Timetable Management System Web Application

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Abstract- *Time table management system is a project which is developed to provide better support for staff in a college. Time table management system provides a function to create and view time table for the specific staff and student. This system also contains a database which stores staff and student allotted subject details and notifications before time. A college timetable is a temporal arrangement of a set of staff and student in which all given constraints are satisfied. Hence we have developed practical approach for building staff and student timetable system, which can be customized to fit to any college timetable system. So that each staff and student can view their timetable once they are finalized for a given semester and also they can edit the timetable. Timetable module acts as a robust platform to forecast.*

Keywords- Rooster, Timetable management system.

I. INTRODUCTION

The project timetable concerns all activities with regard to producing a schedule that must be subjective to different constraints. Timetable concerns activities with regards to producing a schedule that must be subjective to different constraint. A key factors in running an educational center or basically an academic environment is the need for a well-planned, well-throughout and clash-free timetable. Back in the days when technology was not in wide use, timetables were manually created by the academic institution. Timetable development process starts when each Head of the department provide the following information to be used for timetable scheduling. The main requirement of this project is to provide the details about the academic year, course, subject, class, and semester. To develop a time table management system for lecturers in a college with student class attendance. The quality of the timetable determines the quality of time dedicated by staff, student and administrators to academic activities. This academic timetabling includes:

- Student timetable.
- Staff timetable.

To develop a web application as time table management system for lecturers in a college.System containing formal structure of timetable and all class schedules with staff allotments, free hours, exam schedule and app notification system. User defined constraints handling. Ease of use for user of system so that the he/she can make automatic timetables. Focus on optimization of resources. Provides a facility for everyone to view timetable. Generates multiple useful views from timetable

II. LITERATURE SURVEY

Authors: A. Venkata Sai Krishna, P.Bala Saravan
Application name: Automatic timetable generation.
Year: October-2017.
Description: The class timetabling problem is a scheduling algorithm with great interest and implications in the fields of operational research and artificial intelligence. The project proposes a general solution for the timetabling problem. Most heuristic proposed earlier approaches the problem from the students' point of view. This solution, however, works from the teachers' point of view i.e. teacher availability for a given time slot. While all the hard constraints are resolved rigorously, the scheduling solution presented here is an adaptive one, with a primary aim to solve the issue of clashes of lectures and subjects, pertaining to teachers.

The intention of the project is to generate a time-table that can schedule automatically. Timetabling problem being the hard combinatorial problem that is would take more than just the application of only one principle. The timetable problem may only be solved when the constraints and allocations are clearly defined and simplified thoroughly and more than one principle is applied to it (i.e. A hybrid solution – a combination of different solution techniques). This incorporates a number of techniques, aimed to improve the efficiency of scheduling. It also, addresses the important hard constraint of clashes between the availability of teachers. The non-rigid soft constraints i.e. optimization objectives are also effectively handled.

Authors: Anuja Chowdhary, Priyanka Kakde, Shruti Dhoke,
Application name: Timetable generation system.
Year: Feburary- 2014
Description: A college timetable is a temporal arrangement of a set of lectures and classrooms in which all given constraints are satisfied. Creating such timetables manually is complex and time-consuming process. By automating this process with computer assisted timetable generator can save a lot of precious time of administrators who are involved in creating and managing course timetables. The project reduces time

consumption and he pain in framing the timetable manually. The project is developed in such a way that, no slot clashes occur providing features to tailor the timetable as of wish. Additional features that is included in the project is that faculty replacement is also made possible by listing out the available faculty who are eligible to be assigned as temporary faculty until a replacement faculty is assigned. The future enhancement that can be developed from the project is to generate the master timetable for the departments and to the entire college.

Authors: A. Venkata Sai Krishna, P.BalaSaravan Teja, P.Yasvanth, M.Sai Ajay.
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III. PROPOSED SYSTEM

Time table management system proposed with formal structure of timetable. It is built for staff use to notify their classes at time. Admin is allowed to create timetables and staff ID. Timetable management systems also manage the student details, staff details, and timetable.To increase efficiency of managing the timetable, staff and student. It deals with monitoring the information and transaction of student. Editing, adding and deleting of records is improved which results in proper resource management of timetable data. Created profiles and timetables are automatically viewed by concern staff who opens the web application with staff ID. Data are stored through XAMPP application. Provides the searching facilities based on various factors such as Timetable, Subject, Student, Course, academic year. It generates the report on subject, student, course, academic year. Manage the information of student and staff. Integration of all records of course, academic year and subject.

In such cases application can work by itself with little or no direct human control. Hence,system builds practical approach for constructing lecture course timetabling system. The administrator has full rights to access the database.

IV. SOFTWARE SPECIFICATIONS

A software requirements specification (SRS) is a comprehensive description of the intended purpose and environment for software under development. The SRS fully describes what the software will do and how it will be expected to perform.

- Operating System : Windows10

SOFTWARE TOOLS USED

- Designing: XAMPP/WAMPP.
- Coding: Sublime editor.
- Database: MySQL.

TECHNIQUES USED:

- Front-End: HTML, CSS, JavaScript, Jquery.
- Back-End: PHP.
- Database: MySQL and PHP Myadmin.

V. EXISTING SYSTEM

- Adding unlimited tasks
- Schedules are being stored instantly.
- Also available as mobile application.

EXISTING SYSTEMLIMITATIONS

- There is no free hours mentioned.
- No temporary change of schedule.
- No notifications available.
- Only single source user.

INTRODUCTION TO XAMPP/WAMPP

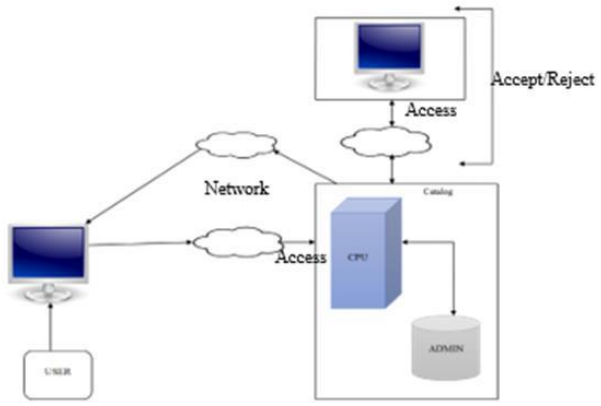
XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible. "XAMPP Apache + MariaDB + PHP + Perl".

XAMPP's ease of deployment means a WAMP or LAMP stack can be installed quickly and simply on an operating system by a developer, with the advantage that common add-in applications such as WordPress and Joomla can also be installed with similar ease using Bitnami.

FEATURES:

- XAMPP is regularly updated to the latest releases of Apache, MariaDB, PHP and Perl.
- It also comes with a number of other modules including OpenSSL, phpMyAdmin, MediaWiki, Joomla, WordPress and more.
- Self-contained, multiple instances of XAMPP can exist on a single computer, and any given instance can be copied from one computer to another.
- XAMPP is offered in both a full and a standard version (Smaller version).

VI. SYSTEM ARCHITECTURE



System architecture is the conceptual model that defines the structure, behavior and more views of system. In this system architecture has two methods. One is a new user registration and another one is already user login in new user registration firstly. Then the username will be given for identity and the password id generated. The design of the architecture is to store and process the data in database system. Systems Architecture is a generic discipline to handle objects called "systems", in a way that supports reasoning about the structural properties of these objects. Systems Architecture is a response to the conceptual and practical difficulties of the description and the design of complex systems. The structure of a process system, or its architecture, can be viewed as adualistic relationship of its infrastructure and supra-structure. The infrastructure describes a process system's component parts and their interactions. The supra-Structure considers the super system of which the process system is a part. As one traverse the process architecture from one level of abstraction to the next, infrastructure becomes the basis for supra-structure and vice versa as one looks within a system or without requirements for a process system are derived at every hierarchical level.

VII. MODULES

The timetable management system project is denoted as “ROOSTER”. Initially the web site shows login page. Admin or staffs can login to the web site through server authentications. If the admin has not been registered, then the admin is asked to register with the web application.

Admins determined as the managing proprietor of timetable management system. Admin will initially starts with an Admin ID. Admin ID is created by the admin itself. Once, admin ID is created it is literally a registered Admin ID. Since Admin is a managing proprietor there must be a security source be given, so a Security Password is generated. Then the Login information are saved into server. Then now the admin can login with registered information (User ID, Password). Login process with authenticate as per the information saved in the server. After all login processes gets over the admin can create a new schedule as timetable for student classes with staffs allocated, Staff ID, Subjects, Changes in classes, setup Notification, and also can view existed timetables.

A Staff ID is already created by the administrator. In staff login process, the particular staff must login with given user ID and Password. Once the login page is filled, staff must enter “SUBMIT” option. After submission the information are verified by server and once the server accepts those information, thus, staff will get logged in with system. Then now staff can view their class timetable, create student details, view their classes, request for class changes, and also setup notifications.

- Login Management
- Academic Management
  - Academic year Module
  - Section Module

- Class Module
- Subject Module

➢ User Management
- Staff Module
- Student Module

➢ Timetable Management

LOGIN MANAGEMENT

The System shall track all login details. The Login Page contains username or email-id and password. Password length at least 8 characters. The System shall track to password must be a mixture of alphanumeric and symbols. The authorized user can access the system. The users can access the system using their default username or email-id and password. Admin can allow different rights to the different users as per their needs. The administrator can view, create, delete and edit the details of course, class, subject, staff, student as well as timetable using the admin login. Even multiple admin accounts could also be created using the admin.

ACADEMIC MANAGEMENT

ACADEMIC YEARMODULE : The administrator can add batches according to our institutional needs. This system allows the admin to add, delete, update and view the academic information.

COURSE MODULE: Maintain the details of courses. This system allows the admin to add, delete, update and view the course information.

SECTIONMODULE: Maintain the database of section. The admin can insert section's information such as section name.

CLASSMODULE: Maintain the database of Classes. The administrator activities are to create the class, remove the class, update the class details and allocate the class for students. Inserts information of class such as course, section, and semester.

SUBJECTMODULE: In this system maintains the information of subjects of particular class. Only The admin can add, delete, edit and view the subject details. Inserts subject's information such as subject name, subject code, and credits etc.

USER MANAGEMENT

STAFF : Maintain the details of Faculties this system allows the admin to add new staff, delete, view and edit record of faculty. The admin can assign subjects to the staff. In this system allows the viewing the whole record of Staff information.

STUDENT: Maintain the details of Students. It allows the admin to add students, delete, view and edit the details of students.

TIMETABLE MANAGEMENT

In this system allows creating new timetable, updating timetable and viewing timetable of all the class. It maintains the timetable of classes. It manages student timetable and staff timetable. The system allows student to view their class timetable and allows the staff to view their timetable. Student and staff cannot update their schedule. Its responsibility only to the Administrator. There is no clash between timetables.

VIII. CONCLUSION

There are very few systems that are well planned and designed to suit all your institution's requirements year-round. The timetable management system simplifies institute processes while conveniently bringing administrators, staffs and students together. In future the work of instant messaging and further module development can be done which will make our project fully automated. Also, a more reliable software for the timetable should be provided. In future user may be able to perform all the operation through mobile device. Web applications give businesses the ability to streamline their operations, increase efficiency, and reduce costs.

IX. ACKNOWLEDGMENT

I take his chance to precise my hearty due to my guide faculty member **AMUTHA.S** for her steering and sharing his findings for technical steering and direction. Suggestions given by him were forever useful during this work to succeed. Her leadership has been greatly valuable on behalf of me to figure on this project and is available with the best out of it.

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[3] A.Mohanpriya, G. Shyamala, R.Dharshini, International Journal of Computer Science and Mobile Computing, Volume 6, issue 2,"Mobile HRM for Online Leave Management System", Feburary 2017

[4] See HojjatAdeli, Asim Karim, Construction Scheduling, Cost Optimization and Management (2003), p. 54.

[5] OferZwikael, John Smyrk, Project Management for the Creation of Organisational Value (2011), p. 196: "The process is called scheduling, the output from which is a timetable of some form".

[6] James, C. Renée (2014). Science Unshackled. Johns Hopkins University Press. p. 14. ISBN 1421415003. This obsession with timekeeping isn't anything new, though. Ancient schedules revolved around annual, seasonal, monthly, or daily rhythms, and innumerable examples of timekeeping structures and rock carvings from these early cultures still pepper our planet in famous places like Stonehenge in Wiltshire County, England, and in less famous places like the V-V Ranch Petroglyph site near Sedona, Arizona.

[7] Kohl Coston, Phyllis (2013). Celebration of Success. Bloomington, Indiana: AuthorHouse. p. 26. ISBN 9781491802311. Retrieved 2014-09-02. [Allison] and Evan believe this kind of planning teaches responsibility and consideration for others as well as helping the boys learn life skills such as time management, the importance of being a team member, and ownership of calendar details.

[8] Karniol, Rachel (2010). Social Development as Preference Management: How Infants, Children, and Parents Get What They Want from One Another. Cambridge University Press. p. 129. ISBN 1139484001. [P]arents have agendas that dictate how they prioritize their own behavior. These agendas necessarily require them to plan and set up schedules and children's preferences may play a subsidiary role in these schedules.