Gaurav Kumar,2021, 9:1
ISSN (Online): 2348-4098
ISSN (Print): 2395-4752

Timetable Generation System and Virtual Submission Using AI

Gaurav Kumar, Aishwarya Raut, Apeksha Patel
Department of Computer Engineering
NBNSSOE Pune, Maharashtra,India

Abstract- In colleges after admission lots of changes happens regarding teachers, subjects, rules, timing and most important time table. Making of new Time table for different timings and new teachers is very difficult work which increases the human work load. If we have an automated system which provide us a time table by providing the information of teachers, subjects etc. will help us to make automated timetable. Proposed system of our project will help to generate it automatically and also it is time saving. It prevents the complexity of setting and managing Timetable manually. we are going to use genetic algorithm in our project to reduce these difficulties of generating timetable. Various inputs like number of subjects, teachers, workload of a teacher, semester, priority of subject will be given to this automated system. With the help of these inputs, it will generate possible time tables for working days of the week for teachers. For online assignment submission of students, by using online method will enable faster and easier submission for students as well as teachers. The virtual queue will be there instead of physical queues. It will ensure an effective management of queues.

Keywords: -Artificial Intelligence, virtual queue, genetic algorithm, report generation

I. INTRODUCTION

Most difficult work for faculties is making of timetable for semester with respect to time and man power. An automatic time table generator will help to generate an automated time table. Colleges have a no. of teachers teaching different types of courses and each course has many subjects. In colleges there are limited teachers and each teacher is teaching more than one subjects, so now a time table should be made that can schedule all the teachers at provided time slots in a way that clashes of timing do not and there should be best use of faculties and subjects demands. Genetic algorithm in artificial intelligence can be used for this purpose.

In this world of technology, we can see that some universities and colleges have their own systems for communicating with students and teachers so that they can attend lectures by sending files and messages from home or abroad. We can integrate this new emerging technology with our education system. Use of technology in effective way will enable submission and lectures for students in faster and easier way. The virtual queues will replaced by the physical ones.

This project will ensure efficient management of student queues to sequentially manage assignment submission as well notification service. HOD can register Teacher, Teacher can create, open, closed assignment submission queue. Student submission will approved by teacher then report will be generated.

II. LITERATURE SURVEY

RakshaShetty, Ashwitha S, Adithya R Pai, Prof. Geethalaxmi, "Automated college timetable generator, ISSN 2229-5518, 2018. Above paper shows that previous year timetable is taken and modifies it for new semester but still it is very difficult work to make useful changes. So we propose this system to overcome all these problems. Various

International Journal of Science, Engineering and Technology

An Open Access Journal

inputs like student details, subject details, and classroom and teachers details will be given to system. On the basis of these inputs it will generate a time-table which utilizes all the resources in such a way that it suits best.

Ahmad Muklason, Putri C Bwanansia, "Automated Examination Timetabling Optimization using Greedy-Late Acceptance- Hyper heuristic Algorithm". In this it is describes that timetable for exam is made manually in many universities which takes long time to develop. A new hybrid algorithm is explained in this paper, i.e. greedy-late acceptance within hyper-heuristic framework which automatically generates and optimizes the exam timetable. To generate initial solution we uses greedy algorithm, whereas late acceptance is used as move acceptance strategy.

For all datasets a feasible solution is produced using these proposed algorithms. Its advantage is that the timetable produced by the proposed algorithm is better in many ways than the timetable made manually. Only in 5 minutes this algorithm could produce a better timetable when time is running out of hands. It saves the time than the manually prepared timetable which usually takes 2-3 weeks.

AkshayPuttaswamy, H M Arshad Ali Khan, Chandan S.V, Parkavi.A, "A Study on Automatic Timetable Generator",2018. Above paper shows that making of timetable is very tedious job it takes man power and time. Providing a system which generates an automatic timetable which helps to make timetable for colleges. Proposed system will generate timetable automatically also helps to save time. Complexity like setting and managing timetable manually gets eliminated. In our project we are going to use algorithms like heuristic, genetic, resource scheduling to avoid difficulties of making timetable.

These algorithms incorporate a numeral of strategy, helps to improve the cooperativeness of the search operation. Various inputs like teachers, workload of a teacher no. of subjects, priority of subject will be given to system. Keeping these inputs in mind, it will generate possible timetables for teachers for working days of the week.

Qiang Li, Qi Han, and Limin Sun, "Collaborative Recognition of Queuing Behavior" this paper shows that many people used to spend lot of time standing in queues at different places, like Government Office, College Admission, banks and hospitals. To provide comfort as well as fairness to customers the queue management system will help them by maintaining their position in the queue while they are seated comfortably or doing some other activity, for this we developed a system for managing these types of queuing situations. In other words, for their turn customers have to wait for long time in queue.

To overcome these problems, a new queue management system is made i.e. Queue Control System with notification. This system have small interface for queue management in addition with notification for users.

III. METHODOLOGY

1. Timetable Generation System:

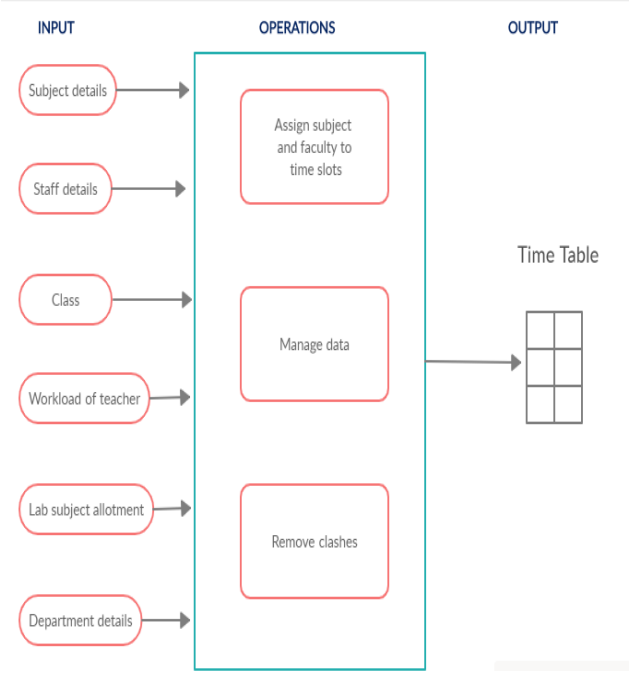

Fig 1.Flow of Timetable Generation System.

- The subject details consist of name of subject and subject code.
- Teacher's details like name, mobile no, courses taken by him/her and unique id.
- The details of classroom will be classroom's unique id, so that it is known which teacher is assigned to this classroom.
- Then admin will add course details like their course id, course name.
- The details of workload describe the amount of workload of teacher which is based on the designation of teacher.

International Journal of Science, Engineering and Technology

An Open Access Journal

- Lab subject allotment details explain the details of every subject which is handled by the respective staff.
- Department details like department id, department name.
- 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. If clashes are there, then it will be removed.
- After clicking on display timetable, it will show the automatic generated timetable.

2. Submission Queue:

Virtual submission queue project is very easy to handle for the students as well as teachers. This System consists of three modules – the HOD, the teacher and the student.

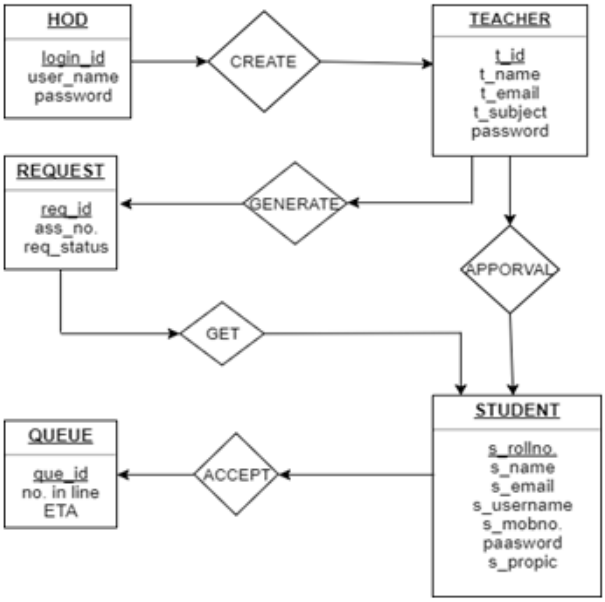

Fig 2. Flow of Virtual Submission Queue

2.1 For HOD: The HOD has the only privileges to generate subject teachers and class teachers. No teacher cans directly signup in the system. The HOD creates the teacher and a unique password is generated for the teacher. The password is sent to the teacher's email. The password is random and is unknown for the HOD also.

2.2 For Teacher: After successful registration, the teacher logs in to the system. If the teacher needs to schedule an assignment, it clicks on the Request Generation tab. The teacher will select the assignments he/she wants to check. When the student accepts the request and joins the queue, the teacher will check the assignment of each student as per the queue. While checking the teacher will also enter the marks of each assignment. Additionally, the teacher will also verify and approve the students who have registered.

2.3 For Student: The student needs to register on the website with valid information. After registration, the student will get a verification link on his email address. The student has to click on that link and get verified by the teacher. After successful verification, the student can log in into his account. After logging in, the student will see all the submission requests generated by various teachers. The student will accept the request and enter the queue. When the student's turn comes, he will complete his submissions.

IV. CONCLUSION

This task is very difficult to handle teachers and allocating subject to them manually. So to eliminate this disadvantage, our proposed system will help. Thus we can produce timetable for n number of courses and for different semesters.

To replace the tradition queue System to more convenient management system we developed an application. It helps the people who are suffering from long waiting in queues. Queue Control System reduces the waiting time. This application is developed to work online so that the people can see their real-time status of their waiting time online.

It helps them to utilize their time to do other works.

REFERENCES

[1] Ahmad Muklason, Putri C. Bwanansia,"Automated Examination Timetabling Optimization using Greedy-Late Acceptance-Hyper heuristic Algorithm" , 2018

[2] AkshayPuttaswamy, H M Arshad Ali Khan, Chandan S.V, Parkavi.A, "A Study on Automatic Timetable Generator", 2018.

[3] SujitPasalkar,AnkitKharade, ,MangeshNikam,PrakashJagade, " Queue Control System Using Android", ISSN 2395-1621

International Journal of Science, Engineering and Technology

An Open Access Journal

[4] E. K. Burke, A. J. Eckersley, B. McCollum, S. Petrovic, and R. Qu, "Hybrid variable neighbourhood approaches to university exam timetabling," Eur. J. Oper. Res., vol. 206, no. 1, pp. 46–53.

[5] Adithya R Pai, Ashwitha S, RakshaShetty, Prof. Geethalaxmi, "Automated college timetable generator", ISSN 2229- 5518,2018.

[6] T. B. Cooper and J. H. Kingston, "The complexity of timetable construction problems," in International Conference on the Practice and Theory of Automated Timetabling, pp. 281–295.