Volume 10, Issue 5, May – 2025 International Journal of Innovative Science and Research Technology
ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25may559

Optimizing the Student Registration System: Exploring User Interface and Experience Enhancements

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Publication Date: 2025/06/3

Abstract: The investigation used a student registration system, discovering consistent comments through five core themes: design, performance, functionality, completing tasks, and ideas for enhancement. Users mentioned the visual presentation of the system made them feel old-fashioned and in need of trendy appeal. While some felt simplicity and natural ease of navigation was a boon, many experienced too basic and incomplete an interface requiring more clearer and visually attractive content to make navigating and utilizing more efficient. System performance became the most noted concern, as constant references were made to lag, slow reaction time, and the system freezing sometimes. All this hindered the efficiency of tasks and left the users frustrated. Even so, users said that once responsiveness returned to the system, using the system to navigate and complete tasks was actually seamless, which displayed the efficiency the system possessed once optimized. Users identified the utility of some features like search and filtering but identified a few improvements that could be made, such as improved error prevention, improved control responsiveness, and making the interface customizable. Proposals to improve included a complete UI overhaul, feature improvements like the ability to edit and the addition of notifications, and personalizing the interface. In general, the results show a strong requirement for balancing performance, functionality, and aesthetics to provide a more efficient and user-friendly registration process. digital platforms, contributing to improved user experiences and overall system effectiveness in library management.

Keywords: *Solar Drying, IoT-Based Automation, Weather Monitoring, Drying Mechanism, Conveyor System.*

How To Site: Caay Cymon Patrick; Montales Mark Titus; Pajayao Harvey; Perez IzaganiCedie E. Gabriel[5]; Reginald S. Prudente (2025). Optimizing the Student Registration System: Exploring User Interface and Experience Enhancements. *International Journal of Innovative Science and Research Technology,* 10(5), 2997-3010. https://doi.org/10.38124/ijisrt/25may559

I. INTRODUCTION

➢ *Background and Context*

In these rapid advancements in Human-Computer Interaction (HCI) has now transformed how the user engages with the new technology across different domains. As digital interfaces evolve the focus has shift to creating systems that are not only functional but also a user friendly one. The importance of HCI developments will enhance the efficiency, effectiveness, and overall user satisfaction when communicating with the system. Through the enhancement of the UI and UX these developments are key when reducing the errors and enhancing the task completion.

The Student Registration System is often the first point of interaction between the admin and the institution system. But many current systems are now suffering from usability issues such as complex navigation and some frustration to the user leading to decreased user satisfaction. Enhancing user experience (UX) in interactive systems requires effective human-computer interaction (HCI). The relationship between people and computers has grown in significance as technology progresses, having an impact on many areas of our life. Additionally, taking into account the features of the computer system, such as its responsiveness, processing capacity, and interface design, enables the development of systems that are more user-friendly and effective (Pushpakumar, 2023).

This study focuses on optimizing the Student Registration System by exploring the new enhancements to both UI and UX. By applying the HCI principles the study will aim to provide an improve overall usability of the system, making it more accessible, efficient, and more engaging for the user.

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➢ *Research Problem*

The Student Registration System faces problems like inefficiencies and usability challenges, which sometimes fail to provide an efficient and satisfying user experience. But despite of the new advancements of the HCI still many systems remain difficult to use that causes frustration and negative impact from the user with they do the registration process. This addresses the issue in both functional efficiency and user satisfaction.

➢ *Research Questions and Objectives*

- How can the UI of the Student Registration System can be optimized to improve the usability and accessibility for the user?
- What UX enhancements can be used to simplify the registration process and reduce the user frustration?
- How do UI and UX improvements affect the user satisfaction and task efficiency of the system?

➢ *Objectives*

- To identify and analyze the usability issues of the student registration system.
- To explore and propose new UI design enhancement that may improve the visual and accessibility of the system.
- To evaluate the impact of UI and UX optimization on user satisfaction and task completion.

➢ *Justification and Significance*

The HCI principles have been widely applied to improve UX across various interactive systems, there is a gap in optimizing specific platforms like student registration systems. Existing research focuses on general UI/UX improvements but overlooks the unique needs of educational systems, which require a balance of usability, efficiency, and accessibility. Although HCI emphasizes understanding human cognition and system attributes, few studies address how these principles can be tailored to enhance user experiences in student registration systems. This research aims to fill this gap by applying HCI strategies to improve the usability and effectiveness of these systems (Sanjaya, 2023).

II. LITERATURE REVIEW

➢ *Improving the Student Application Process through UX Design*

The more colleges students feel they need to apply to, the more pressure they face. One big problem is that the admissions process is often unclear. Different schools have different requirements and ways of reviewing applications, and misinformation online makes it hard for students to know what colleges are really looking for. For example, how many clicks it takes to reach the application form? Is the registration process long and frustrating? Can students easily find the program they want to apply for? These small details add up, making an already stressful process even harder. Therefore, this might seem obvious, but many admissions websites and applications are overly complicated, showing a disconnect between colleges and the students they want to attract. Enhancing user experience (UX) in application processes can significantly improve user satisfaction and operational efficiency. This multi-step, manual process was slow, error-prone, and frustrating for both candidates and staff. The inefficiency of this process led to delays, potential mistakes, and a less-than-optimal user experience (Notermans, 2025).

➢ *Banner Registration System Upgraded to Improve Student Experience*

Registration can be a hectic time for students. Between crafting the right schedule and making sure selected courses satisfy program requirements, the process takes time and effort. Prior registration periods at Georgia Tech also presented a different set of challenges, as students grew frustrated with an outdated online registration system. This year, students can anticipate an improved experience following Georgia Tech's recent upgrade to the Banner 9 student registration system. The upgrade provides students with access to an enhanced self-service system and provides students with new scheduling features and a modernized user interface for desktops and mobile devices (atlanta, 2022).

➢ *Understanding UX Enhancements for Better User Experiences*

In today's competitive digital landscape, "UX enhancements" refer to strategic improvements aimed at making digital products more intuitive, engaging, and efficient. As user experience becomes crucial for digital platform success, enhancing UX can lead to increased user satisfaction, higher conversion rates, and a stronger brand reputation. This article explores the critical role of user experience in digital products, offering key strategies for effective UX enhancements. We will provide an overview of UX principles, practical examples of successful enhancements, and actionable insights to elevate your digital offerings. By understanding and applying these concepts, you can create digital experiences that exceed user expectations, setting your brand apart in a crowded market. Understanding user needs is fundamental to effective UX enhancements. By gaining insights into the user's perspective, businesses can create more intuitive and satisfying digital experiences. User research is the cornerstone of this process, enabling designers to tailor solutions that resonate with their audience (Owtoo, 2025).

➢ *The Importance of Optimized UI/UX Designs*

Nothing is more important than user satisfaction in today's competitive marketplace. Therefore, it's a no-brainer that you'll need an optimized UI/UX design that'll help you achieve the same. How? By providing simple navigation, interactive content, ease-of-access, and everything else that should be bundled in a good web application. Your UI/UX design process should revolve around ideas that'll improve user satisfaction because that's the only way they'll come back to your platform. Any bad experience will turn the tide in your competitor's favor, and you'll end up losing out on a wonderful opportunity to create a loyal consumer base. ll your development efforts go in vain if the interface isn't usable or lacks standard functionalities. If the user isn't sure where to navigate after reaching a particular point, it's the developer's fault, not the users. Overly complicated UX designs for

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websites result in an elevated bounce rate because visitors get frustrated with the complex interfaces (RedAlkemi, 2021).

III. METHODOLOGY

➢ *Research Design*

This study will utilize a qualitative research design to explore the integration of Human-Computer Interaction (HCI) principles in enhancing the Student Registration System. Qualitative research focuses on understanding experiences, ideas, and perspectives, providing in-depth insights into real-world contexts. It often produces narrative data that reveal complex social or behavioral patterns. According to Eze (2023), qualitative research is valuable during the exploratory phase of a study as it helps identify emerging trends, uncover issues, and generate hypotheses for future investigations. This research design is appropriate for the study as it allows for a deeper understanding of the existing limitations of the system, such as low student engagement, outdated feedback mechanisms, and usability issues.

➢ *Participants*

The participants for this study will include personnel from the registrar's office who regularly engage with the Student Registration System. A total of 5 to 10 individuals will be selected based on their direct involvement with the system. Selecting an appropriate sample size is crucial for achieving valid and meaningful findings in qualitative research. As Ahmed (2025) emphasized, sample size should align with the theoretical framework while ensuring data saturation. Participants will be formally informed about the study's purpose and procedures. Informed consent will be obtained to uphold ethical standards, and all responses will remain confidential to protect participants' privacy.

➢ *Data Collection*

In this mixed method research, the research will attempt to investigate and assess the performance of the student registration system by analyzing both quantitative and qualitative information. For the quantitative side, the researcher used a standardized survey of 20 questions that was administered online through Google Forms. The questionnaire was separated into two parts and constructed to record participant responses on a 5-point Likert scale, with "5" indicating strong agreement and "1" indicating strong disagreement. Descriptive analysis was used to analyze the results by calculating the mean scores for each item. Along with the numerical data, the qualitative process included open-ended questions for the collection of detailed feedback and personal information about participants' experiences with the user interface and the overall usability of the student registration system. Together, the quantitative data and the narrative information offered an in-depth view into the measurable effectiveness and the perceptions of the users about the system's functionality and design.

➢ *Data Analysis*

Thematic analysis and narrative analysis will be employed to analyze the data. Thematic analysis involves identifying, organizing, and interpreting recurring patterns or themes within the data set. It is particularly effective in qualitative research where the goal is to uncover meaningful insights from participant responses. According to Dawadi (2020), thematic analysis is widely used for its transparency, flexibility, and ability to handle large volumes of qualitative data. Narrative analysis will further help interpret individual stories and experiences shared by participants, providing context-specific insights into the use of the Student Registration System. These methods will collectively guide the evaluation and redesign process by revealing opportunities to enhance user interface (UI) and user experience (UX).

➢ *Ethical Considerations*

This research will adhere to ethical standards to protect the rights and welfare of participants. Informed consent will be obtained prior to participation, and individuals will have the freedom to withdraw at any stage without consequence. Data privacy and confidentiality will be strictly maintained, with all identifying information anonymized and securely stored. InnovateMR (2024) highlighted that conducting ethical qualitative research involves ongoing reflection and responsibility at every stage. By ensuring voluntary participation, securing private information, and respecting participants' experiences, the study upholds both methodological integrity and ethical accountability.

IV. ADVANCED HCI DESIGN

➢ *System Architecture*

The system architecture that has been optimized for student registrations aims to eliminate processes, streamline user interactions, and overall enhanced experience. Utilizing a client-server paradigm, the system involves combining an intuitive, user-based interface with an underlying powerful processing at the back-end for optimized working.

- *Key Components Include:*

✓ *User Interface (UI) Layer:* Developed to enhance overall interaction and satisfaction for school admin as well as administrative personnel.
✓ *Application Logic Layer:* Merges functionalities like simplified task flows, uniform layout design, and responsive feedback processes to provide effortless and engaging user experiences throughout the registration process.
✓ *Database Management System (DBMS):* Oversees user actions like course choice, enrollment tracking, and role-specific.
✓ *Feedback and Error Handling Module*: Retrieves and organizes registration records, schedules, and user profiles with accuracy and efficiency.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25may559

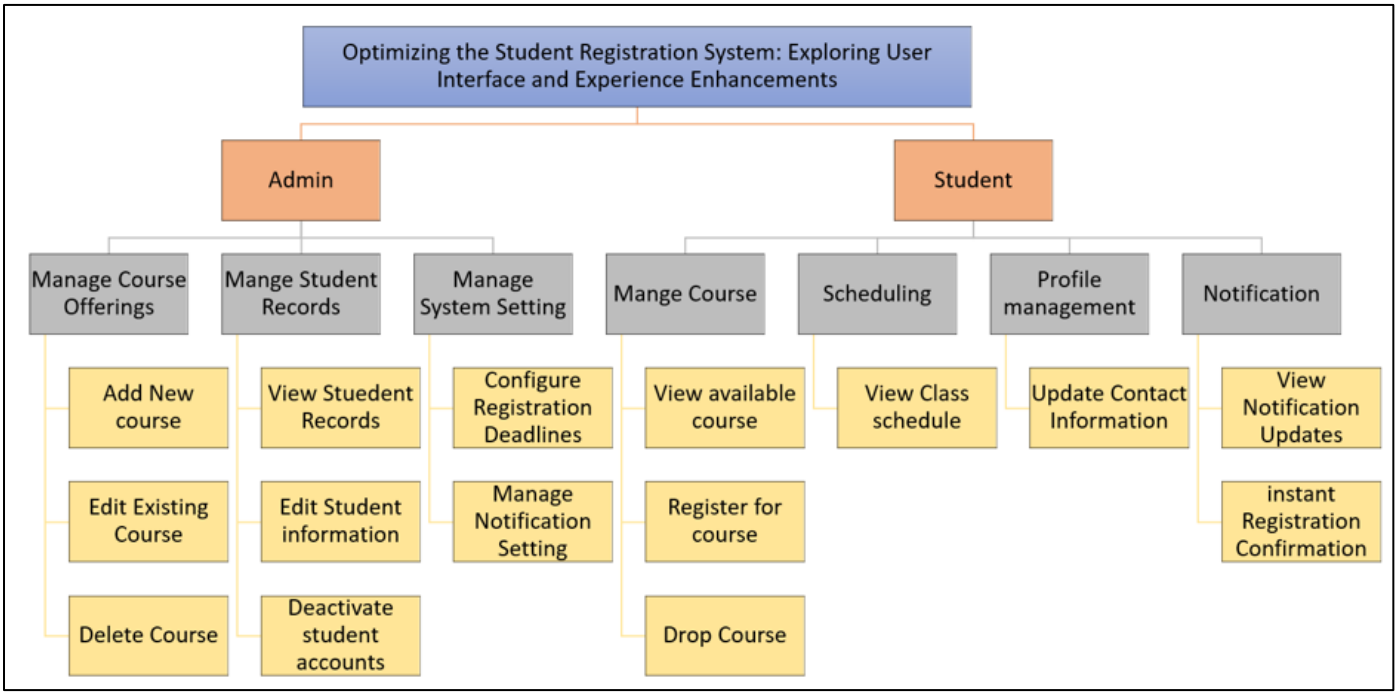

Fig 1 The Diagram Outlines A Student Registration System

➢ *Features and Functionalities*

- *The Features and Functionalities of Library Monitoring System are The Following:*

✓ *Admin and Staff Account Registration*

Permits new staff and admin using mandatory details. The functionality provides an easy onboarding experience with minimal instructions and intuitive steps.

✓ *Course Selection and Enrollment*

Facilitates see courses offered, verify prerequisites, and register for subjects of their choice. The display is formatted to reduce disorientation and allow seamless navigation through alternatives.

✓ *Profile Management*

Allows users to change their personal details, like contact information and emergency details. It gives flexibility and management over the student records.

✓ *Admin Panel Access*

Allows staff and administrators to manage course offerings, student records, and system settings. This ensures efficient handling of data and improved backend control.

The student registration system solves the identified research issues through intuitive navigation, streamlined registration processes, and responsive design. These enhance a more interactive and accessible experience, contributing to higher user satisfaction and effective task completion

➢ *User Interface Design*

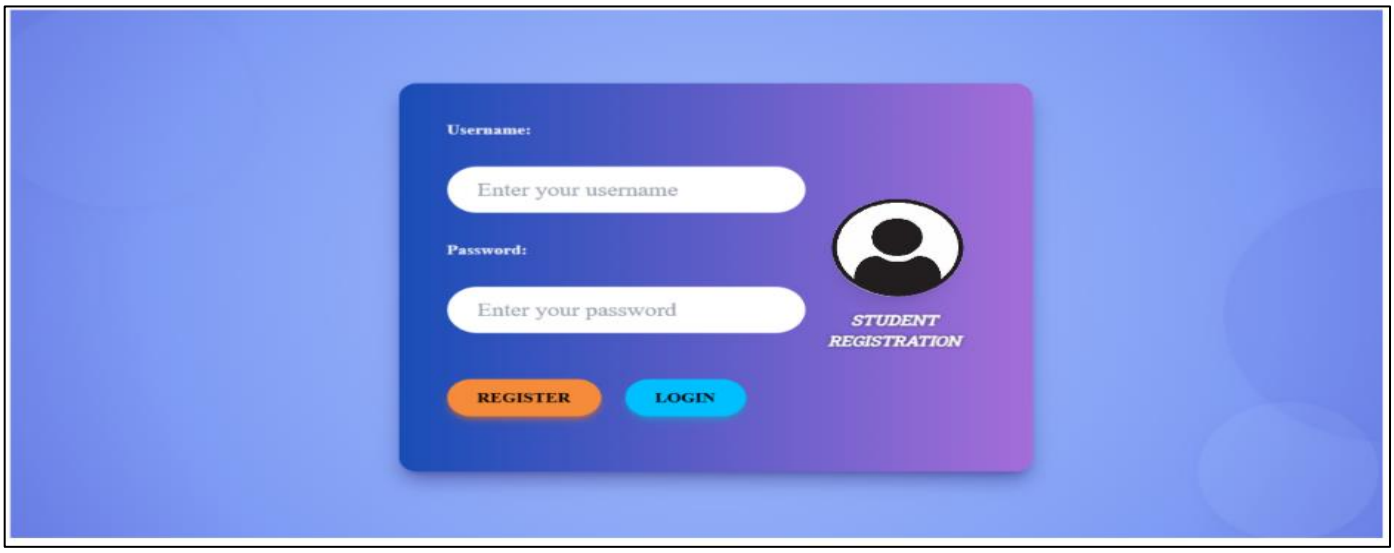

Fig 2 In this Figure, it Shows the Login Section of the System.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25may559

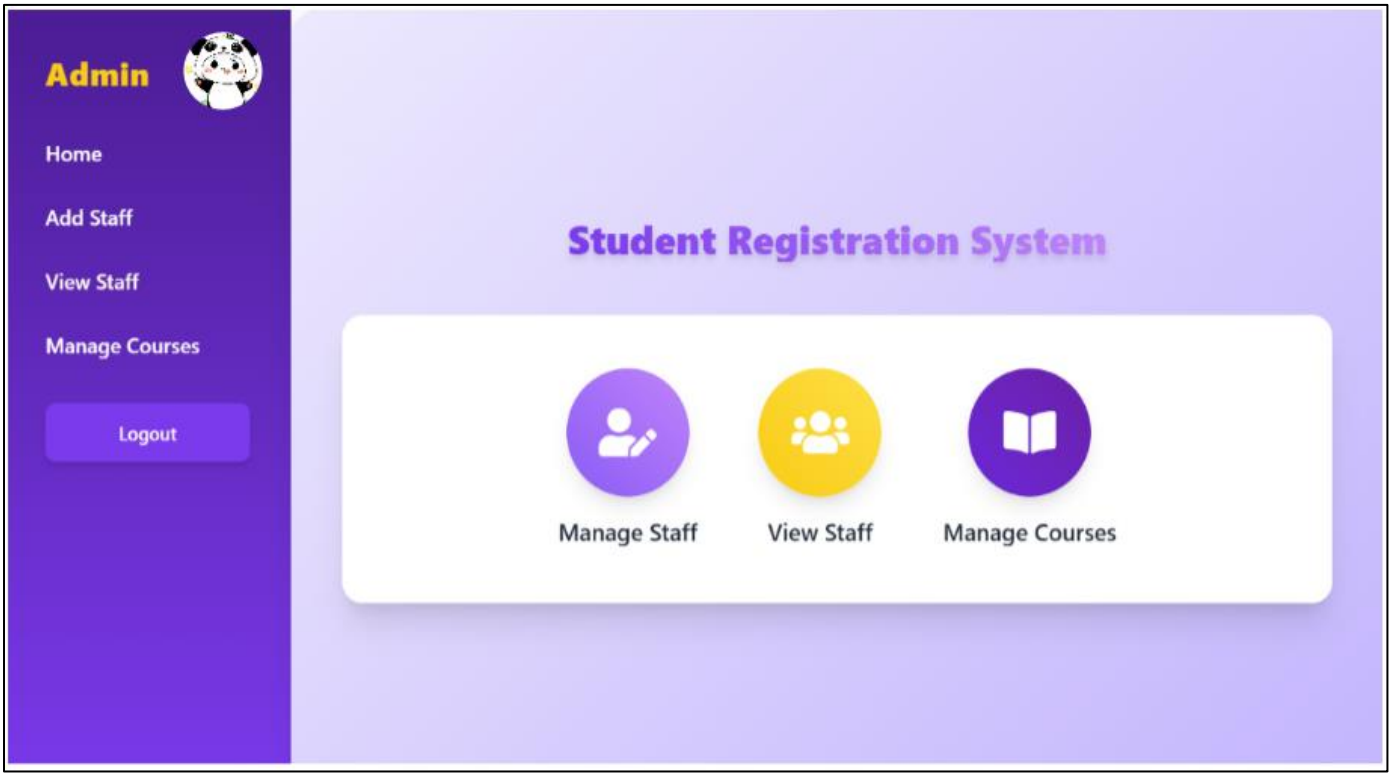

Fig 3 In this Figure, it Shows the Home Page of the System.

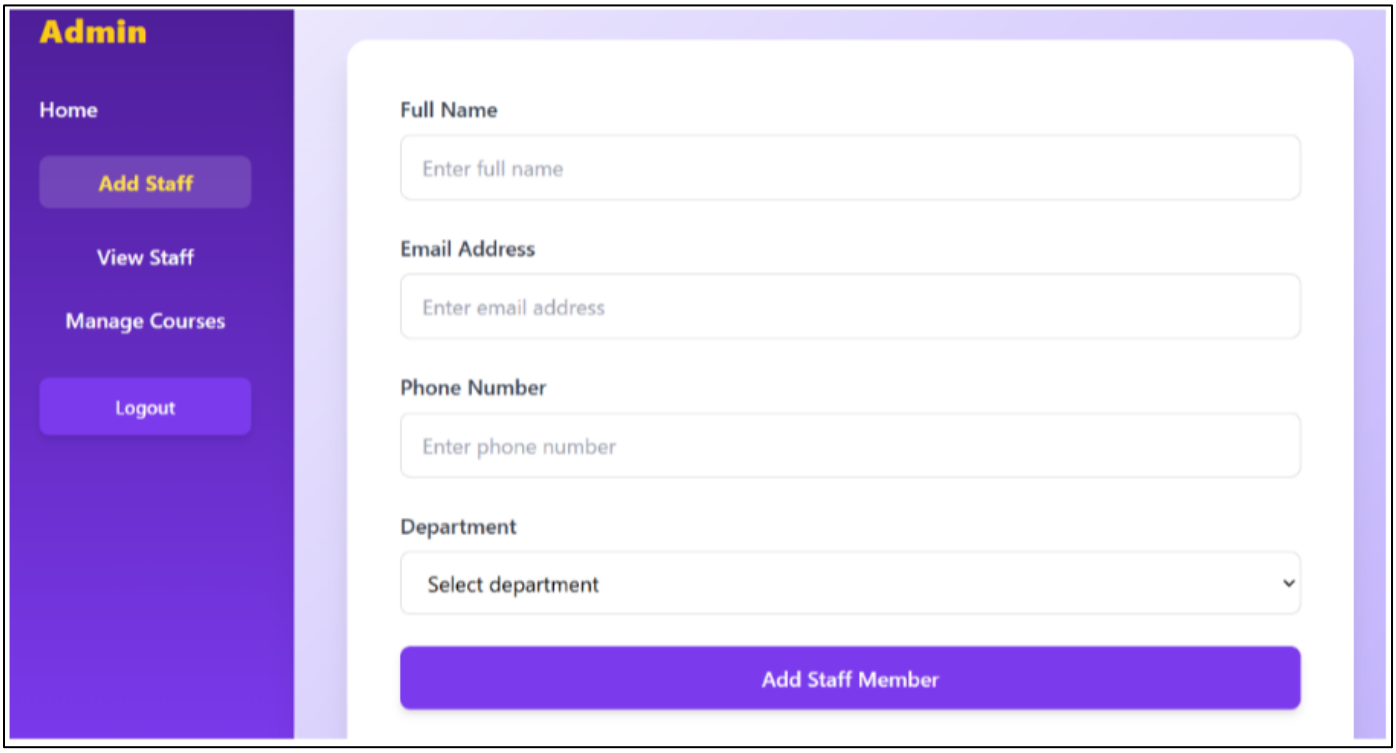

Fig 4 In this Figure, it Shows the Fill Up Page for Book Information When Registering a New Book.

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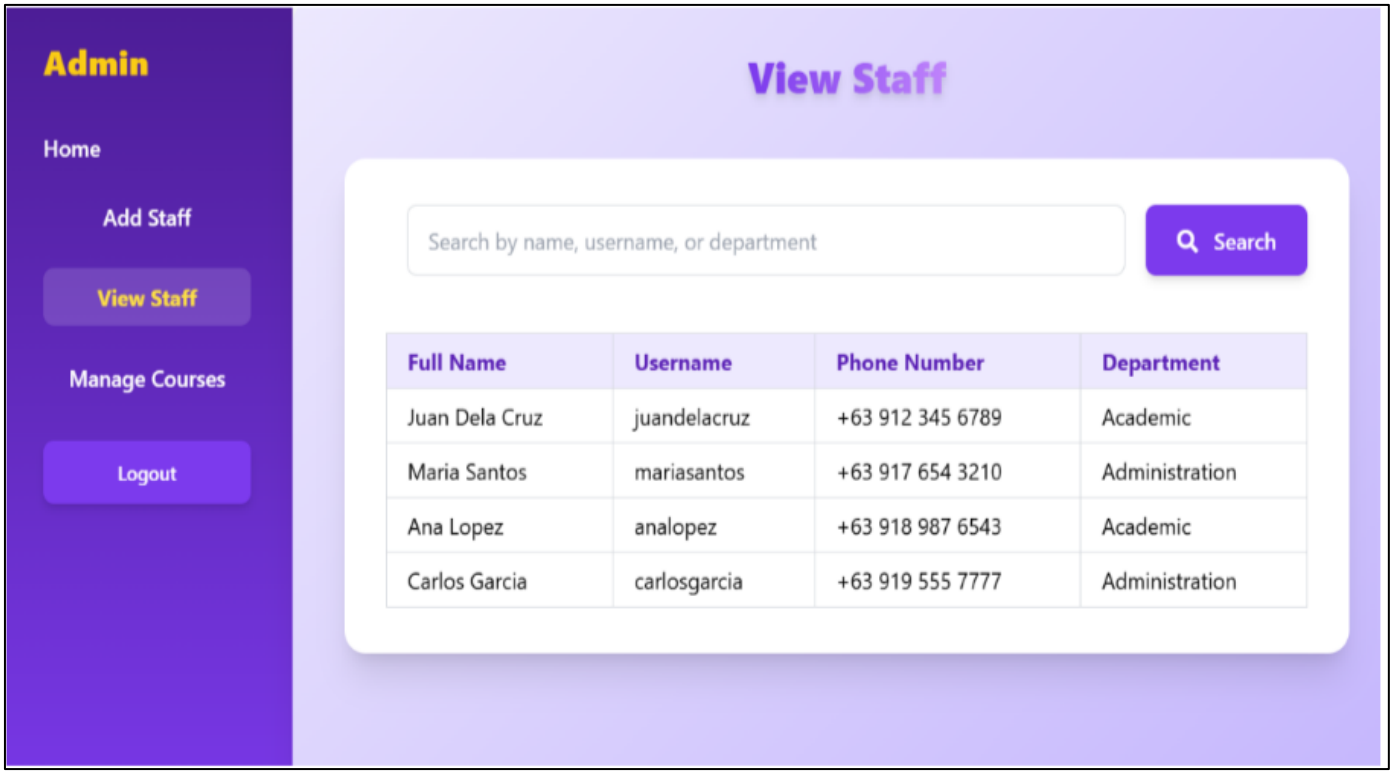


Fig 5 In This Figure, It Shows the View Staff where the Admin Can View the Staff Details in the System.

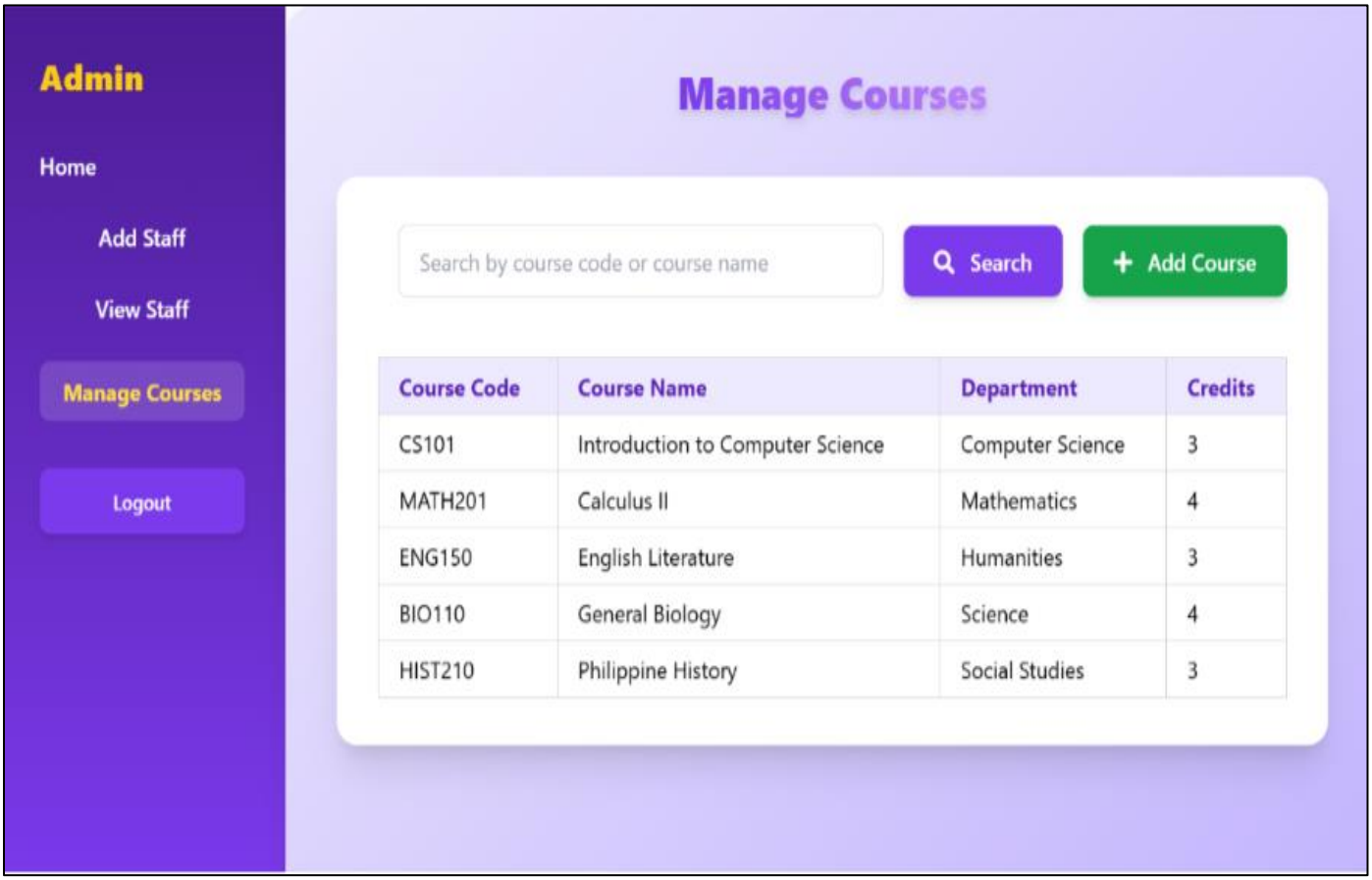


Fig 6 In this Figure, it Shows the Manage Courses where the Admin can view all Courses from Different Department And Add Course.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25may559

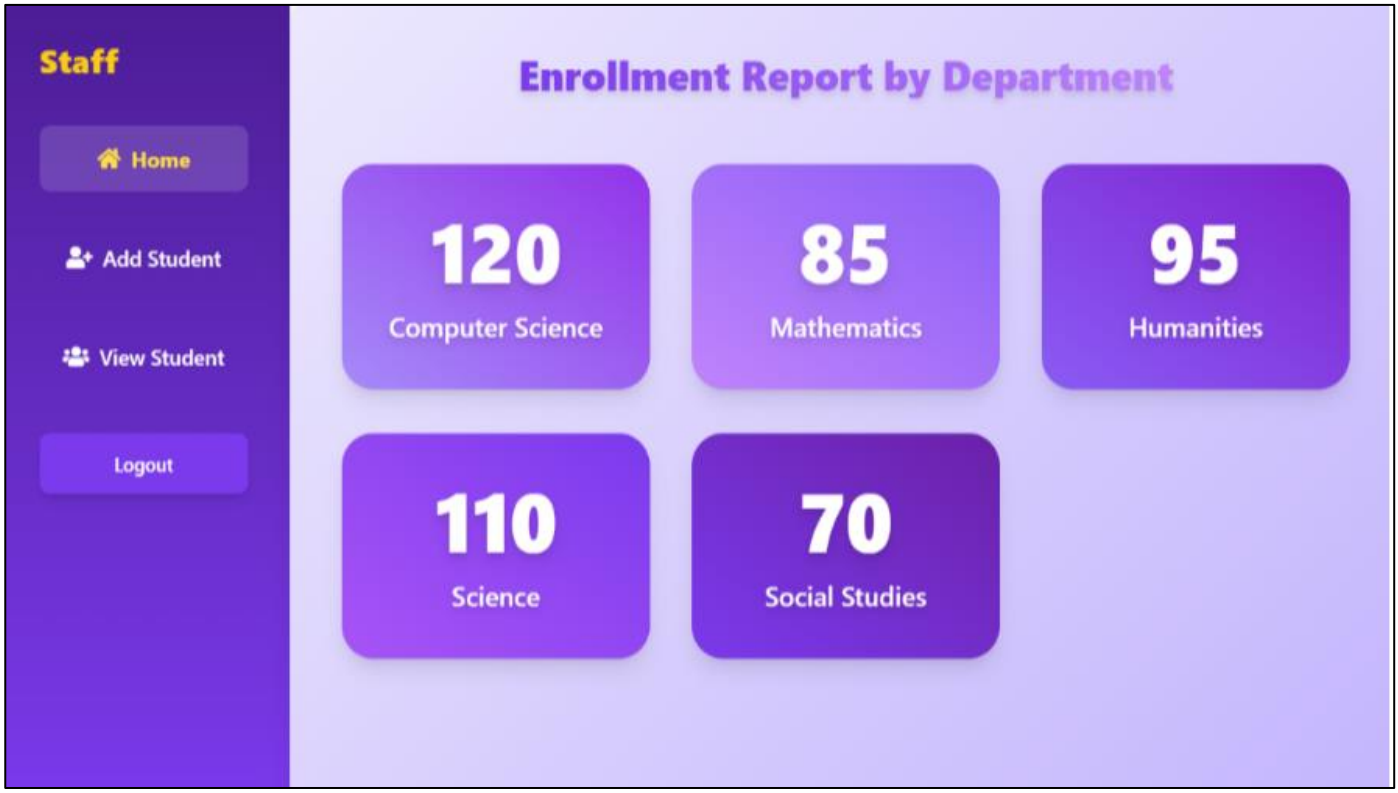


Fig 7 In this Figure, it Shows the Home Page of the Staff with the Total Number of the Students Enrolled in Every Department

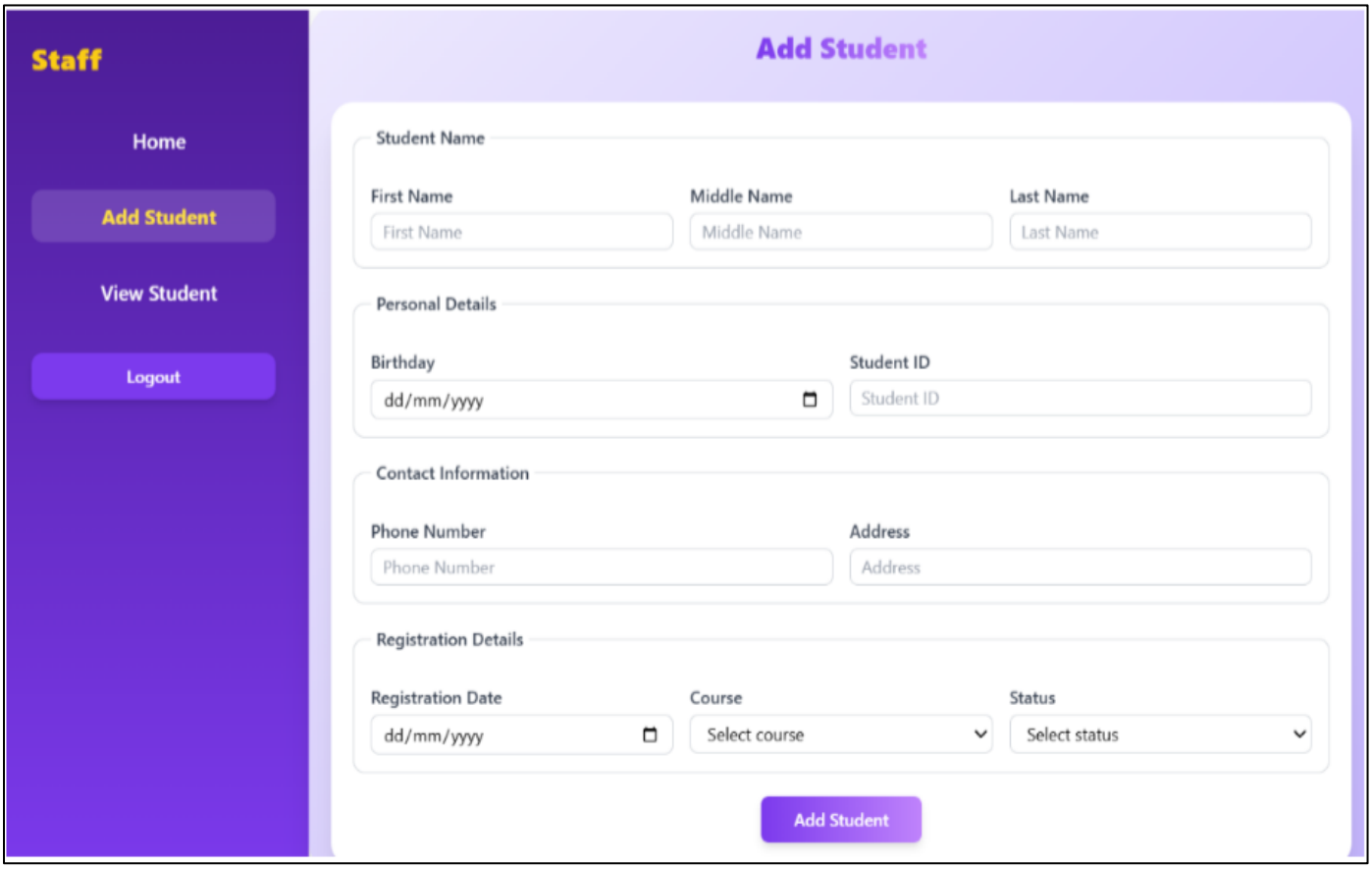
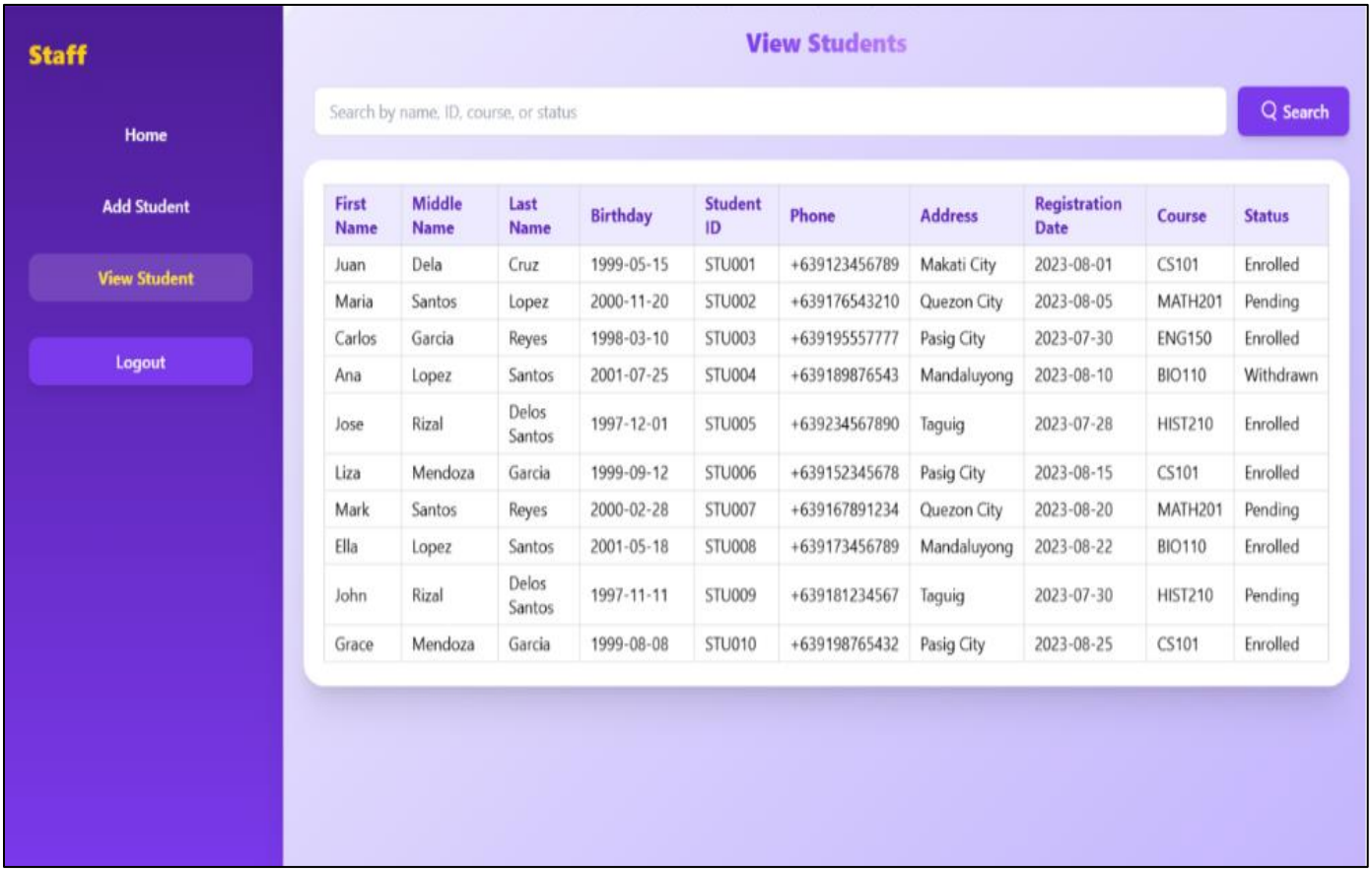


Fig 8 In this Figure, it Shows the Add Student Page where the Staff can Register the Student and Input all Necessary Student Information in the System.

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25may559



First Name	Middle Name	Last Name	Birthday	Student ID	Phone	Address	Registration Date	Course	Status
Juan	Dela	Cruz	1999-05-15	STU001	+639123456789	Makati City	2023-08-01	CS101	Enrolled
Maria	Santos	Lopez	2000-11-20	STU002	+639176543210	Quezon City	2023-08-05	MATH201	Pending
Carlos	Garcia	Reyes	1998-03-10	STU003	+639195557777	Pasig City	2023-07-30	ENG150	Enrolled
Ana	Lopez	Santos	2001-07-25	STU004	+639189876543	Mandaluyong	2023-08-10	BIO110	Withdrawn
Jose	Rizal	Delos Santos	1997-12-01	STU005	+639234567890	Taguig	2023-07-28	HIST210	Enrolled
Liza	Mendoza	Garcia	1999-09-12	STU006	+639152345678	Pasig City	2023-08-15	CS101	Enrolled
Mark	Santos	Reyes	2000-02-28	STU007	+639167891234	Quezon City	2023-08-20	MATH201	Pending
Ella	Lopez	Santos	2001-05-18	STU008	+639173456789	Mandaluyong	2023-08-22	BIO110	Enrolled
John	Rizal	Delos Santos	1997-11-11	STU009	+639181234567	Taguig	2023-07-30	HIST210	Pending
Grace	Mendoza	Garcia	1999-08-08	STU010	+639198765432	Pasig City	2023-08-25	CS101	Enrolled

Fig 9 In this Figure, it Shows the all the Student Information Store and Displayed in the System.

V. EVALUATION AND RESULTS

➢ *Usability Testing*

The usability testing for the student registration system was undertaken to assess its functionality, user interface design, and user satisfaction. Admin and staff members participated in the study and were asked to use both the current and redesigned systems to accomplish typical tasks like course registration, payment submission, and updating profiles. In the course of the testing sessions, researchers applied direct observation and open-ended questionnaires to capture user behavior and determine possible usability problems. These included layout confusion, delayed responses, and difficulty accessing key features.

A mixed-methods approach was used to obtain a thorough understanding of the user experience. Quantitative measures like task completion time and error rate were measured and analyzed to gauge system efficiency. At the same time, qualitative information was collected through open-ended feedback and structured interviews to tap into user satisfaction and visual attractiveness. Patterns and themes that emerged were used to gain a more in-depth interpretation of user frustration and needs. This process guaranteed that feedback directly influenced future enhancements to both UI and UX aspects.

➢ *Performance Metrics*

The student registration system's performance metrics were set to monitor key areas of system responsiveness, user task success rates, and error rate. Throughout the testing exercises, test participants were timed as they executed standard processes in the system, such as enrolling in a course and paying fees. The quantitative information captured was used to calculate the speed and accuracy of user interactions and pinpoint inefficiencies or delays within the interface affecting the user experience.

To complement the mixed methods research, qualitative feedback was also gathered to inform understanding of user experiences of performance. User experiences were provided through feedback forms and interview responses, and information on perceived speed, reliability, and convenience was elicited. Through a comparison of both numerical trends and descriptive feedback, the research elicited performance obstacles that could be improved through redesign of the interface and enhanced system logic. The integrated analysis provided a balanced assessment of how system improvements would enhance overall task performance and user satisfaction.

➢ *Comparative Analysis*

The newly optimized student registration system was compared to the old system and other comparable student registration systems of related studies. Unlike older systems that frequently-created navigation challenges and were not visually appealing, the new system's redesigned interface stressed simplicity and usability, leading to lower cognitive load and faster completion of tasks. The revised system showed gains in task flow as well as visual design, but in some areas performance, especially in response time, could still be improved.

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Major benefits of the new system were a more minimalistic design, improved organization, and contemporary graphical elements that improved the overall user experience. Some limitation was also noted, particularly in user customization and the adaptability of the interface to fit a range of student requirements. These findings indicate the need for ongoing user input and additional iterative refinement to further develop the system's personalization tools and guarantee that it satisfies the diverse needs of users.

➢ *Results and Findings*

Table 1 Assistive Technology

Assistive Technology	MEAN	SD	Level's Interpretation
1. The current student registration system is easy to navigate and understand.	4.35	0.73	Strongly Agree
2. Users often encounter technical issues or errors during the registration process.	2.85	0.91	Neutral
3. Improving the user interface would make the registration process more efficient.	4.45	0.6	Strongly Agree
4. The system provides sufficient feedback or confirmation after completing registration.	3.7	0.82	Agree
5. Visual design elements such as layout, colors, and fonts affect user experience.	4.25	0.72	Strongly Agree
6. The registration system lacks accessibility features for users with disabilities.	2.5	0.88	Disagree
7. Clear instructions and prompts are essential for improving usability in the registration process.	4.6	0.5	Strongly Agree
8. Users do not need interface enhancements to complete registration effectively.	2.3	0.77	Disagree
9. Mobile responsiveness of the registration system improves user satisfaction.	4.1	0.69	Agree
10. Enhancing the system's interface and experience will significantly benefit both admin and school staff.	4.5	0.56	Strongly Agree
TOTAL MEAN AND SD	**3.76**	**0.72**	**Agree**

Table 2 Equitable Access

Equitable Access	MEAN	SD	Level's Interpretation
1. All admin/staff, regardless of device or internet connection quality, should have equal access to the registration system.	4.65	0.48	Strongly Agree
2. Lack of digital literacy among some staff limits their ability to use the registration system effectively.	4.3	0.6	Strongly Agree
3. Schools should provide accessible devices for staff who lack access to personal devices during registration periods.	4.5	0.57	Strongly Agree
4. Registration systems should be designed to accommodate users with visual or motor impairments.	4.4	0.58	Strongly Agree
5. Poor internet connectivity in rural or underserved areas makes online registration inaccessible for some students.	4.35	0.66	Strongly Agree
6. Translating the registration interface into multiple languages would improve access for non-native speakers.	4.15	0.74	Agree
7. Financial constraints should not prevent institutions from upgrading outdated registration systems.	4.25	0.64	Strongly Agree
8. Registration systems should be mobile-friendly to ensure access for students using smartphones.	4.55	0.51	Strongly Agree
9. Government or institutional policies should mandate accessible digital registration processes for all students.	4.35	0.69	Strongly Agree
10. Feedback mechanisms should be in place to help identify and resolve access issues for underserved student groups.	4.2	0.61	Agree
11. Ignoring equitable design principles in registration systems may exclude students with special needs or from low-resource backgrounds.	4.5	0.56	Strongly Agree
TOTAL MEAN AND SD	4.38	0.61	Strongly Agree

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Table 3 Speech Capability

Statement	MEAN	SD	Level's Interpretation
1. The current interface design of the registration system supports users in completing the process with minimal assistance.	4.10	0.55	Agree
2. Improvements in user experience design have not significantly enhanced the efficiency of the registration process.	2.30	0.64	Disagree
3. Interactive visual elements such as progress bars and icons help users better understand the registration steps.	4.20	0.58	Agree
4. Users do not likely benefit from interface improvements in reducing registration errors.	2.10	0.60	Disagree
5. Customizable themes and accessibility settings can improve the registration experience for users with special needs.	4.00	0.62	Agree
6. A clean and modern user interface is not essential in encouraging users to complete their registration.	2.00	0.59	Disagree
7. Combining intuitive navigation and responsive layouts enhances the overall user experience of the registration system.	4.30	0.48	Strongly Agree
8. Enhanced user interface features do not contribute to a more inclusive registration experience.	1.90	0.57	Disagree
9. Well-designed user interfaces positively impact the registration speed and user satisfaction.	4.40	0.50	Strongly Agree
10. Future improvements in UI/UX design will not significantly improve the performance of student registration systems.	2.20	0.61	Disagree
TOTAL MEAN AND SD	**3.25**	**0.58**	**Agree**

VI. DISCUSSION

- *Mean Range Interpretation (Likert Scale Guide)*

Table 4 Mean Range Interpretation (Likert Scale Guide)

Mean Range	Interpretation
4.20 – 5.00	Strongly Agree
3.40 – 4.19	Agree
2.60 – 3.39	Neutral
1.80 – 2.59	Disagree
1.00 – 1.79	Strongly Disagree

This table defines how mean scores from 1.00 to 4.00 are interpreted (e.g., Low to High) for Likert-scale responses. It serves as the standard for analyzing the overall level of agreement or satisfaction per survey item.

Table 5 Assistive Technology

Assistive Technology	MEAN	SD	Level's Interpretation
1. The current student registration system is easy to navigate and understand.	4.35	0.73	Strongly Agree
2. Users often encounter technical issues or errors during the registration process.	2.85	0.91	Neutral
3. Improving the user interface would make the registration process more efficient.	4.45	0.6	Strongly Agree
4. The system provides sufficient feedback or confirmation after completing registration.	3.7	0.82	Agree
5. Visual design elements such as layout, colors, and fonts affect user experience.	4.25	0.72	Strongly Agree
6. The registration system lacks accessibility features for users with disabilities.	2.5	0.88	Disagree
7. Clear instructions and prompts are essential for improving usability in the registration process.	4.6	0.5	Strongly Agree
8. Users do not need interface enhancements to complete registration effectively.	2.3	0.77	Disagree
9. Mobile responsiveness of the registration system improves user satisfaction.	4.1	0.69	Agree
10. Enhancing the system's interface and experience will significantly benefit both admin and school staff.	4.5	0.56	Strongly Agree
TOTAL MEAN AND SD	**3.76**	**0.72**	**Agree**

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This table reflects the quantitative summary and interpretation of staff responses regarding the usability and effectiveness of the student registration system's assistive technology features.

The data suggest that the current student registration system is generally perceived as user-friendly and accessible. Most respondents agreed that improving the user interface could enhance the registration process (M = 4.30), and emphasized the benefit such improvements would bring to both admin and school staff (M = 4.45). In addition, staff expressed strong agreement that clear instructions and prompts are essential for improving system usability (M = 4.25), and that visual design elements such as layout, color, and font significantly affect user experience (M = 4.20). Respondents also acknowledged the positive effect of mobile responsiveness (M = 4.30) and the value of feedback mechanisms after completing registration (M = 4.10).

However, responses also revealed concerns. Users moderately agreed that technical issues are encountered during registration (M = 3.60) and that the current system lacks accessibility features for users with disabilities (M = 3.50). Notably, participants disagreed with the statement that users do not need interface enhancements to register effectively (M = 2.25), indicating a recognized need for improvements.

Overall, the grand mean (M = 3.79, SD = 0.51) indicates an "Agree" level of interpretation, suggesting that while the platform is generally effective, there remains room for development—particularly in addressing accessibility and inclusivity for all users.

Table 6 Equitable Access

Equitable Access	MEAN	SD	Level's Interpretation
1. All admin/staff, regardless of device or internet connection quality, should have equal access to the registration system.	4.65	0.48	Strongly Agree
2. Lack of digital literacy among some staff limits their ability to use the registration system effectively.	4.3	0.6	Strongly Agree
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4. Registration systems should be designed to accommodate users with visual or motor impairments.	4.4	0.58	Strongly Agree
5. Poor internet connectivity in rural or underserved areas makes online registration inaccessible for some students.	4.35	0.66	Strongly Agree
6. Translating the registration interface into multiple languages would improve access for non-native speakers.	4.15	0.74	Agree

This table summarizes user feedback regarding the fairness and inclusiveness of the digital student registration system. The results emphasize the importance of ensuring that all staff, regardless of socioeconomic status, location, or physical ability, are able to access and utilize the system effectively.

Based on the findings, there is a strong consensus that equitable access must be a priority. Respondents strongly agreed that all staff should have equal access to the registration system regardless of device or internet connection quality (M=4.65), and that schools should provide accessible devices for staff without personal devices (M=4.50). Furthermore, the design of registration systems must consider users with visual or motor impairments (M=4.40), and these platforms should also be mobile-friendly to accommodate staff using smartphones (M=4.55). Participants also highlighted the need for policies that ensure accessibility for all staff (M=4.35), particularly in rural or underserved areas where poor internet connectivity remains a barrier (M=4.35).

Moreover, the data suggests that the lack of digital literacy among some staff (M=4.30) and financial limitations on institutions (M=4.25) further challenge access. Translating registration interfaces into multiple languages (M=4.15) and implementing effective feedback mechanisms (M=4.20) were also noted as crucial strategies to improve accessibility. Lastly, ignoring equitable design principles risks excluding staff with special needs or those from underprivileged backgrounds (M=4.50), reinforcing the necessity for inclusive planning. The overall results (Grand Mean = 4.38, SD = 0.61) indicate a strong agreement among users that equitable access must be a foundational principle in the development and implementation of registration systems.

- *Contributions and Innovation*

This research contributes to the understanding of how modern Human-Computer Interaction (HCI) theories and frameworks can be practically applied to enhance real-world systems such as school registration platforms. It emphasizes the importance of incorporating feedback loops and iterative design to develop user-centered solutions that address diverse user needs.

The system introduces optimized user experiences through features like intuitive workflows, personalized dashboards, and mobile-responsive design, while offering data-driven insights for administrative decision-making. These enhancements lay the groundwork for future integration of AI-powered tools, paving the way for more efficient, accessible, and intelligent registration processes.

- *Limitations and Future Work*

The limited sample size of the study constrains the generalizability of its results. Moreover, issues such as server

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25may559

response during heavy usage and a lack of tailoring to some user requirements must be resolved.

Future studies should use a greater, more heterogeneous participant population to verify the results in various educational settings. Investigating AI capabilities, like chatbots and machine learning for custom registration, would further improve the usability and effectiveness of the system. Iterative testing using sophisticated metrics will refine the user experience.

VII. CONCLUSION

➢ *Summary of Key Findings*

The research confirms that the incorporation of UI/UX principles hugely improves the student registration system usability, simplifying navigation, optimizing task accomplishment, and enhancing user satisfaction. Innovative design aspects such as clear names, intuitive layouts, and flattened workflows have transformed the system for easier accessibility by minimizing cognitive burdens and maximizing user engagement. There are still areas of concern regarding slower response and system performance amid high usage times. In the future, features such as customized experiences and an easier onboarding procedure may further shape the system. Iterating regularly on these advancements will assist in alleviating present usability issues and develop a more effective, pleasing user experience.

➢ *Final Remarks*

This study underscores the necessity of user-focused strategy in overcoming actual-life problems within computerized systems. By bringing design optimization into consonance with users' needs, this work outlines a template for merging state-of-the-art UI/UX paradigms with student enrollment systems. The study makes a contribution toward continued development of improved, easier-to-use digital interfaces, taking HCI further as well as making systems accessible, efficient, and engaging for every user.

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ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25may559

APPENDICES

APPENDIX A: INTERVIEW QUESTIONS

Table 7 Questions for Assistive Technology

Questions	**Strongly Disagree (1)**	**Disagree (2)**	**Neutral (3)**	**Agree (4)**	**Strongly Agree (5)**
1. The current student registration system is easy to navigate and understand.	☐	☐	☐	☐	☐
2. Users often encounter technical issues or errors during the registration process.	☐	☐	☐	☐	☐
3. Improving the user interface would make the registration process more efficient.	☐	☐	☐	☐	☐
4. The system provides sufficient feedback or confirmation after completing registration.	☐	☐	☐	☐	☐
5. Visual design elements such as layout, colors, and fonts affect user experience.	☐	☐	☐	☐	☐
6. The registration system lacks accessibility features for users with disabilities.	☐	☐	☐	☐	☐
7. Clear instructions and prompts are essential for improving usability in the registration process.	☐	☐	☐	☐	☐
8. Users do not need interface enhancements to complete registration effectively.	☐	☐	☐	☐	☐
9. Mobile responsiveness of the registration system improves user satisfaction.	☐	☐	☐	☐	☐
10. Enhancing the system's interface and experience will significantly benefit both students and school staff.	☐	☐	☐	☐	☐

Table 8 Questions for Speech Capability

Questions	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1. The current interface design of the registration system supports users in completing the process with minimal assistance.	☐	☐	☐	☐	☐
2. Improvements in user experience design have not significantly enhanced the efficiency of the registration process.	☐	☐	☐	☐	☐
3. Interactive visual elements such as progress bars and icons help users better understand the registration steps.	☐	☐	☐	☐	☐
4. Users do not likely benefit from interface improvements in reducing registration errors.	☐	☐	☐	☐	☐
5. Customizable themes and accessibility settings can improve the registration experience for users with special needs.	☐	☐	☐	☐	☐
6. A clean and modern user interface is not essential in encouraging users to complete their registration.	☐	☐	☐	☐	☐
7. Combining intuitive navigation and responsive layouts enhances the overall user experience of the registration system.	☐	☐	☐	☐	☐
8. Enhanced user interface features do not contribute to a more inclusive registration experience.	☐	☐	☐	☐	☐
9. Well-designed user interfaces positively impact the registration speed and user satisfaction.	☐	☐	☐	☐	☐
10. Future improvements in UI/UX design will not significantly improve the performance of student registration systems.	☐	☐	☐	☐	☐

ISSN No:-2456-2165 https://doi.org/10.38124/ijisrt/25may559

APPENDIX B: THEMATIC ANALYSIS CODES QUESTION 1

Question 1
Code 1: Outdated Design
R1: "The registration system is old and could use a redesign badly."
R3: "The layout of the system is old, making it more difficult to navigate."
R5: "The design is plain and doesn't seem modern."
Code 2: Layout Functionality
R2: "The layout is plain and easy to navigate."
R6: "The overall structure of elements is good and makes it intuitive."
Code 3: Design Clarity
R4: "The functionality of the design is good, but it doesn't look attractive and seems too plain."
R7: "The interface should be made clearer and have more visual cues to improve usability."
Question 2
Code 4: System Performance Issues
R1: "Long system response times make it difficult to perform tasks effectively."
R4: "The delay and occasional freezing make registering annoying."
R5: "The slow performance negatively affects the user experience."
Code 5: Positive Navigation Experience
R2: "Once loaded, navigating through the system is straightforward and smooth."
R6: "I had no issues with navigation once the system was responsive."
Code 6: Frustration with Delays
R3: "The delays caused by the system affect the registration process."
R5: "Long wait times make it harder to complete tasks efficiently."
R7: "These delays slow down the efficiency of my registration."
Question 3
Code 7: Helpful Features
R4: "The 'search' feature really assisted me in locating student details quickly."
R7: "The filter options are very helpful in limiting search results."
Code 8: Frustrating Elements
R1: "The buttons are too big and navigation is clumsy."
R2: "Slow responses frustrate the registration process."
R6: "I get frustrated a lot when the system doesn't save my information correctly."
Code 9: Need for Error Prevention
R5: "The system doesn't provide error warnings, and I tend to make mistakes due to it."
R7: "There need to be more notifications when I make a mistake to assist in preventing data loss."
Question 4
Code 10: Efficiency in Task Completion
R2: "I could complete registration tasks relatively quickly."
R4: "The system usually functions well for completing tasks without delay."
R6: "I could complete registration tasks without significant problems."
Code 11: Task Completion Hindered by System Delays
R1: "The slowness in the system made it difficult for me to finish the task effectively."
R5: "I was able to get my work done, but there were some setbacks due to the lag in the system."
R7: "The slowness of the system made the registration process less efficient."
Code 12: System Functionality
R3: "The system performed as expected by assisting me in finishing my work, but it should be improved."
R8: "The system functions, but it can do better with a few adjustments."
Question 5
Code 13: Design Updates and Aesthetic Appeal
R1: "The system should have a fresher and newer design."
R3: "Better colors and more attractive visual features would enhance the experience."
R6: "Redesign with fresh visuals would make it more user-friendly."
Code 14: Improvements in System Functionality
R2: "Adding options like 'edit' facilities and notifications would enhance the system's functionality."
R5: "Sizing tables and enhancing search features would make the system more efficient."
R7: "Adding a clear and intuitive design would make the system more efficient."
Code 15: User Experience and Customization
R4: "The system needs greater opportunities to customize the interface for students' needs. "
R6: "Having personalized user profiles may enhance user experience. "