SYNOPSIS

ON

TIME TABLE BUILDER

BACHELOR OF TECHNOLOGY
IN
COMPUTER SCIENCE ENGINEERING

Submitted to:

Shivani Garg

Submitted by:

Aman Verma
(21CSE(AIML)06)
Sri Manasvi Avadhanula
(21CSE(AIML)30)
Rinki Sharma
(21CSE(AIML)27)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

ARAVALI COLLEGE OF ENGINEERING AND MANAGEMENT

FARIDABAD - 121002

ABSTRACT

Time table generation is tedious job for educationalist with respect to time and man power. Providing a automatic time table generator will help to generate time table automatically. Proposed system of our project will help to generate it automatically also helps to save time. It avoids the complexity of setting and managing Timetable manually.Timetable generator automatically schedules timetable for students and faculty which reduces the manual work. Once the inputs like faculty with their respective subjects are given it will generate the period slots for the entire week and also for the substitutional hours.

INTRODUCTION

Most colleges have a number of different courses and each course has a number of subjects. Now there are limited faculties, each faculty teaching more than one subjects. So now the time table needed to schedule the faculty at provided time slots in such a way that their timings do not overlap and the time table schedule makes best use of all faculty subject demands. We use a genetic algorithm for this purpose. In our Timetable Generation algorithm we propose to utilize a timetable object. This object comprises of Classroom objects and the timetable for every them likewise a fitness score for the timetable. Fitness score relates to the quantity of crashes the timetable has regarding alternate calendars for different classes.

Classroom object comprises of week objects. Week objects comprise of Days, Days comprises of Time slots. Time slot has an address in which a subject, student gathering going to the address and educator showing the subject is related.

Also further on discussing the imperatives, We have utilized composite configuration design, which make it well extendable to include or uproot as numerous obligations.

In every obligation class the condition as determined in our inquiry is now checked between two timetable objects. On the off chance that condition is fulfilled i.e. there is a crash is available then the score is augmented by one.

The system will take various inputs like number of subjects, teachers, workload of a teacher, semester, priority of subject. By relying on these inputs, it will generate possible time tables for working days of the week for teaching faculty.

OBJECTIVE AND SCOPE

1. **Course:**
    - In this module both the entry and view of the course details can be done. If the entry should be done, then the details will be checked. After that the details will be added in the database and a message will be displayed to confirm the entry.
2. **Department:**
    - If the Department details entered then the Id of the corresponding Department must be entered, then the entered Id will be checked against the database. If the match is found, then the Department details of the Corresponding Department will be shown in that module, Else an error message will be displayed.
3. **Staff Detail:**
    - In this module both the entry and view of the staff Details can be done. If the entry should be done, then the details must be entered and checked for duplicate. Then the details will be added in the database and a message will be displayed to confirm the entry.
4. **Time Table Allocation:**
    - In the Time Table Allocation Details the staff, subject of the Corresponding staff will be entered, then the entered staff Name will be checked against the database. If the match is found, then the Time Table Allocation details of the corresponding staff will be generated and stored in database, Else an error message will be displayed.
5. **Subject Details:**
    - The subject details master includes subject name, id and the staff handling the subject will be entered and stored in database. In time table generation the details will be retrieved and used as per the requirement.

Software Requirements

- Turbo C++
- Notepad
- VS Code

Database

- MySQL

Hardware Requirements

- OS: Windows 10 64-bit
- CPU: Intel Core i5 10th gen
- Memory: 8 GB RAM
- Tools: Windows PowerShell 5.0+

Problem Statement

Its quite difficult task for teachers to form a separate time table for each class and also its different for every teacher. And for students, it is quite a task to find the room allotted to the lecture and and find substitute lecture when the faculty is absent. Timble is the one stop solution.

Advantages:

- Faculty did not need to worry for time clashes.
- Authority now does not need to perform permutation and combination
- Authority can concentrate on other things rather than wasting their time on preparing Time-Table

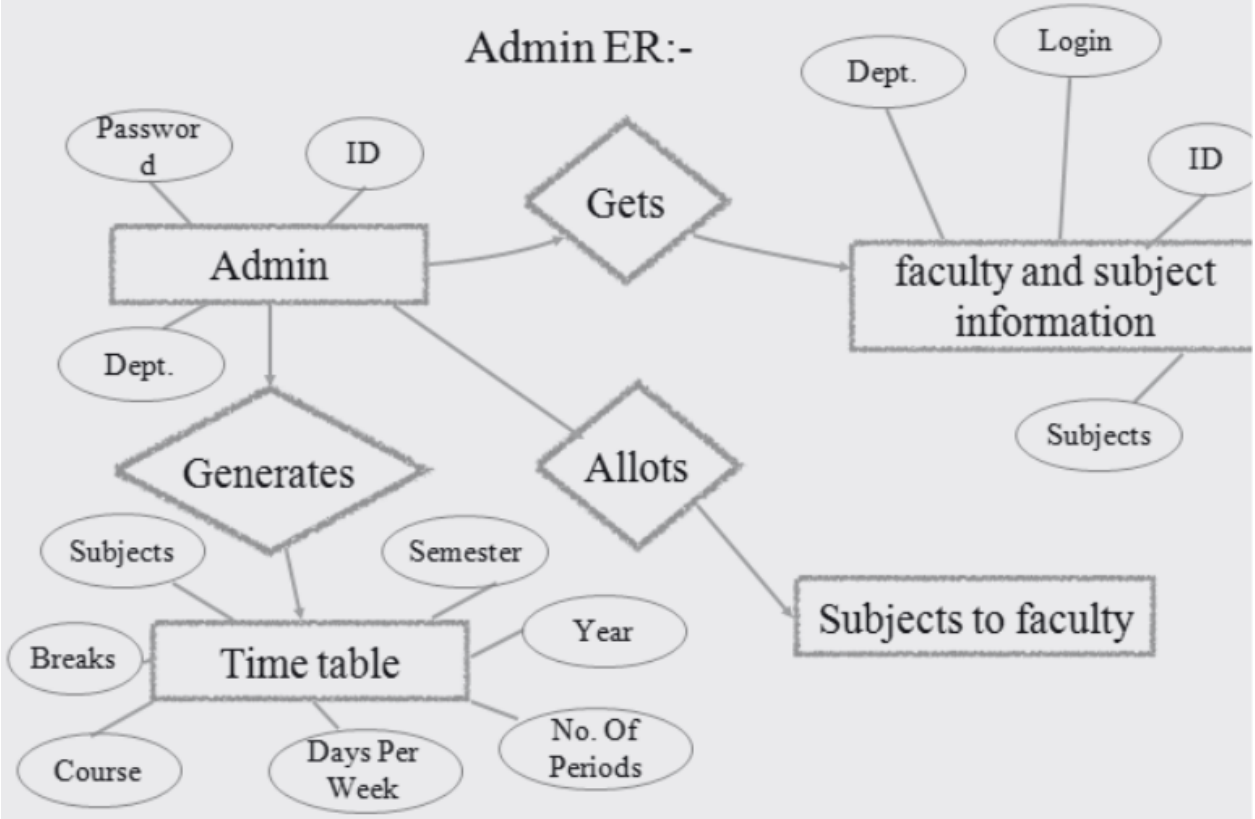
Disadvantage:

- User has to format it a bit after it is prepared.

Applications:

- This system can be used by Schools and Colleges to create Time-Table

DATA FLOW DIAGRAM:-



MODULE AND DESCRIPTION

There are 5 Modules in this project as follows:

1. **Course Details**
2. **Department Details**
3. **Staff Details**
4. **Time Table Allocation Details**
5. **Subject Details**

Reference:

- http://ieeexplore.ieee.org/xpl/articleDetails.jsp?tp=&arnumber=870307&queryText%3DAutomated+Timetable+Generation
- http://ieeexplore.ieee.org/xpl/articleDetails.jsp?tp=&arnumber=1004507&queryText%3DAutomated+Timetable+Generation