A Project report on

STUDENT360

A Dissertation submitted to JNTU Hyderabad in partial fulfillment of the academic requirements for the award of the degree.

Bachelor of Technology

in

Computer Science and Engineering

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CERTIFICATE

This is to certify that the Major Project Phase I report entitled **"STUDENT360"** being submitted by Pammina Satwik (20H51A0543), Rishab Agarwal (20H51A0547), Akshith Akkali (20H51A05M7) in partial fulfillment for the award of **Bachelor of Technology in Computer Science and Engineering** is a record of bonafide work carried out his/her under my guidance and supervision.

The results embodies in this project report have not been submitted to any other University or Institute for the award of any Degree.

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ABSTRACT

In colleges and Universities, faculty face a lot of problems collecting information from students about the completion and choosing of Open Electives and Professional electives at the beginning of the semester. Also, most of the students select the subjects which were already attained by them, not realizing until the final semester.

Thus, resulting in not satisfying the required credit score and taking an extra semester wasting their valuable time. Student360 is a project that focuses on students completing their Open Electives and Professional electives, faculty managing students academic profiles and admins adding subjects elected by students and also regarding their academics.

The project works as a reminder for students to check their credit score and wrap up the subjects which were not completed by them previously.

CHAPTER 1
INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1.Problem Statement

The current manual course registration system within the educational institution is beset with several challenges, hindering the seamless enrollment process for students. These challenges include:

1) **Complex and Time-Consuming Process**: The manual course registration process is intricate and time-consuming, involving multiple steps such as form filling, approvals, and data entry. This complexity often leads to errors and delays in the registration process.

2) **Limited Accessibility**: Physical registration forms and records are difficult to access for both students and administrative staff.

3) **Limited Scalability**: With a manual system, accommodating a growing number of students becomes increasingly challenging. The manual process cannot efficiently handle a large volume of course registrations, leading to bottlenecks during peak registration periods.

1.2.Research Objective

Evaluate Current System Challenges: Understand the specific challenges and limitations faced by the educational institution's current manual course registration system, including issues related to data accuracy, efficiency, and resource utilization.

1) **Analyze User Requirements**: Identify the specific needs and preferences of both students and administrative staff regarding the course registration process.

2) **Assess Data Accuracy and Integrity**: Investigate the accuracy and integrity of student and course data processed through the automated system.

3) Analyze Resource Utilization: Evaluate the utilization of human resources and physical space within the institution after implementing the automated system.

4) **Examine Cost-Effectiveness**: Conduct a cost-benefit analysis comparing the expenses associated with the manual system and the automated Course Registration System.

1.3) Project Scope and Limitations

Scope:

The Student360 project aims to address the challenges faced by colleges and universities in managing elective selections and academic profiles. It encompasses the following key areas:

1) **Elective Selection:** The project focuses on assisting students in making informed choices for Open Electives and Professional Electives at the beginning of the semester. It provides a user-friendly platform for students to select electives.

2) **Academic Profile Management**: Faculty and administrators are empowered with tools to efficiently manage students' academic profiles, including elective choices, progress tracking, and credit scoring.

3**) Administrative Functions:** Administrators can add elective subjects to the system, maintain academic records, and monitor students' academic performance.

4) **Credit Score Monitoring**: The system serves as a reminder for students to regularly check their credit scores, helping them ensure they meet academic requirements and avoid the need for an extra semester.

Limitations:

1) **Limited User Acceptance**: Resistance to change among administrative staff or students might hinder the acceptance and adoption of the new system, impacting its effectiveness.

2) **Dependency on Technology**: Relying entirely on technology makes the system vulnerable to outages, power failures, or network issues, disrupting access to essential services.

3) **Maintenance Challenges**: Ensuring the system's long-term functionality requires regular updates, maintenance, and technical support, which can strain the institution's resources.

4) **Scalability Issues**: If the system is not designed to handle a large volume of users and data, it might face scalability challenges as the institution grows, leading to performance issues.

CHAPTER 2
BACKGROUND WORK

CHAPTER 2

BACKGROUND WORK

2.1) Development of Online Student Course Registration System

2.1.1) Introduction

System may be defined as a layered structure that depicts how programs involved would interrelate and communicate. In computers, System may also include actual programs, programming interfaces and tools for managing the larger system. The term system may be used differently in different contexts, but more or less the concept remains the same. Online student course registration system combines multiple systems to construct a combined framework. This framework consists of multiple modules, which further contain different systems along with the implementation of their defined constraints

Basically, systems are implemented for facilitating complex manual processes and that is exactly what we are trying to achieve. System is implemented as per user requirement such as a manufacturing concern may install a plant for easing out manual processes. We have sought help from computer programming for automation of manual registration system. With the introduction of computers, every aspect of our lives has been revolutionized. When used judiciously, computers can help us save time, secure our personal information, access the required information whenever and wherever required. Keeping all these positive points in mind, we have developed an Online Student Course Registration System for easily managing the semester registration process for the student in an institution.

2.1.2) Merits, Demerits and Challenges

Merits:

1) Efficiency and Time-Saving: The system significantly streamlines the course registration process, reducing the laborious and time-consuming manual paperwork. Students can register for courses more efficiently, and administrators can manage the process more effectively.

2) User-Friendly: The online system is designed to be user-friendly, making it accessible to both students and administrative staff. It simplifies the registration process, reducing the chances of errors and confusion.

3) Automation: Automation of the course registration process eliminates the need for physical paperwork, reducing the chances of lost documents and manual errors. This leads to a more accurate and reliable registration process.

Demerits:

1) Technical Challenges: Some students or staff members may not be technologically proficient, and they may struggle with using the online registration system. This can lead to resistance to change and require additional training.

2) Initial Development and Maintenance Costs: Developing and maintaining an online registration system, including hardware, software, and security measures, can be costly. It requires continuous updates and support.

3) Internet Dependency: The system relies on internet connectivity, which could be a limitation in areas with unreliable or limited access to the interne

Challenges:

1) User Experience Design: Designing a user-friendly interface that caters to the needs and preferences of both students and administrative staff is critical but can be challenging to achieve effectively.

2) Scaling and Performance: Ensuring that the system can handle a large volume of concurrent users during peak registration periods without performance issues or downtime is a technical challenge.

3) Regulatory Compliance: Depending on the jurisdiction and type of institution, there may be legal and regulatory requirements related to data privacy and accessibility that need to be addressed.

2.1.3) Implementation

An online registration system was developed where a student can register himself. The registration form has been designed to be user friendly and easy to fill and hence leads to saving of time and money as compared to multiple forms filled manually by the students. The software development team ascertained the technical feasibility of the project and concluded that the project can be undertaken with available technology and resources. Although implementation phase might require hardware additions but currently the project is technically feasible and should proceed further. The operational feasibility analysis acknowledged the acceptability of the provided solution to the problem. This analysis verified that the new system will be acceptable and adaptable to the new users. The economic feasibility study perceived that the project will produce long term gains for the institution. The cost benefit analysis proved that benefits of the proposed system undermine the costs involved, hence the system is worth implementing. The utility it provides to the students for completing the registration process and the provision it provides to the faculty for managing the database makes this project feasible to undertake.

While designing the web application portal a three tier architecture for application development was followed. The presentation tier occupies the front end design of the application. It relates to every entity with which the user interacts. It accepts user inputs and actions, and then sends this information to the data tier through the application tier for further processing. The student course registration portal accepts input in the form of student’s mind the authenticity concerns of different users.

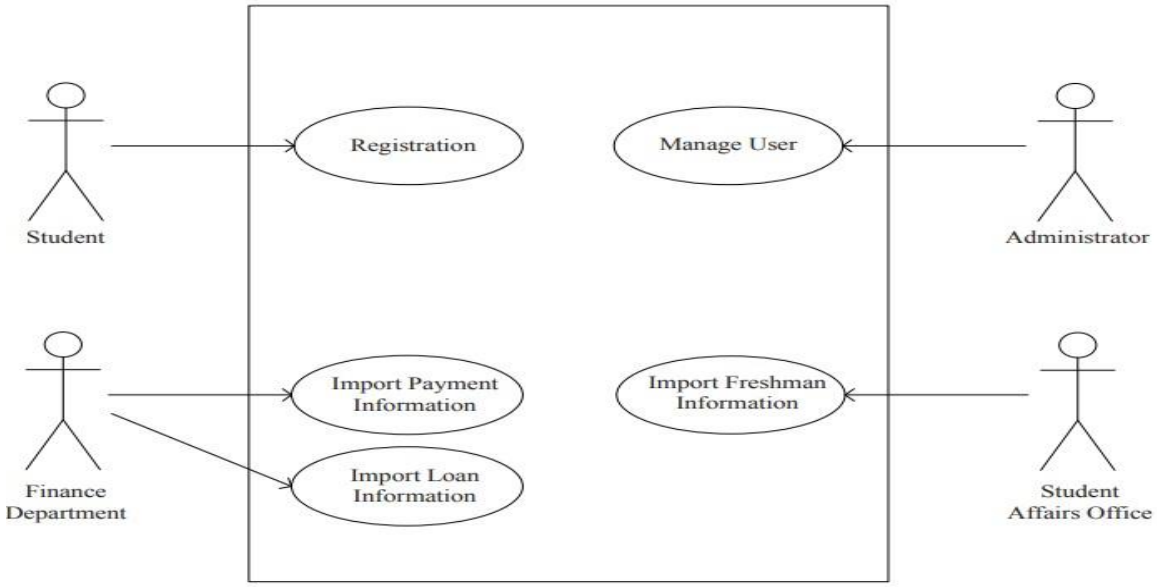


Figure 1. System Use Case Diagram

2.2) Design and Implementation of Student Registration System for Universities

2.2.1) Introduction

Every term the student registration was an indispensable part of work for the universities. Traditionally, the work was done by artificial management, and the registration of the corresponding classes was responsible by counselors from the institutes of colleges. In the process of registration, the counselor should stay in his office all day around, waiting for the students to come to registration. The whole process of registration was very simple. The counselor stamped on the corresponding location of the student's student ID card each term. This process was closed information, manual operation and low efficiency. To sum up, there might be some problems in the old registration process which is shown as follows.

2.2.2) Merits, Demerits and Challenges

Merits:

1) Face-to-Face Interaction: The traditional registration process allowed for direct, in-person interaction between students and counselors.

2) Immediate Problem Resolution: Any issues or questions that students had during the registration process could be addressed immediately by the counselor, ensuring a quick resolution.

3) Personalized Guidance: Counselors had the opportunity to provide personalized guidance to students, helping them make informed decisions about their course selections.

Demerits:

1) Lack of Data Analysis: Traditional registration processes provided little opportunity for data analysis, making it difficult for institutions to gather insights on course demand, student preferences, and overall registration trends.

2) Prone to Errors: Manual stamping of ID cards could lead to errors, both in course selection and in the recording of registered courses. This could result in academic and administrative challenges.

Challenges:

1) Limited Time Window: Students had to adhere to specific registration days and times, which could create scheduling conflicts for some individuals, making it difficult for them to register for their desired courses.

2) Overcrowding: The traditional process, especially in larger universities, often led to overcrowding and long lines, causing frustration and stress for both students and counselors.

3) Data Accuracy: The reliance on manual processes, such as stamping ID cards, made the system prone to human errors, which could lead to issues with course registration and academic progress tracking.

2.2.3) Implementation

Function modules of the student registration system for universities can be divided into four roles, the administrator, the student, Finance Department and Student Affairs Office. The administrator is responsible for the maintenance of the entire system data, as well as the statistical and the analysis of data. The student uses the system to register just by brushing the student card. Finance Department is responsible for updating the information of the students' payments and the information of the students' loans. Student Affairs Office is responsible for importing the basic information data of freshman every school year.

2.3) Course Registration System

2.3.1) Introduction

A college management registration system empowers colleges and educators to manage regular tasks such as campaigns, student enrolment, admissions, course registration, etc. Registering for courses while taking admission to a college is the most crucial step as it lays the foundation for an entire semester. Providing this information to thousands of students, and that too correctly is a huge task if done manually. Hence, an online College Management System is needed which can provide a list of courses available according to the semester a student selects and talks about the courses one has selected. This system can be used as an integrative tool for many colleges and can be modified according to a college's requirements. This system is much quicker, efficient and the only force used is the clicking of a mouse button.

2.3.2) **Merits, Demerits and Challenges**

Merits:

1) Efficiency and Accuracy: The online system streamlines and automates various tasks related to student registration, admission, and course selection, leading to increased efficiency and reduced errors.

2) Improved Accessibility: Students can access the system from anywhere with an internet connection, eliminating the need for physical visits to the college, making it more accessible to a broader range of students.

Demerits:

1) Technical Challenges: Implementing and maintaining the online system may require technical expertise, and some students and staff may struggle with using it.

2) Initial Development Costs: Developing the system, including software, hardware, and security measures, can be costly. Securing funding for the initial development and ongoing support can be challenging.

Challenges:

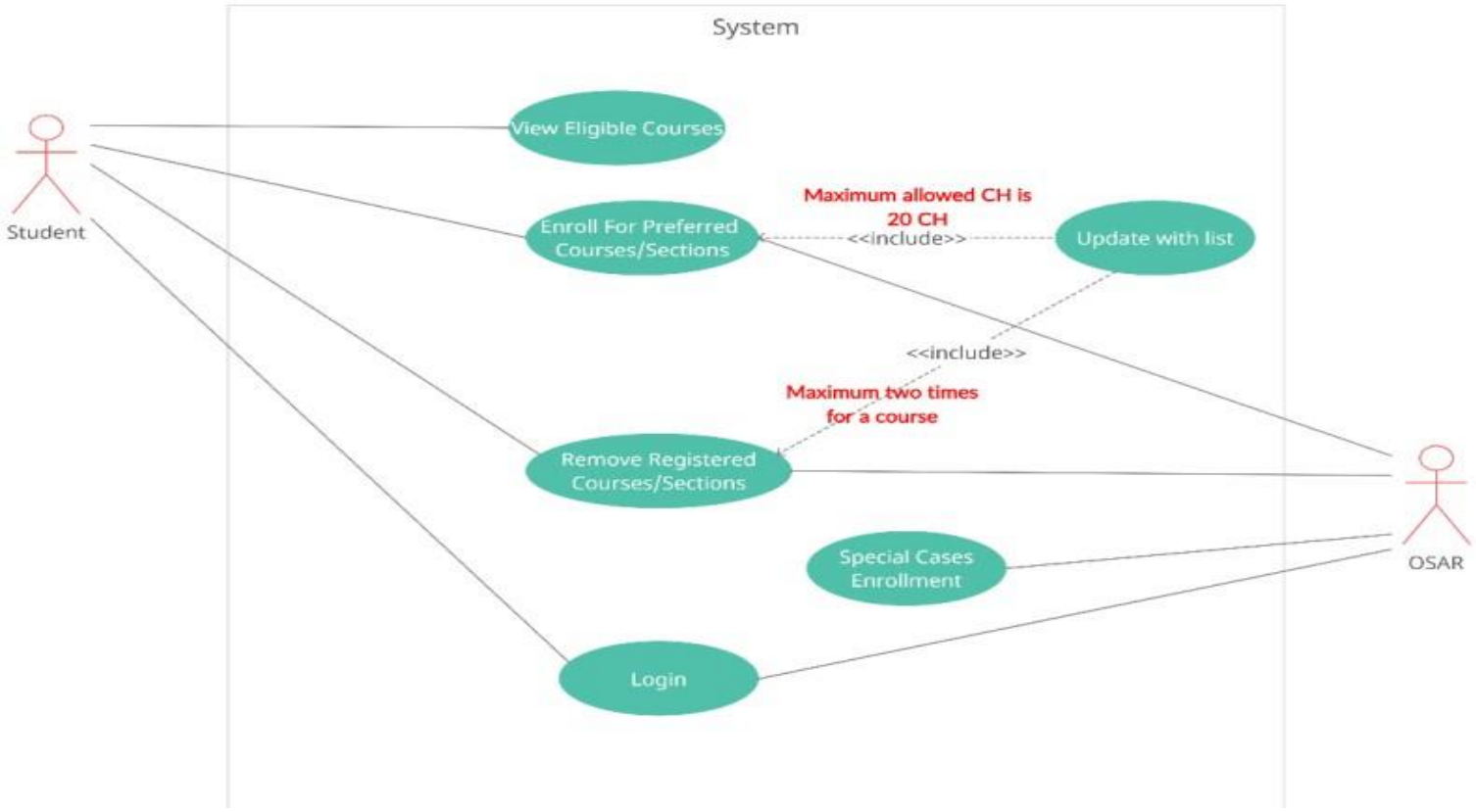
1) Data Privacy and Security: Safeguarding sensitive student information from data breaches and ensuring data privacy is crucial and can be challenging.

2) Customization: Adapting the system to the specific needs and requirements of each college may be complex, as it may require customization and integration with existing systems.

2.3.3) Implementation

The "Course Registration System" is implemented with an HTML and CSS front-end to create a user-friendly interface. This system allows students to search for courses by selecting a semester and displays course information. The "Course Registration" step lets students register for their chosen course by entering the Course ID and Semester. On the back-end, PHP scripts connect with a MySQL database to handle these operations, with thorough exception handling for potential errors, ensuring data integrity and user security. The system is tested rigorously for functionality and security, deployed on a web server, and continuously monitored and updated for optimal performance.

Figure 2 : Use Case Diagram



CHAPTER 3
RESULTS AND DISCUSSION

CHAPTER 3

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2.3.3) Results & Discussion

1)The Online Student Course Registration System has streamlined and automated the course registration process, reducing administrative burdens, minimizing errors, and enhancing efficiency. The merits include enhanced user-friendliness and automation. However, there are challenges related to user proficiency and internet dependency.

2) The Student Registration System for universities maintains the personalized, face-to-face interaction between counselors and students, facilitating immediate problem resolution and guidance. This offers a unique merit in terms of a personal touch in the registration process. However, it has limitations in terms of data analysis capabilities and error-prone manual processes.

3) The College Course Registration System has introduced efficiency and accessibility, allowing students to register for courses online. This implementation simplifies the process, reduces the need for physical visits, and enhances the overall user experience. Nevertheless, challenges include technical expertise requirements, initial development costs, and data security concerns.

4) Challenges remain, particularly in the realm of technical proficiency. Some students and staff may find it challenging to adapt to the new digital systems, and additional training may be required to ensure a smooth transition. Furthermore, the initial development and ongoing maintenance costs can be a financial hurdle for institutions.

5) Overall, the implementation of these online registration systems marks a significant step forward in improving efficiency and user experience in educational institutions.

CHAPTER 4
CONCLUSION

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CONCLUSION

The Problem: Colleges and universities encounter challenges in gathering elective information from students. Students often unintentionally choose previously completed subjects.

Our Solution: The project works as a reminder for students to check their credit score and wrap up the subjects which were not completed by them previously.

The Impact: Our solution streamlines elective selection, reducing resource wastage and enhancing academic efficiency..

CHAPTER 5
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REFERENCES

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