AUTOMATED TIMETABLE GENERATOR USING ANDROID

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ABSTRACT

This paper is discussed to approach various problem come across in making any organized timetable and how one can overcome this problem by making it automated and save the human effort and time by giving handwork to the computer and by using Genetic Algorithm it is possible. It take many tries to make an organized timetable and if there is any complication or error occur in between the timetable then it will effect whole timetable and one have to make a new timetable from the beginning but in the automation of the timetable generator. This project is made to ease the workload of the teacher who use the traditional algorithm to make timetable.

Keywords: Genetic algorithm, Java.

I. INTRODUCTION

Many school and colleges have make their work automatic (computerized) but timetable is still done manually due to some issues or difficulty. The manual timetable take many plenty of time and stressful job and it is not sure that once a manual timetable is made it is error free and changing on place will effect on many factor that’s why it is very complicated to edit or debug any premade timetable also. This Automatic Timetable Generator will overcome many difficulties which teacher or faculty face in making these kind of organized timetable. This project will work on the genetic algorithm which will help in making the fully balanced timetable and check that no subject get partial facilities and also customized if any subject need any special facility.

There are some major limitation which is very important to be handled by the college/schools which is lack of teachers, if there is not enough teacher(faculty) for making critical requirement to complete any fully organized timetable then there will be some customization done manually in automatic generated timetable by recognizing this problem in some place so we also place customization function in which faculty can make changes in the final product and make small changes according to them as per requirement of the organization.

II. METHODOLOGY

This project will work on the android by using java programming language and this project work on the genetic algorithm (GA) which was invented by John Holland. This algorithm is inspired by Darwin's evolutionary theory. This algorithm works on the principle of natural selection to derive a set of solution toward the optimal solution. The genetic algorithm work on the natural evolution like mutation, crossover and selection. There are many types of search algorithm:-

a) Tabu search

The Tabu Search is proposed by Fred Glover in 1986. This technique is one of the popular local search method based on neighborhood search algorithm and basically avoids getting trapped at local maxima. The use a search space in which the space of all possible solutions that can be considered.

b) Iterative Local Search

Local Search meta-heuristics are an emerging class of methods, which was recently proved to be very effective for a large number of combinatorial problems. This method is used to get initial solution and its major function is to concentrate on the search instead of any other things.

c) Greedy Random Adaptive Search Procedure (GRASP)

This technique is very effective and efficient in the optimization field of problem solving. It is use to solve the various problems like spanning tree problem and many other.
It is consist of two phase

- Solution improvement
- Solution construction

III. RESULTS AND DISCUSSION

After the completion of this project we can see the amount of work load and time waste deduction in the faculty and the automation help the other student to make their own timetable with ease if they want to make their own study timetable. The major problem in this project was to collect data from the college so we introduce data entry so faculty can introduce data of their own organization to make the timetable without making any complication. The result of this project is very promising and can be further modified to make the social media app for colleges in which the college authorities can use these for any kind of work under college authorities.

IV. CONCLUSION

Conclusion of this paper is to introduce and make this project in operation in colleges which are using manual methodology for making timetable and make change in automation in the many other services given to the teacher and student. By using this project one can save time as well as hard work done in making it manually and transferring that labor to some productive work in making other things better. By adapting this project on the ground level will encourage other student to solve the miniature problems in itself and college get rid of making manual buggy timetable and replaced by the automatic timetable generator.

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V. REFERENCES