



INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X

Impact factor: 4.295

(Volume 4, Issue 3)

Available online at: www.ijariit.com

Automatic session generator

Shammi Nanda

shamminanda1110@gmail.com

Bharati Vidyapeeth University College of Engineering,
Pune, Maharashtra

Amit Kumar Sharma

amit95kumarsharma@gmail.com

Bharati Vidyapeeth University College of Engineering,
Pune, Maharashtra

ABSTRACT

The manual system of preparing time tables in colleges with a large number of students is taking a lot of time and usually ends with different classes struggling with the same teacher in the same room or at the same time. it occurs. To overcome all these problems, an automated system is proposed to be created. The system will take various inputs like students, subjects and classroom rooms and details of teachers on the basis of these inputs, it will generate a potential timetable, so that optimum utilization of all resources will be done in such a way that any obstacle or rules of the college according to. The list of topics can include electives as well as main topics.

Keywords: *Timetable, Constraints, Scheduling.*

1. INTRODUCTION

Although most college administrative work has been computerized, lecture timetable scheduling is still done manually due to its underlying difficulties. Booklet Lecture timetable scheduling demands considerable time and effort Lecture-time scheduling is a limited satisfaction problem in which we get a solution that satisfies Set of obstacles.

Automatic Timetable Generator is a JavaFX based software that is automatically used to generate timetables. The timetable is currently managed manually. This will help automatically manage all periods. The faculty for a day and week will be specified for the skilled generation of maximum and minimum workload timetables.

The timetable aims to develop software for the college to handle scheduler staff "timetable formation". The head of each department has problems handing over the work to their subordinates and workplace response.

This work solves the problem by allowing the lecture to see their specified topic and timetable. This software helps employees to handle the timetable details. JavaFX is employed as the front end, which is used to prepare user interface. MySQL is employed as a back end and is used to prepare the database and save the details. With some computer knowledge, one can easily contact the software and behave it; that's why it can be called user-friendly. That's why it offers users security by offering the right login.

The process of preparation of timetables involves the beneficial employment of resources that every educational institution has to face every year. Most colleges have many courses and each course has many topics. Now the limited faculties, each faculty will teach more than one discipline. So now there is a need to schedule a faculty on the time slot provided to the timetable so that their time does not overlap and time table schedule best utilizes all faculty subject demands. This object includes a timetable for each fitness score for classroom objects and timetables. Health score is related to the amount of timetable accidents in relation to alternative calendars for different classes.

Class objects contain the items of the week. Items in the week are days, in which time slots are included. The timeslot has an address in which a subject, student gathering is related to the address and teacher showing this topic.

1.1 Existing and Proposed system

Typically the timetable generation is done manually. As we know that all institutes or organizations have their own timetable, it will not be difficult to manage and maintain them. With this scheduling, keeping the workload in mind will make it more complicated. As stated, when the timetable is being used, it should consider the maximum and minimum workload in the college. In those cases, the timetable generation will become more complex. Besides, this is a time-consuming process. Automatic Timetable

Manager is a Java-based software that is automatically used to generate timetables. Will help you manage all the periods automatically. The proposed system will help in generating it automatically also helps in saving time. The faculty does not have to worry about their duration details and maximum workload. This is a comprehensive timetable management solution for colleges that helps in solving the challenges in the current system.

1.2 Scope of Project

Timetable generation system provides a timetable for each class and teacher, keeping in mind calendar availability, availability of calendars, availability and the capacity of physical resources (such as classes, labs, and computers).

1.3 Salient features of the system

Automatic Timetable Manager is a Java-based software that is automatically used to generate timetables.

The proposed system will help in generating it, it also helps in saving time.

The faculty has no need to worry about their timetable.

This is a comprehensive timetable management solution for colleges that helps in solving the challenges in the current system.

2. PROPOSED SYSTEM

The final system should be able to create a completely timetable in a completely automated way, which will save the time and effort of the institute administration. To make a timetable system normal so that I can work equally well for different schools, colleges, and universities. Handling user-defined constraints. The ease of use for the system's user so that it can create an automatic timetable. Focus on optimizing resources, i.e. teachers, laboratories and rooms etc. Provide a facility for every person to view the timetable. Generate many useful ideas from the time table. Depends on the result

A. Interface for A-input

The system will have an easy to use and interactive interface, such as the name of the teacher in all the names, the data for the data and the lab's data and the data for the subject.

B. Database capabilities

It is well designed to store all the information in the system which will be entered as input. To maintain basic information, topics, teachers, batches and their organizations and other details, a database for keeping separate database ready timetables and necessary timetable storage.

C. processing capabilities

The system will have algorithms for processing all the data present in the database and keeping in mind the various constraints, such as the teacher should not have two lectures/labs, there is a minimum gap of one hour for the students,

D. System Architecture

Apart from studying data flow in timetable production, we are able to offer architecture to implement the system.

1) Architecture for Timetable Production

Speaking clearly, software architecture describes the elements of a system. It also shows the interaction between these elements, the structure of the models and the models that control the barriers of these models. Normally, when faced with a complex problem, the best way to break into those parts is that it becomes easy to solve with simple solutions. Then, when we add all these small solutions, we can get a solution to our complex problem.

2) Flow Chart of Time Table Scheduling Process

The flowchart is a type of diagram that shows an algorithm, workflow or process, showing the steps in the form of different types of boxes, and connecting them with arrows and showing their order. This diagram representation describes the solution model of any problem.

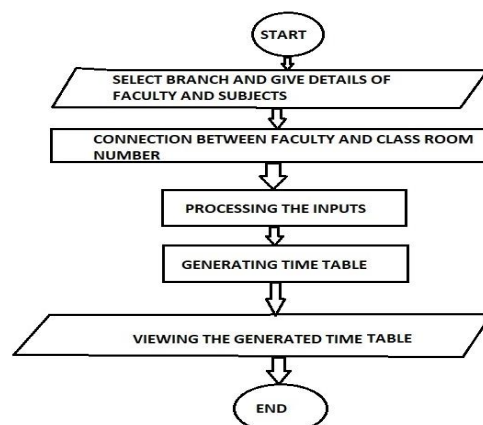


Figure: Session Generator Flow Diagram

3. IMPLEMENTATION

A module

It has been developed in three modules

Entry module

Allocation module

Display module

1) Insertion module

In this module, we provide different user input to our system, which serves as the raw data to create the last time table.

Faculty details

In this sub module, we insert different details of faculty such as faculty name, email and contact number. And we also provide a unique faculty ID which helps us to refer to our entire software and it also works as a login certificate.

Subject Description

In this sub module, we write the details of topics which are in our curriculum and the name of the subject. We try to store theory topics and laboratory subjects separately in our database so that it becomes easy for us to use in the future

Mapping

In this sub module, we take user input such as the faculty which is taking theories and which is one in the laboratory Special semester and we store it in our database.

2) Allocation module

In this module, users can select randomly any semester to begin the process. He selects special topics and starts filling slots from Monday, the faculty mapped with that subject is allotted to that slot of the day. Filling the slots every time, various soft and stiff obstacles are examined. If any obstacle is not satisfactory then it will not be blocked. We are investigating all these constraints by writing queries in the stored procedure and using the database.

3) Performance module

In this module, we can see how the time table of each class arises. We have also provided facility to see time tables according to class time tables and faculty.

Classroom intelligence timetable

In this, we can choose a special semester and see the class-generated time table which we want to see. The timetable will be subject to the faculty which is capable of handling that topic.

Faculty intelligence timetable

In it, we can see all the subject names that are controlled by a particular faculty.

4. CONCLUSION

Our approach to developing automated timetable system is successful in resolving colleges "lecture course timetable problem. We have also shown how we can fit our timetable system in the form of the exact desktop application. Graphical User Interface (Windows Form Application) provides an easy way to understand how applications work. This app provides easy access to input and faculty and subjects which are stored in the database (SQL Server) and then using available data, it is the minimum time in comparison to the manual generation of the timetable With the lectures-course timetables produces and is involved in meeting all the obstacles -

No overlapping of time slots for any topic.

There should be a minimum gap of one hour per subject related faculty

Faculty not a repetition of slot per time

5. REFERENCES

- [1] Boehm B, "A Spiral Model of Software Development and Enhancement", ACM SIGSOFT Software Engineering Notes, ACM, 11(4):14-24, August 1986
- [2] Boehm B, "A Spiral Model of Software Development and Enhancement", IEEE Computer, IEEE, 21(5):61-72, May 1988
- [3] Boehm, B, "Spiral Development: Experience, Principles, and Refinements", Special Report CMU/SEI-2000-SR-008, July 2000
- [4] D. Abramson. Constructing school timetables using simulated annealing: sequential and parallel algorithms. Manage. Sci., 37(1):98–113, January 1991.
- [5] David Abramson and J Abela. A parallel genetic algorithm for solving the school timetabling problem. In 15 Australian Computer Science Conference, 1992.
- [6] Enrique Alba. Parallel Metaheuristics: A New Class of Algorithms. Wiley- Interscience, 2005.
- [7] www.tutorialspoint.com
- [8] Georgios Varsamopoulos "How to Write a Technical Paper: Structure and Style of the Epitome of your Research"
- [9] Anuja Chowdhary, Priyanka Kakde, Shruti Dhoke, Sonali Ingle, Rupal Rushiya, Dinesh Gawande "TIMETABLE GENERATION SYSTEM" A paper published in IJCSMC Vol. 3, Issue. 2, February 2014.
- [10] M.Lalena, "Traveling Salesman Problem using Genetic Algorithm" retrieved from www.lalena.com/AI/T/.