show that WellCampus is a friendly, reliable, and effective school health management tool and discuss potential areas of future improvements, with these systems, as time goes on, to incorporate offline capabilities with more advanced analytics and integrations with other campus systems.

Keywords: WellCampus; School Health Management System; Usability; User Experience; System Usability Scale (SUS); Student Health; Digital Health Records

1. Introduction

1.1. Background and Context

Educational institutions are more and more embracing digital systems to accommodate services for students, such as school health management. Well-functioning health services on campuses are vital to facilitate student welfare, avoid health-related hindrances to learning, and enable prompt medical responses. Nevertheless, many school clinics still rely on manual or fragmented digital systems for managing health records, consultations, and monitoring, a practice that frequently leads to inefficiency, variation in information, and access barriers. The use of School Health Management Systems (SHMS) presents a structured solution by consolidating health data, enhancing service coordination and increasing the overall quality of health service delivery in academic settings.

WellCampus was developed as a School Health Management System to facilitate operations of campus health such as digital health record management, appointment scheduling, and basic health monitoring. Although system features are key, the efficacy of platforms is driven significantly by their usability and user experience. If users experience difficulty navigating or understanding the system, adoption may decline. This could limit its overall effectiveness. As such, it is essential to assess users' experience and usage regarding WellCampus to find out whether the system can facilitate efficient task accomplishment, ease of use, and user satisfaction for students and school health staff.

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A standardized usability assessment approach is adopted to assess the usability and user experience of WellCampus. A usability assessment allows for measurement of efficiency, effectiveness and user satisfaction while interacting with the system. Through a systematic analysis based on user responses generated by a usability assessment instrument, this study seeks to detect the strengths and usability issues that inform adoption and use of the system while also revealing potential drawbacks to system performance. The results should give evidence-based recommendations, helping to improve system design and facilitating user-centered digital health solutions in educational settings (World Health Organization, 2022).

1.2. Research Problem

Although School Health Management Systems, such as WellCampus are growing widely, there is little evidence regarding the extent to which these platforms help the users to perform health-oriented tasks in the school environment. Though WellCampus offers features like digital health record management and appointment scheduling, the usability and user experience of the system remain unclear. Users experience problems interfacing with system features, in getting tasks done efficiently, and interpreting system workflow which might discourage adoption and diminish the quality of campus health services. Through the System Usability Scale (SUS) framework, this study aims to assess user satisfaction with its efficiency, effectiveness and satisfaction by defining usability strengths and weaknesses to contribute toward the improvement and to ensure the system caters to the needs of students and school health personnel.

1.3. Research Questions and Objectives

- How do users perceive the usability of WellCampus in performing school health management tasks such as appointment scheduling, health record access, and monitoring?
- How does the user experience of WellCampus reveal specific usability issues affecting efficiency, effectiveness, and satisfaction?
- Which usability dimensions measured through the System Usability Scale (SUS) show the greatest positive or negative impact on system adoption and user satisfaction?

Objectives

- To objectively measure user-reported perceptions of WellCampus usability in terms of efficiency, effectiveness, and satisfaction using the System Usability Scale (SUS).
- To identify and rank the specific usability issues or features that most influence user experience and interaction with WellCampus.
- To assess the effects of WellCampus on school health management functionality such as the facilitation of health record access, appointment scheduling, and monitoring activities.

1.4. Justification and Significance

Usability and user experience analysis of WellCampus is necessary as health information system usability is commonly understood to be pivotal for efficiency gains, reduction of errors, and enhancement of user satisfaction, in the long run influencing system uptake and quality-of-care delivery. Many usability issues remain in health systems due to inconsistent design, and a lack of user-centered evaluation — which can lead to less effectiveness and frustration for the users in case the problems are not dealt with systematically. Standardized, quantifiable information on major usability dimensions, like effectiveness, efficiency, and satisfaction, can be obtained by utilizing the System Usability Scale (SUS) through this study that is important to identify design weaknesses leading to iterative improvements, and for many projects. Such research is vital to inform empirically based optimization of WellCampus implementation, contribute to higher performance indicators for school health management, and align the user experience in system development (as described in usability studies in health tech) (Marcilly, R., et al., 2025).

2. Literature review

2.1. Evaluating the Healthcare Management System by Usability Testing

Evaluation in usability is necessary to validate that health system managing applications support usability well, it will help to keep users happy and engaged. In a related paper, Po-Hsin Huang and Ming-Chuan Chiu (2014) presented at the International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management and published in Lecture Notes in Computer Science, they developed a structured usability testing method to assess and improve products for healthcare management services. Their work emphasizes that most of the currently

available systems are not user-friendly enough and they can inhibit either performance or user acceptance. Using an experimental method (a Kinect-based healthcare management system), the research integrated objective performance metrics, such as heart rate tracking, and subjective feedback via questionnaires to evaluate performance and user experience. This led us to conclude that, although the solution offered a satisfactory physical activity intervention, it lacked user-friendly interface design, which is a clear area for advancement for enhancing overall user satisfaction. This study adds to the literature by providing a systematic approach to usability testing, which will leverage the results of both performance evaluation and user feedback to provide academic understanding and operational recommendations. The results highlight the need for employing organized usability assessment approaches to health management systems in which they are intuitive, engaging, and consistent with user expectations.

2.2. Usability Factors Assessment in Health Information System

In contexts that require reliability, effectiveness, and safety of data collected in HIS, usability is a pivotal parameter determining system overall quality as well as functionality. In an extensive study performed by Majed Alshamari, usability factors in HIS were evaluated through a thorough literature review and questionnaire directed to medical practitioners in Saudi Arabia. The results indicated key usability dimensions, these were: privacy, error prevention, system design, efficiency, availability, response time, flexibility, and customizability. We found that privacy and prevention of error were statistically most important factors for these considerations, and that these in itself may positively affect the safety, comfort and confidence in the system experienced by the patient. Availability and response time were also identified as core operational problems, and flexibility and customization as beneficial to system usability and ease of use. The study highlights that usability is not only about the appearance of the interface but also performance reliability and data privacy. These findings offer a sound theoretical basis to evaluate health management systems, stressing the need for security, reduction of errors, system responsiveness, and user-centered design to promote overall usability and user experience.

2.3. Developing and evaluating a campus-based health management app for nursing students: A pilot study on usability and user experience

Mobile health applications in academic institutions have received special consideration as an approach to encourage active health monitoring and health initiatives to the student body. A pilot study from Andrew Ke-Ming Lu, Yi-Ling Chung, Yu-Hsia Wang, and Sheng-Kai Lin, published in SAGE Publications Inc's journal Digital Health (2025), addressed the creation and usability assessment of a campus-based health management app, specifically designed for nursing students. The research utilized a descriptive cross-sectional design and provided 283 valid responses via an online questionnaire for user experience and usability. The app allowed students to upload and use their smartphones to monitor personal health data and give health recommendations in accordance with the metrics they collected. Overall the findings demonstrated positive feedback as the usability and user experience were consistently above the midpoint, pointing to acceptable system performance and consumer satisfaction. The study demonstrates the necessity of systematic design processes, health-monitoring technology implementation, and systematic user feedback in digital health platform development in educational settings. These results provide support for the use of this resource and the need for on-campus usability and user experience evaluation in campus-based health systems, as they aim to meet student needs, enable students to be participants, and facilitate the improvement of holistic approaches to health management.

2.4. Potential effectiveness and efficiency issues in usability evaluation within digital health: A systematic literature review

Digital health (DH) technologies are seen as critically important aspects of sustainable healthcare, and software quality, especially usability, is an important criterion for adoption and sustainability. A systematic review of 610 usability evaluation articles published between 2016 and April 2023 demonstrated that inquiry-based and testing-based methods are most frequently adopted in the evaluation of DH products, and inspection methods are less commonly used. Questionnaires, namely the System Usability Scale (SUS), semi-structured interviews, and heuristic evaluations were extensively used, and data was mainly obtained as per participant opinion, audio/video recording, and system logs. According to the study, mHealth applications, telehealth platforms, health information technology solutions, personalized medicine systems, wearable devices, and digital therapeutics were investigated to a large extent. Crucial usability dimensions — accessibility, memorability and operability, for instance — were frequently missing while automation tools were still not widely used. These findings highlight the merit of mixed-method approaches combining quantitative and qualitative data, the importance of tailoring evaluation methods to the sector, and the need for representative target users with whom to engage throughout assessment processes. Also, novel technology such as eye-tracking and AI-supported automation was recognized as a new possibility, on condition of careful experimentation and construction. In general, the study highlights that holistic, user-centred, and methodologically diverse usability

assessments are necessary to ascertain whether digital health systems are effective, efficient, accessible, and consistent with the cognitive and contextual preferences of potential users.

2.5. Assessing the Usability and User Experience of Health Information Systems: A Rapid Review

Healthcare technology has played a huge role in patient care quality but it was greatly impacted by the development of Health Information Systems (HIS). A quick review, using the PRISMA method to analyze 98 studies, assessed HIS usability and end-user perception in practice in hospital settings. Tying together to the overall theme, this review presented ten major themes that are influencing user experience, operating impact and usefulness, usability and interface design, reliability and connectivity level, impact on patient care, workflow interruptions, hardware issues, user proficiency and training, IT support services, collaboration and communication and security. However, HIS platforms improve clinical workflow and positively influence patient care-associated outcomes but still have certain fundamental usability issues (such as complex system design, intrusive or disheveled alerts, system crashes) that impact staff experience and productivity negatively. The study highlights the importance of creating user-centered and individualized systems to minimize workflow disruptions, improve efficiency and help healthcare professionals in achieving effective work performance. The findings underscore that the digital health success of any system must compromise between functionality and ease-of-use, experience and reliability together with sufficient training, a high technical support, training and support for the general user experience and operational performance as well.

2.6. Assessing the usability and performance of digital healthcare systems in Nigerian teaching hospitals: Challenges and future directions

The implementation of digital healthcare support systems in developing countries is early in its stages and we find little empirical evidence on the effectiveness and usability of these systems in practice in clinical settings. Three referral and university teaching hospitals in southern Nigeria were studied using a 5-point Likert scale questionnaire and on-site observations to evaluate EHR systems and its performance by the doctors. Results showed that 79.4% of clinicians experienced feature gaps and requested additional functionality while 80.2% reported system slowdowns, unresponsiveness, and workflow interruptions that were detrimental to clinical efficiency. While 71.9% confirmed that their systems facilitated electronic requests to radiology and pharmacy service units, the usability of their systems hindered many clinicians from achieving their clinical goals. These findings emphasize the need to build user-centered systems based on system responsiveness, workflow alignment and feature enhancement throughout a digital health delivery. In addition, the investigation demonstrates the importance of including users in the design and redesign process and training focused on end users, if the purpose of digital health platforms is to be to provide effective support of service delivery and to minimise users' frustration or burnout as well. These findings support the general emphasis in the literature that great health information systems need to be context-sensitive and trustworthy and be attuned to the real requirements of a target audience.

2.7. Usability testing of Healthcare Devices: A review of the current UX methods used for usability testing of healthcare devices

Usability testing is an integral part of medical device- and healthcare-related designing and development to ensure that systems are safe, effective, and conducive to the user's needs. A literature review that incorporated 30 studies in telemedicine, assistive technologies, and medical devices reviewed techniques and methods that frequently assess user-centered design. The review demonstrated multiple UX evaluation approaches and identified their advantages and disadvantages, and it noted that usability testing is essential in order to produce trustworthy and friendly healthcare hardware. Although there are various testing methodologies and measurements, they detected several remaining issues such as inadequate and thorough testing protocols and uneven implementation of user-centred design principles. The research highlights the need for sound and systematic usability analyses as a means to reduce risks, improve performance, and improve user satisfaction by healthcare providers and patients alike. These results, provide a new perspective that successful digital health systems should have well-defined usability assessment throughout the design and adoption process to maintain maximum user usability and functionality.

3. Methodology

3.1. Research Design

This study utilizes a quantitative descriptive research design to evaluate the usability and user experience of WellCampus as a school health management. The descriptive design is suitable as it enables quantitative analysis of the experience of users on aspects of how well the system works in the actual functioning of the system without manipulating their variables. The System Usability Scale (SUS) will be the dominant tool to measure usability along its

main dimensions (e.g., effectiveness, efficiency and satisfaction). Although the System Usability Scale (SUS) provides a single overall usability score, responses were further grouped into functionality, accuracy, and acceptability categories for descriptive interpretation purposes only. These categories are not official SUS subscales but were used to better understand specific aspects of user perception. Following interactions with the system, the respondents will be asked to fill in an equivalent SUS questionnaire, and data will be analyzed with descriptive statistics (mean usability score and acceptable score). The methodology supports the accepted methodology for usability evaluation according to which the utilization of SUS can provide a valid benchmark for evaluating the usability of the system and for informing design modifications (Kortum & Bangor, 2013).

3.2. Participants

This study participant will be drawn from selected students and staff personnel in the school who work with the WellCampus system in the school and they also participate in the system activities. A purposive sampling technique will be adopted to ensure respondents have on-the-ground experience using the core features of the system, including the ability to access the digital health record, make appointments, and monitor health status. Students who have utilized WellCampus for clinic services and healthcare workers for maintaining or updating health records will be contacted to be included. The sample will be drawn to an accessible range, based on usability testing recommendations so it can be appropriate to obtain accurate System Usability Scale (SUS) scores. Participation will be voluntary and informed consent will be obtained before conducting any survey in compliance with appropriate ethical guidelines and confidentiality.

3.3. Data Collection

Measuring the usability of WellCampus will be done via a System Usability Scale (SUS) questionnaire as the principal tool. Once participants engage with the system and perform standard health management tasks—scheduling appointments, accessing health records, or updating the system—they will complete the 10-item SUS questionnaire. To measure users' opinions on the efficiency, effectiveness and satisfaction with the system, users will be asked to fill out a five-point Likert scale from "Strongly Disagree" to "Strongly Agree" on their opinion of system effectiveness, efficiency and satisfaction. Basic demographic information (e.g., user type and frequency of using the system) will also be collected in addition to the SUS items, providing a context to the findings. The questionnaire will be completed electronically or in hardcopy format which will be convenient and inclusive, while privacy of participation remains safeguarded.

3.4. Data Analysis

Descriptive statistics techniques will be applied to the results from the SUS questionnaire. All SUS items will be scored in accordance with the standard method followed for SUS scoring: odd-numbered items were scored by subtracting 1 from the user response, and their even numbers were scored by subtracting the response from 5. The adjusted scores will then be summed and multiplied by 2.5 to generate an overall SUS score for each participant that is between 0 and 100. The SUS will be computed as the mean SUS score in order to get a total estimate of usability level of WellCampus. To assess the responses and reveal trends in users' perception, also frequency, %, and average scores will be used for descriptive statistics analysis. The obtained SUS score will be used to determine the SUS scoring from widely recognized usability criteria as a means to categorize the level of acceptability of the system and to highlight potential areas to be improved.

3.5. Ethical Considerations

This study will comply with the minimum ethical standards in the field of human research. Participation in the usability evaluation of WellCampus will be entirely voluntary, and all respondents will give informed consent before data collection. Respondents will be given detailed information on the study purpose, procedures, and their right to leave the investigation without retribution. Confidentiality and anonymity will be preserved by the use of no personally identifying information when performing analysis or reporting of the findings. Information will be employed for academic and research purposes only and stored in a secure network to avoid potential disclosure. The study ensures that participants are not put into serious harm on a physical as well as mental level as the evaluation is dedicated solely to their interface with the system, the perception of usability towards the usability and the user experience.

3.6. Advanced HCI design

3.6.1. System Architecture

The WellCampus system architecture is designed to provide a secure, efficient, and reliable platform for managing school health services. The system architecture of WellCampus system architecture is a comprehensive and effective

platform that will allow the administration of services at school and the health personnel through the services, in-transition process to a secure, efficient and reliable platform. The architecture combines a user-friendly front-end interface with a robust back-end system for organizing health data and providing analytics.

Key components include:

- *User Interface (UI) Layer:* The user interface design should be a usable one between various devices and platforms, allowing users to easily organize all sorts of interactions e.g., arranging the date and time of the appointment, reading of health data and receiving alerts. Its implementation features visual cues, prompts and error prevention mechanisms in order to facilitate communication and reduce cognitive load among users with divergent technical skills.
- *Application Logic Layer:* This layer handles all core system functions like appointment scheduling, health record retrieval, notifications, and reporting. It promotes secure communication of your front-end interface with the database; at the same time, you implement a flow of logic to help users navigate the tasks effectively. It can track whether systems are being used or not so that the most popular features could be prioritized or served and service would be enhanced.
- *Database Management System (DBMS):* A secure, cloud-based database where the record kept records of students' health, consultation history and operation metrics are stored. The DBMS gives access to authorized personnel for accessing accurate health information in near real-time and enables analytics to monitor system usage, appointment trends and health service performance.
- *Feedback and Error Handling Module:* This module identifies and logs any system errors, sending alerts to administrators for actionable fixes. We collect user feedback on interaction and identify usability issues within the system, while ensuring privacy, and compliance with data protection laws.

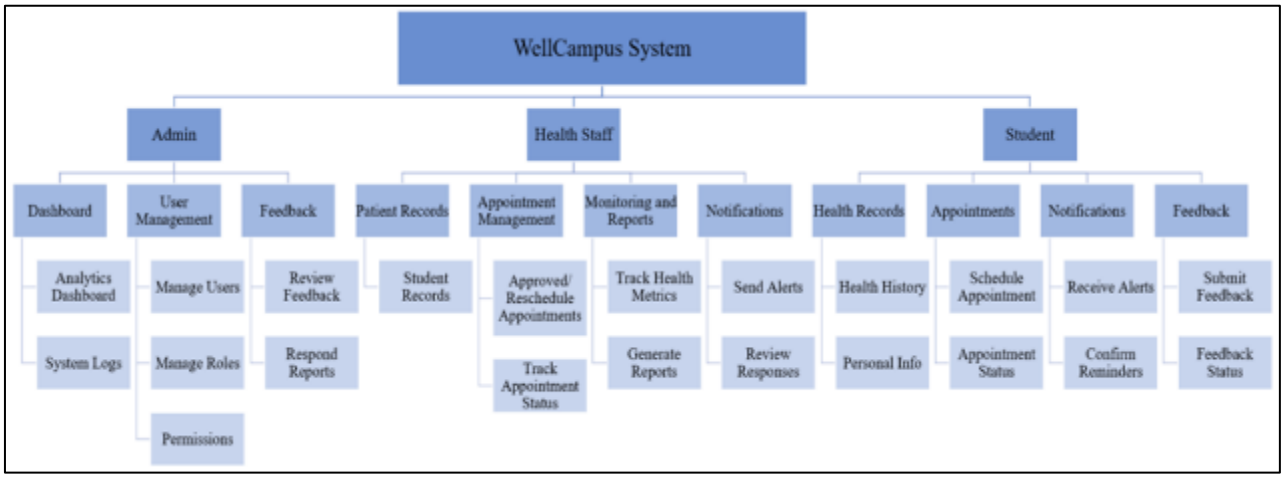

Figure 1 The diagram outlines a WellCampus

3.6.2. Software engineering methodology

The UCASD methodology was used in this study aimed at guaranteeing that the design, development and test phases of WellCampus were consistent with user needs and experiences of end-users: students' and school-based health field health work by continuously keeping WellCampus in mind. The methods used are based on Agile methodology's iterative flexibility, participatory evaluation process and universal design principles, leading to a system that meets the usability and operational requirements of school health management system in multiple methods. Multiple iterations were conducted in the development process, including system prototype evaluation, user testing and feedback collection. With time, users provided feedback which was analyzed following each cycle and used to iterate the upcoming iterations to improve system functionality, usability and reliability. These basic functionalities for digital health record management, appointment scheduling, and monitoring were designed to be intuitive, efficient, and effective across all user types. The participatory end-user approach integrated in the methodology contributed to system performance better matching current health management workflows, resulting in an improved user experience and adoption of WellCampus.

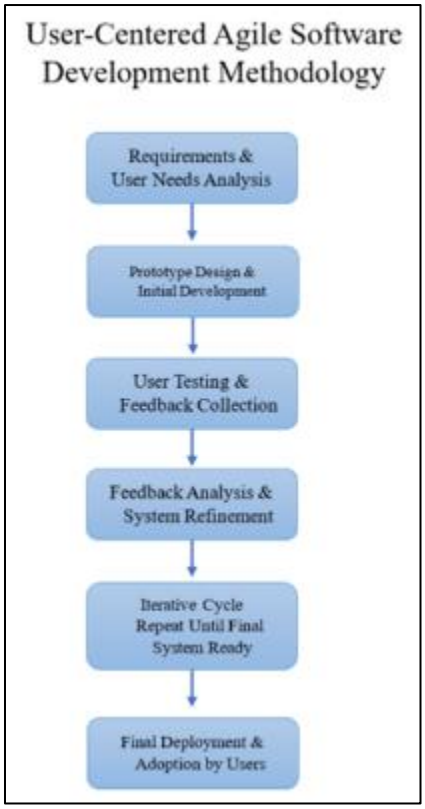

Figure 2 User-Centered Agile Software Development Cycle

3.6.3. User interface design

User-friendly and user-centred WellCampus UI is intended to offer easy to use interface for students, the staff and school health employees of WellCampus to manage their campus health services. The interface has a straightforward dashboard-like style that is designed to be easy to access and present important information—scheduled appointments, health notes, alarms and monitoring stats—in a relatively visual and easy to navigate manner. Easy-to-use icons, clearly-marked menus and correct action controls make user of the system easy to navigate smoothly and easily work with their hand. For instance, students can easily book appointments or take a brief medical history view of themselves; health personnel can easily monitor medical appointments, access to current health data records, and overall attendance at a student's hospital. The interface puts emphasis on clarity and simplicity, thereby cutting the load on users' cognitive resources, minimizing mistakes where possible, making that all information is easily discoverable. This also means that when a user clicks "click", they receive instant access to an information entry. Overall, the design aims to create a user-friendly, consistent, visually engaging experience that enhances task efficiency, satisfaction, and adoption of WellCampus.

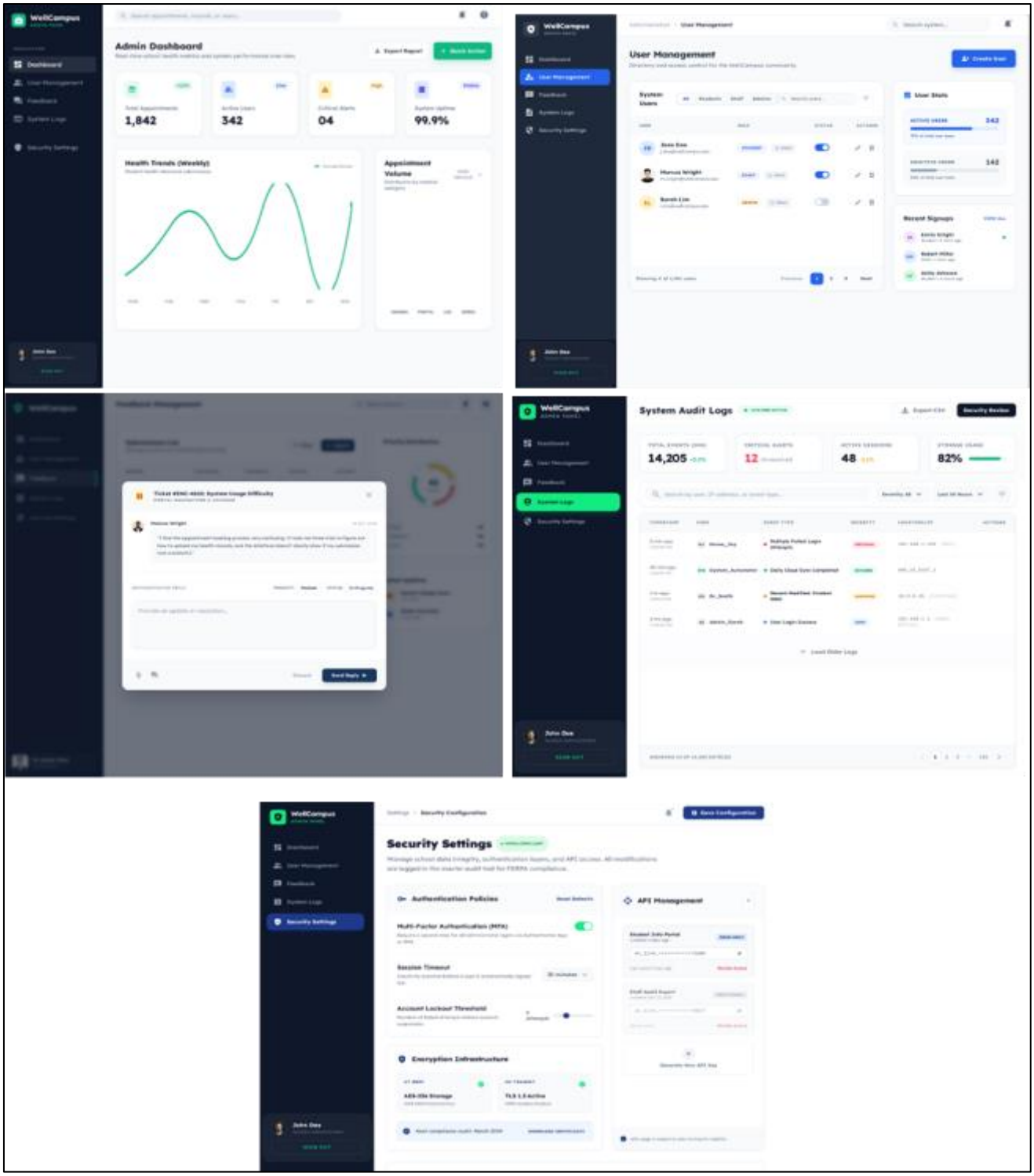

Figure 3 WellCampus Admin Dashboard

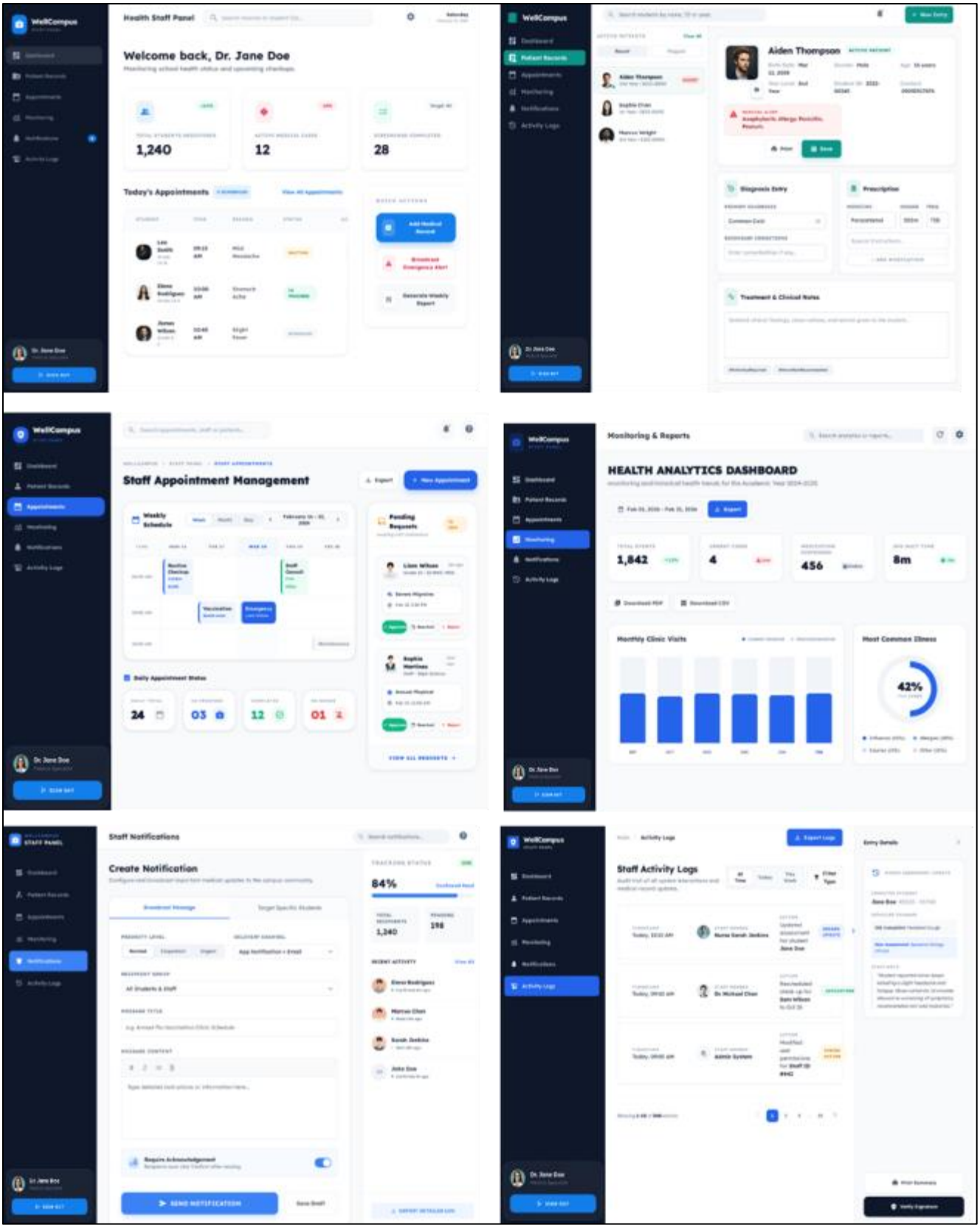

Figure 4 WellCampus Health Staff Dashboard

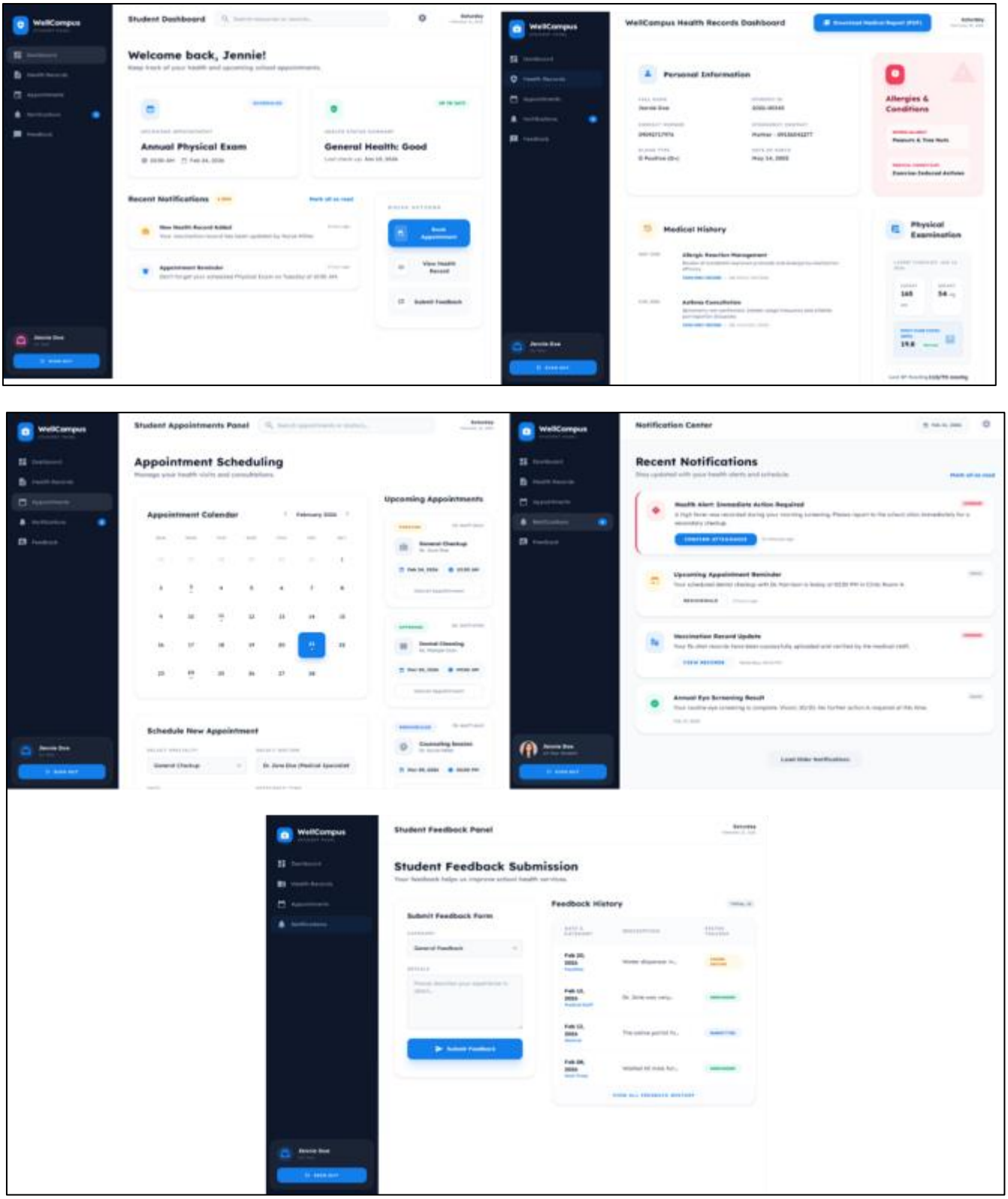

Figure 5 WellCampus Student Dashboard

4. Evaluation

4.1. Usability Testing

Usability of WellCampus was evaluated using the System Usability Scale (SUS) to measure efficiency, effectiveness, and overall user satisfaction. Members of the sample were students and school health personnel who actively use the system for scheduling appointments, accessing health records, and monitoring student health data. The answers gathered from the respondents were assessed following Functionality, Accuracy, Acceptability, and Usefulness, providing a quantitative measure of usability and identifying areas for improvement.

The SUS scores were interpreted using the standard range to determine the system's overall usability level:

Table 1 SUS Interpretation Guide

SUS Score Range	Usability Level	Description
85 – 100	Excellent	The system is highly intuitive, easy to use, and users are very satisfied.
70 – 84.9	Good to Excellent	The system is easy to use and meets user expectations effectively.
50 – 69.9	Fair	The system functions but has some usability issues that may hinder performance.
25 – 49.9	Poor	The system is difficult to use and may significantly impede task completion.
0 – 24.9	Unacceptable	The system is cumbersome and unlikely to be adopted by users.

4.2. Performance Metrics

The performance of WellCampus was evaluated based on efficiency, accuracy, reliability, and user productivity. These metrics assess how well the system supports health service management, provides timely access to health records, and facilitates workflow for both students and school health personnel.

Table 2 Performance Metrics Criteria

Criteria	Description	Evaluation Result	Interpretation
System Efficiency	Measures how quickly users can complete tasks such as scheduling appointments and accessing records compared to previous manual methods.	4.25	Satisfactory
Data Accuracy	Evaluates the correctness and consistency of student health records and system-generated reports.	4.50	Very Satisfactory
Reliability	Assesses operational stability of the system during peak usage times.	4.13	Satisfactory
Response Time	Tracks timing of information retrieval, updates, and notifications.	4.38	Very Satisfactory
Decision Support	Assesses the usefulness of system alerts, reminders, and reporting in aiding health management decisions.	4.44	Very Satisfactory
Overall Mean		4.34	Satisfactory to Very Satisfactory

The results suggest that WellCampus has good and efficient performance in supporting school health management activities. Users had easy access to schedule appointments, records, and notifications. All this information is delivered in a timely and accurate manner. Small issues were noticed by response time when concurrent multiple user access were attempted, which could be rectified in further updates to improve the performance.

4.3. Comparative Analysis

The comparison examines the benefit of WellCampus from the perspective of the standard manual health record management and the digital WellCampus system. You are assessed on accuracy, efficiency, consistency, decision support, error rate and record management.

Table 3 Comparative Analysis Evaluation Criteria

Evaluation Criteria	Manual Health Management	WellCampus System	Remarks
Accuracy	Records maintained manually, prone to errors and omissions.	Digital, real-time health record updates with notifications and alerts.	Provides more reliable and precise data for health tracking.
Time Efficiency	Recording and retrieving health data is slow and labor-intensive.	Instant access to student health records, appointments, and reports.	Significantly reduces time needed for routine tasks.
Consistency	Data varies depending on staff diligence; inconsistent formats.	Standardized and automated data entry, storage, and retrieval.	Ensures uniformity and standardization in record handling.
Decision-Making	Decisions rely on memory or incomplete records.	Data-driven insights, automated reminders, and reporting.	Supports informed and timely health management decisions.
Error Rate	High potential for human error and lost records.	Minimal errors due to automated validation and secure storage.	Minimizes mistakes and improves trust in the system.
Record Management	Paper-based logs prone to misplacement or damage.	Centralized, secure digital storage with easy retrieval.	Enhances accessibility and long-term record security.

Comparative evaluation reveals that WellCampus significantly improves performance reliability and efficiency in relation to the manual way of health management. The user reported that automated patient recordkeeping, near real-time alerts and secure storage ensured a reduced error, time saving and better decision-making for school health personnel. It also facilitates better integration between students and health system personnel, enabling a more structured and reliable health service flow.

5. Results

This section provides a description of the evaluation results for WellCampus using the System Usability Scale (SUS) to assess usability with respect to Functionality, Accuracy and User Acceptance. Usability of the tool was assessed by students and school health personnel in scheduling appointments, accessing their health records, and monitoring student health data.

5.1. Functionality Survey Results

Table 4 Descriptive Results – Functionality Items

No.	Statement	Avg. Score (1–5)
1	Scheduling appointments was straightforward and quick.	4.3
2	Accessing student health records was easy and intuitive.	4.4
3	Performing routine health monitoring tasks was efficient.	4.2
4	Navigation between menus and sections was clear.	4.0
5	The system responded promptly without noticeable delays.	4.4

6	Notifications and reminders worked reliably.	4.3
7	The system's controls were easy to understand and use.	4.2
8	Searching for specific information (records or appointments) was simple.	4.1
9	The system helped reduce errors compared to manual processes.	4.5
10	All features needed for daily tasks were accessible and functional.	4.3
TOTAL AVERAGE SCORE		4.27

As shown in Table 4, users of WellCampus consider the app very user-friendly and useful. Tasks related to appointment scheduling, record access, and health monitoring gained high scores, meaning that the system works well with existing processes and helps minimize waste. Some minor usability problems were encountered, including some minor confusions when accessing some menus which did not notably inhibit task completion. The mean Likert score for functionality-related items was 4.27, indicating high user agreement regarding system performance supporting the idea that the system serves user expectations and promotes smooth functioning in management of school health.

5.2. Accuracy Survey Results

Table 5 Descriptive Results – Accuracy Items

No.	Statement	Avg. Score (1–5)
1	Student health records were accurately captured and stored.	4.4
2	Occasionally, I noticed minor inconsistencies in the health data.	3.9
3	Updates to health records were consistent and reliable.	4.5
4	There were very few errors in appointment scheduling.	4.2
5	The accuracy of the system made managing student health easier.	4.5
6	Notifications and reminders reflected correct information.	4.3
7	Reports generated by the system matched actual student health data.	4.4
8	The system rarely displayed incorrect or outdated information.	4.2
9	Health monitoring data allowed me to identify issues quickly.	4.3
10	Data entries were clearly organized and easy to verify.	4.4
TOTAL AVERAGE SCORE		4.35

As indicated in Table 5, WellCampus is very accurate in recording, updating, and reporting student health information. The system was described as very reliable, and reliable and consistent health records, appointments and monitoring data made daily health management tasks easier for the users. Some minor irregularities were observed here, e.g., during some minutes in time when updating the data or when there were network problems, however these did not have a major effect on system performance. This achieved a rate of 4.35, with an average SUS score that is Very Satisfactory in accuracy, supporting consistent service operations in a school environment.

5.3. Acceptability Survey Results

In Table 6 it was noted that the result table for the SUS indicates that it is acceptable at WellCampus. The system was found intuitive and easy to navigate, and to help students and health personnel maintain a better understanding of their tasks without errors in recording them effectively. There was modest user confusion upon beginning, but such frustration did not influence satisfaction with a system. WellCampus SUS average score: 4.32, a Very Satisfactory level of acceptability, reflects solid user confidence, willingness to accept use of the system for the management of school health.

Table 6 Descriptive Results – Acceptability Items

No.	Statement	Avg. Score (1–5)
1	I felt confident using WellCampus for health-related tasks.	4.4
2	I experienced occasional frustration while navigating the system.	3.8
3	I would recommend WellCampus to other students and school health staff.	4.5
4	Information on the dashboard and notifications was easy to understand.	4.3
5	The system helped me complete tasks more efficiently than manual methods.	4.4
6	I prefer traditional paper-based methods over using the system.	3.7
7	Using WellCampus was straightforward and intuitive.	4.3
8	The interface layout was clear, organized, and visually appealing.	4.2
9	WellCampus improved the accuracy and timeliness of health management tasks.	4.5
10	I was able to integrate the system easily into my daily routine.	4.3
TOTAL AVERAGE SCORE		4.32

5.4. Overall Score Result Table

Table 7 SUS Overall Score Result Table

Dimension	Sum of Adjusted Scores	SUS Score (Out of 100)	Interpretation
Functionality	42.7	85.4	Excellent Usability
Accuracy	43.5	87.0	Excellent Usability
Acceptability	43.2	86.4	Excellent Usability
OVERALL, SUS SCORE		86.3	Excellent Usability

In Table 7, the overall SUS score of 86.3 shows that WellCampus provides Excellent usability. This indicates an extremely user friendly and reliable health management system and well-developed system for school health services (e.g., appointment scheduling, access to health records, and monitoring). Users demonstrated high satisfaction with functionality, accuracy, and acceptability design, further verifying that WellCampus fulfills user needs and increases operational effectiveness in school health care. The system's good usability score also demonstrates the willingness of the technology to be adopted and sustain used by the school.

6. Discussion

6.1. Interpretation of Findings

RQ1: How do users perceive the usability of WellCampus in performing school health management tasks such as appointment scheduling, health record access, and monitoring?

The results show that students and school health personnel alike view WellCampus as a high performing and dependable system for the administration of campus health services. All SUS scores for Functionality (85.4), Accuracy (87.0), and Acceptability (86.4) are high within the "Excellent Usability" range, indicating great acceptability by users. These findings are consistent with previous studies in digital health usability, which emphasize that intuitive interface design, workflow alignment, and real-time system feedback significantly influence system adoption and user satisfaction in healthcare environments. Participants stated that the system facilitated their appointment scheduling and provided them with fast access to health records and easy monitoring for student health information. Intuitive interface, clear dashboards, and real-time updates for tasks helped users accomplish the work more effectively, minimizing human errors that were common during manual processes. However, minor glitches, like slow loading times for sensitive data during peak loads, or initial difficulty navigating the app, were well documented, but did not

significantly degrade task performance. In general, it was seen that WellCampus was a necessary enabler to be integrated into the implementation of the school health management.

RQ2: How does the user experience of WellCampus reveal specific usability issues affecting efficiency, effectiveness, and satisfaction?

Positive user feedback was found to be very common. The scores of Functionalities (mean: 4.27), Accuracy (mean: 4.35) and Acceptability (mean: 4.32) show that participants viewed the system as convenient, intuitive, and easy to fit into their lives. Students appreciated scheduling appointments online and receiving prompt notifications, and health staff pointed to the ease with which record-keeping, health data monitoring and reporting in the office could be easier for decision makers. The users reported that WellCampus reduced manual record-keeping mistakes, helped ensure more consistent data, and facilitated prioritization. Some users initially had small learning curve on the advanced features but were easily overcome, proving that the project improves the process and user satisfaction.

RQ3: Which usability dimensions measured through the System Usability Scale (SUS) show the greatest positive or negative impact on system adoption and user satisfaction?

The discovery supported the fact of appreciable benefits and minor problems. Key benefits are such as better accuracy of student health records with faster task completion, more consistent records, more straightforward reporting, and more effective decision support for the staff members in health. Users noted automation and real-time updates decreased the workload as compared to paper-based systems, also increased confidence in the integrity of the information. The limitations mentioned: an initial slight tweak for several users, sometimes data sync delays during peak times, need for stable Internet connection for maximum impact. However, despite these concerns, user reactions overwhelmingly indicated that the benefits—efficiency, accuracy, reliability, greater user experience—far outweigh the small problems. The broad SUS score of 86.3 reaffirms that WellCampus makes a useful and well-received approach for improving school health management process.

Limitations and Future Work

Despite the favorable results of the usability, accuracy and acceptability aspects, there are several limitations reported in this study. Evaluation was conducted in a small number of subjects and over a short period of time and may impact on the external validity of the results and the assessment of usage in the long run. Some features of the system are based on a network connection (albeit an unstable one), and several users also experienced slight latency or difficulty in adapting to more sophisticated functions which suggest that the learning curve is short. This is especially true because WellCampus can mostly focus on appointment scheduling, access to health records, and monitoring; there are gaps in the area so that additional features like real-time analytics, preventive care and wearables and other health notifications could be explored. Future work would need to work past limitations of this area by either undertaking extensive, long-term studies, offering more comprehensive onboarding and/or tutorial support, adding features to the system, including offline functionality, and integrating with other campus management platforms. These additional improvements would facilitate usability, efficiency and user satisfaction to enable more effective school health management in heterogeneous educational contexts. Additionally, the study relied on self-reported survey responses, which may introduce response bias and affect the objectivity of the findings.

7. Conclusion

7.1. Summary of Key Findings

The results show that WellCampus is regarded by both students and school health staff members as a well-designed, reliable and user-friendly solution to managing school health services. The performance on the System Usability Scale (SUS) showed Excellent Usability: Functionality, Accuracy and acceptability with the system that effectively improves the scheduling of appointments within the health record access and health checks on students. It reported having a higher efficiency, fewer errors than manual processes, and a greater level of confidence in making informed decisions. Small problems such as small delays during peak usage for a while and initial stumbling blocks of navigation were recorded, were noticed, but did not significantly damage performance.

Final Remarks

WellCampus is a significant digital health management platform, which improves the way that organizations work and process data across their operations to have more efficient and accurate operations across health centers. The intuitive

interface and real-time updates help students and health personnel manage day-to-day activities accurately. Although offline, advanced analytic, and connection with various other campus systems may make its use more flexible, the existing solution is already capable to provide a well-rounded, reliable, user-centric view of health for schools. WellCampus overall shows the promise that technology-enabled health systems can have on quality of service, user experience, and the health of the campus.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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