ABSTRACT

The manual system of preparing time table in colleges with large number of students is very time consuming and usually ends up with various classes clashing either at same room or with same teachers having more than one class at a time.

In the existing system, each task is carried out manually and processing is a very tedious job. The Organization is not able to achieve its need in time and the results too may not be accurate. Due to all the manual maintenance, there are number of difficulties and drawbacks that exist in this system

To overcome all these problems , propose to make an automated system. The system will take various inputs like details of students, subjects and class rooms and teachers available, depending upon these inputs it will generate a possible time table, making optimal utilization of all resources in a way that will best suit any of constraints or college rules. List of subjects may include electives as well as core subjects.

It is a comprehensive timetable management solutions for Colleges which help to overcome the challenges in mannually setting the timetable. By using this software it will be very easy for faculty to get timetable

__INTRODUCTION__

Purpose:

Normally timetable generation done manually. As we know all institutions/organizations have its own timetable, managing and maintaining these will not be difficult. Also many colleges and institutes changes there timetable more than twice a year which puts a double work load to the timetable designer. Considering workload with this scheduling will make it more complex. As mentioned, when Timetable generation is being done, it should consider the maximum and minimum workload that is in a college. In that case, timetable generation will become more complex. In addition, it is a time consuming process.

Scope:

Automated Timetable Generation system, Generates timetable for each class and teacher, in keeping with the availability calendar of teachers, availability and capacity of physical resources (such as classrooms, computer laboratories) and rules applicable at different classes, semesters, teachers and subjects level. Best of all, this automated timetable generation system tremendously improves resources utilization and optimization.

Problem:

The main problem of preparing timetable manually is that the constraint satisfaction is very complex to solve and it takes many attempts to have an avg. satisfaction. This is a very time consuming and uninteresting tasks to set values of a timetable, manually. We have prepared a solution of that time consuming problem is that this system uses Constraint satisfaction, Ant colony optimization & Genetic algorithms for solving of the specified problem.

OBJECTIVE

It's a software for Automated Timetable Generation System for schools and colleges. Sometimes there are limited faculties, each faculty teaching more than one subjects. So now the timetable needed to schedule the faculty at provided time slots in such that their things do not overlap and the time table schedule makes best use of all faculties subject demands.

Technologies

Catagory	Name	Version
1. Frontend	Html	5
2. Styling	Css	3
3. Backend	Php	6+
4. Database	Mysql	5.5+
5. Server	Apache	10

Literature survey

Trying to develop a software which helps to generate Timetable for an Institution automatically. By looking at the existing system we can understand that timetable generation is done manually. Manually adjust the timetable when any of the faculty is absent, and this is the big challenge for Automatic Timetable Generator that managing the timetable automatically when any of the faculty is absent. As we know all institutions/organizations have its own timetable, managing and maintaining these wiil not be difficult. Considering workload with this scheduling will make it more complex. As mentioned , when Timetable generation is being done, it should consider the maximum and minimum workload that is in a college. In those cases timetable generation will become more complex. Also , it is a time consuming process.

PHP: -

PHP is a script language and interpreter that is freely available and used primarily on Linux Web servers. PHP originally derived from Personal Home Page Tools, now stands for PHP: Hypertext Preprocessor, which the PHP FAQ describes as a "recursive acronym."

PHP executes on the server, while a comparable alternative, JavaScript, executes on the client. PHP is an alternative to Microsoft's Active Server Page (ASP) technology. As with ASP, the PHP script is embedded within a Web page along with its HTML. Before the page is sent to a user that has requested it, the Web server calls PHP to interpret and perform the operations called for in the PHP script.

An HTML page that includes a PHP script is typically given a file name suffix of ".php" ".php7" or ".dhtml". Like ASP, PHP can be thought of as "dynamic HTML pages," since content will vary based on the results of interpreting the script. PHP is free and offered under an open source license.

MY SQL: -

MySQL is an Oracle-backed open source relational database management system (RDBMS) based on Structured Query Language (SQL). MySQL runs on virtually all platforms, including Linux, UNIX and Windows. Although it can be used in a wide range of applications, MySQL is most often associated with web applications and online publishing.

MySQL is an important component of an open source enterprise stack called LAMP. LAMP is a web development platform that uses Linux as the operating system, Apache as the web server, MySQL as the relational database management system and PHP as the object-oriented scripting language. (Sometimes Perl or Python is used instead of PHP.)
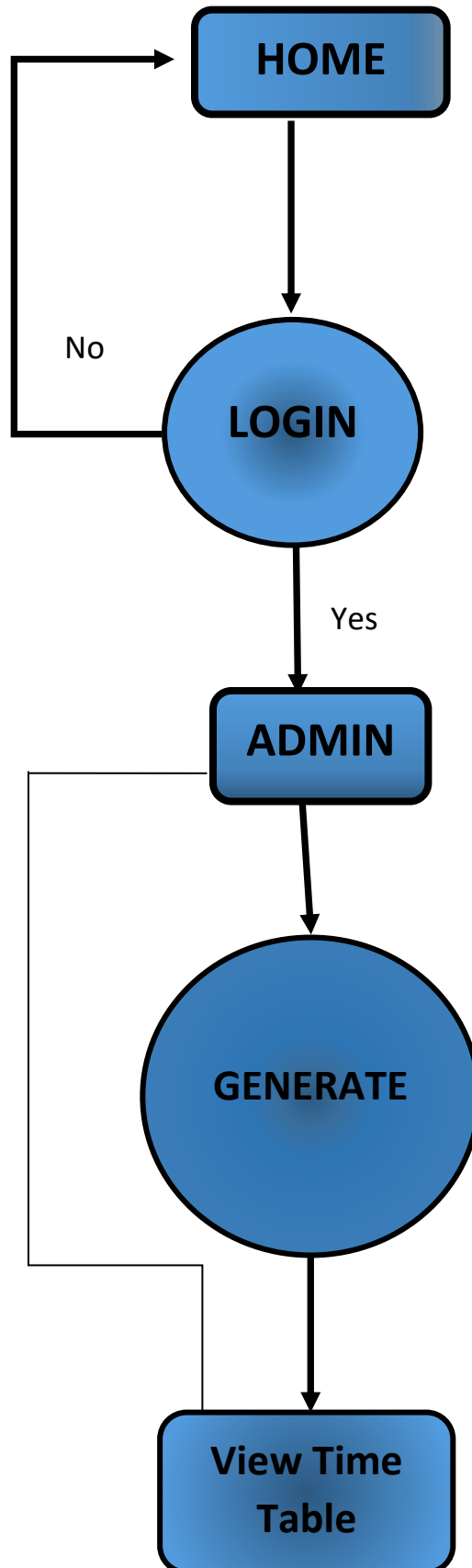
Originally conceived by the Swedish company MySQL AB, MySQL was acquired by Sun Microsystems in 2008 and then by Oracle when it bought Sun in 2010. Developers can use MySQL under the GNU General Public License (GPL), but enterprises must obtain a commercial license from Oracle.
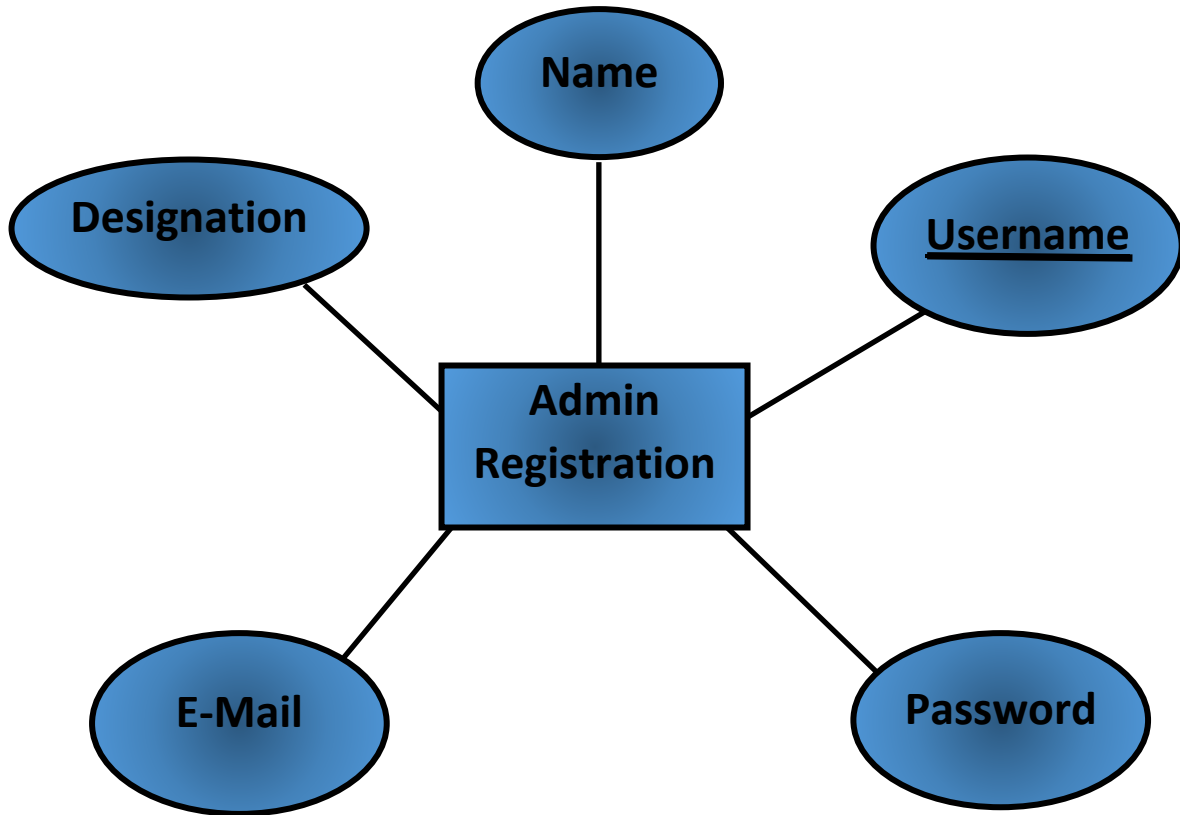
APACHE:-

Apache is a freely available Web server that is distributed under an "open source" license. Version 2.0 runs on most UNIX-based operating systems (such as Linux, Solaris, Digital UNIX, and AIX), on other UNIX/POSIX-derived systems (such as Rhapsody, BeOS, and BS2000/OSD), on Amigos, and on Windows 2000. According to a Net craft (www.netcraft.com) Web server survey 60% of all Web sites on the Internet are using Apache (62% including Apache derivatives), making Apache more widely used than all other Web servers combined. Apache is the most widely used web server software. Developed and maintained by Apache Software Foundation, Apache is an open source software available free.

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Data Flow Diagram

```
                    ┌──────────┐
          ┌────────►│   HOME   │
          │         └────┬─────┘
          │              │
          │              ▼
    No    │         ┌──────────┐
          │         │          │
          └─────────│  LOGIN   │
                    │          │
                    └────┬─────┘
                         │
                       Yes
                         │
                         ▼
                    ┌──────────┐
          ┌─────────│  ADMIN   │
          │         └────┬─────┘
          │              │
          │              ▼
          │      ┌────────────────┐
          │      │                │
          │      │    GENERATE    │
          │      │                │
          │      └───────┬────────┘
          │              │
          │              ▼
          │      ┌────────────────┐
          └──────│   View Time    │
                 │     Table      │
                 └────────────────┘
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E-R Diagram

Use Case Diagram

system

user

Admin

Create Timetable

Add Subjects

View Timetable

Modify

Add Classroom

Add Teachers

Allocation