MIT UNIVERSITY'S – ABHIVRUDDHI JOURNAL
VOL.2 (01) , JUNE , 2022 pp- 14-16
ISSN(Online): 2584-1025

Time Table Scheduling System

Shamika Kadav
MIT ADT
UNIVERSITY
PUNE
+91 7030677003
shamikadavgmail.com

Apurva Patil
MIT ADT
UNIVERSITY
PUNE
+91 78210 93399
apurva122001@gmail.com

Aryan Tanwar
MIT ADT
UNIVERSITY
PUNE
+91 83027 56425
aryan.taanwar2001@gmail.com

Sachin Takale
MIT ADT
UNIVERSITY
PUNE
+91 96899 34042
sachin.takale@mituniversity.ed u.

ABSTRACT
In an organization timetable's are accessed by hundreds of users on the daily be it the faculty or students. There are various operations associated with the access of these timetables. The problems associated with the existing manual time table management system are the inability to maintain proper records of lectures, the difficulty to organize and arrange meetings of faculty members and the overall need for manual communication between users in case of rescheduling or exchanging lectures. So with the technology of developing web applications, it is feasible to create a timetable software to streamline this process of managing and effectively utilizing the faculty's time and organizations resources.The aim of this paper is to describe efficient and convenient time table management in academic institutions.

Keywords
Database; Web Application.

1. INTRODUCTION
The difficulties posed by an ineffective scheduling and time table management system are widely recognized. At the start of every academic year, there is immense pressure to create schedules, arrange time slots, allocate resources and account for unexpected teacher absences, among other things. Although there is computerization of all managerial tasks, the scheduling system is executed without automation. Everyone owns a smartphone in today's world. Therefore, with the technology at hand we can rely completely on the efficiency of this system.

The restraints involved in the manual scheduling system are clashing of one or more than one lectures and inefficient communication. While it is preferable for timetables to fulfill all of the required conditions, it is often challenging to meet them. All of the criteria should not be violated in order to create a feasible schedule that accommodates both students and faculty.

The objectives of this project are - to computerize all lecture details regarding student and faculty; to provide simple and easy to grasp scheduling service for faculty members so that the organization's facilities are utilized effectively and in an efficient manner; to streamline the process of scheduling unregistered remedial lectures if and when required.

In this project, we will be having two end users. To name them are - student and faculty. Therefore the login page will include the following fields - Name, Code, two Radio buttons namely, Student and Faculty. If faculty is selected, then a dropdown will appear which contains subject options. The dashboard pages for both users will include their schedule for the day. If there are any amendments to be made, the faculties can do so with the options at hand. The upgraded iteration will be displayed on the student webpage. The staff will also send notifications to the students 15 minutes prior to the next lecture. Therefore, these features help in the refrain of confusion.

2. LITERATURE REVIEW
An automated system for generating and managing schedules, such as those for schools, universities, or corporations, is known as a timetable management system. In this review of the literature, we will look at the relevant studies on timetable management systems, their advantages, drawbacks, and distinguishing characteristics.

Advantages of Timetable Management Systems: According to several research, employing a timetable management system has the following advantages:

Enhanced Efficiency: By reducing the time and effort needed to establish and manage schedules, timetable management systems free up administrators' time to work on other projects.

Increased Accuracy: By using these technologies, the likelihood of mistakes or conflicts that may occur when making schedules manually is reduced.

Improved Resource Utilization: With the aid of a timetable management system, administrators may allocate resources like employees or classrooms in the most effective way possible.

Improved Communication: These systems give administrators, teachers, and students a consolidated platform to monitor schedules, share information, and talk to one another.

Despite their many advantages, timetable management systems have a number of drawbacks that make them difficult to apply. Some difficulties include:

ISSN(Online): 2584-1025

Data management: These systems need correct and current data to generate efficient schedules, but obtaining and maintaining this data can be difficult.

Complexity: Configuring timetable management systems can be challenging, especially for businesses with specialized scheduling needs.

User Adoption: It might be tough to encourage users to accept a new system and adjust their old workflows.

Technical Problems: Technical problems might interfere with scheduling, such as system outages, sluggish performance, or compatibility problems with current software.

Key Features of Timetable Management Systems:There are several key features that a timetable management system should have, including:

An intuitive, user-friendly interface that is simple to use and navigate should be provided by the system.

Flexibility: The system ought to be adaptable enough to take into account a variety of scheduling needs, such as various course structures, faculty preferences, and resource limitations.

Automatic Scheduling: The system should have the capacity to automatically schedule classes, taking into account variables like the availability of classrooms, teachers, and prerequisites.

Reporting and Analytics: To track important performance metrics like student attendance, resource use, and teacher workload, the system should give administrators a variety of reporting and analytics capabilities.

In conclusion, a schedule management system can provide organizations with a variety of advantages, such as enhanced productivity, better accuracy, and more effective use of resources. These systems can, however, also be difficult to operate, complicated, difficult for users to accept, and have technological problems. A schedule management system should include essential elements such a user-friendly interface, adaptability, automatic scheduling, and reporting and analytics capabilities in order to handle these issues.

3. FIGURES/CAPTIONS

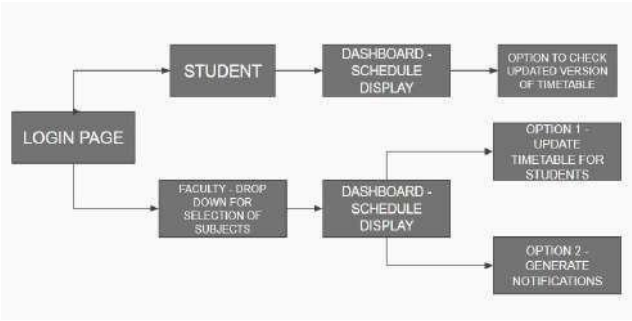

Figure 1. Flowchart

In this figure, we observe the series of flow of events for both the end users - Student and Faculty.

For student users, they can view the displayed timetable for the specific day and date. If there are any alterations in the day, they can check them by clicking on the CHECK UPDATES button. Also, they will receive notifications from the faculties 15 minutes prior to the next lecture.

For the faculty users, on the login page itself, they will have to choose their teaching subjects and then their timetables will be displayed too on the dashboard. They have the option of changing or rescheduling any lecture. Accordingly, they can generate notifications.

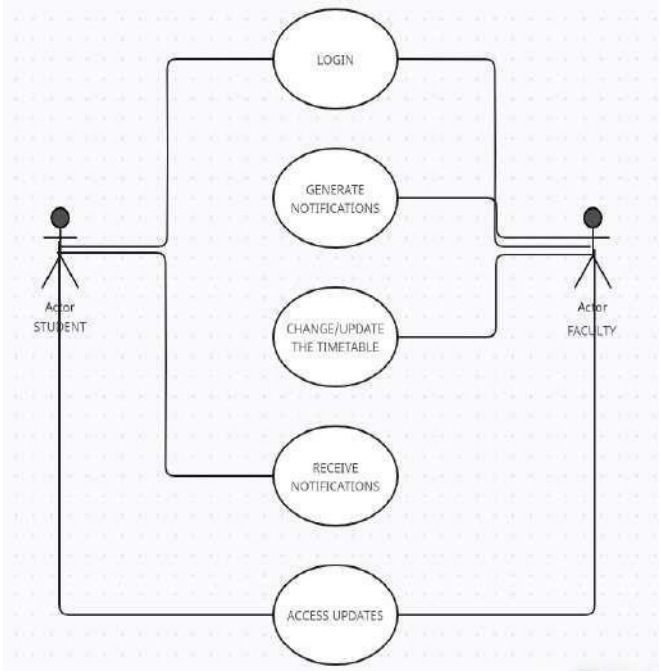

Figure 2. Use case diagram

UML diagram is a class diagram that represents the relationships between different classes in a software application.

Here in this diagram we analyze the factors that influence the requirements and showcase their interactions. As we can see, STUDENT and FACULTY are the actors here. Their relationship is defined through the five functionalities/use cases.

4. RESULTS

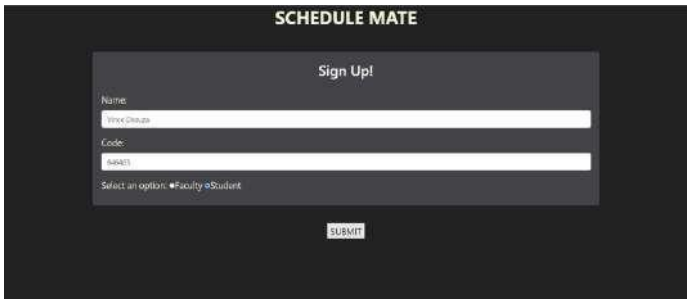

Figure 3. Login page - Student

Here, we observe the fields for entering name and code for a user. They will select if they are a student or faculty member using the

ISSN(Online): 2584-1025

radio button. On clicking the submit option, we will be directed to the dashboard.

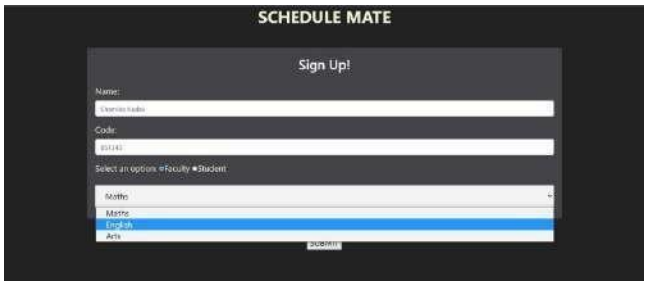

Figure 4. Login page - Faculty

In this particular page where the faculty radio button is selected, we can witness that a dropdown opens. Here the staff can click on the subjects they teach and proceed accordingly.

5. CONCLUSION

In conclusion, this timetable scheduling system can bring numerous benefits to organizations, including increased efficiency, improved accuracy, and better resource utilization. However, these systems can also present challenges such as data management, complexity, user adoption, and technical issues. To address these challenges, a timetable management system should have key features such as a user-friendly interface, flexibility, automated scheduling, and reporting and analytics tools. To effectively tackle the challenges associated with schedule management systems, it is important that these systems incorporate crucial components such as an intuitive interface, flexibility, automated scheduling functionality, and reporting and analytics capabilities.

REFERENCES

These references provide a range of approaches and ideas for developing a timetable management system project.

[1] "Development of a Timetable Management System" by Ahmed M. Badr, Amr Elchouemi, and Ahmed F. Hamdy. This research paper presents the design and implementation of a timetable management system using PHP and MySQL.

[2] "Design and Implementation of a Timetable Management System for University" by O. A. Olaleye and O. T. Akanbi. This paper describes the development of a web-based timetable management system for a university, including its features and functionalities.

[3] "Timetable Management System using Genetic Algorithm" by Abhijeet Mahalle and Prachi Deshpande. This paper proposes a genetic algorithm-based approach to solve the timetable management problem, including the design of the system and the evaluation of its performance.

[4] "Development of an Automatic Timetable Generator System" by Emmanuel O. Omidiora and O. T. Akanbi. This paper presents an automatic timetable generation system for a university, including the system design, features, and functionalities.

[5] "A Comprehensive Timetable Management System for Educational Institutions" by Paul O. Adeniran and Kayode O. Oladele. This research paper presents the development of a comprehensive timetable management system for educational institutions, including its features, functionalities, and benefits.

[6] "Development of an Automated Timetable Generation System for Universities" by K.K. Adenuga and O.A. Adesina (International Journal of Computer Applications, 2014)

[7] "Timetable Management System: A Case Study of a University in Nigeria" by O. Olaleye and A. Oluwade (International Journal of Computer Science and Information Security, 2018)

[8] "A Timetable Management System for Schools" by O. Adewumi and A. Opeyemi (Journal of Computer Science and Its Applications, 2015)

[9] "Design and Development of a Web-Based Timetable Management System for a University" by E.E. Asemota and A.E. Edokpayi (International Journal of Computer Applications, 2018)

[10] "A Web-Based Automated Timetable Management System for Higher Education Institutions" by I. Mohamed, et al. (International Journal of Scientific and Research Publications, 2017)