



## Online Application of Automatic Time-Table Generator and Classroom Seating Arrangement

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### ABSTRACT

Professional colleges have different streams of courses and each has its own structure of syllabus which contains diverse subjects. In these colleges, faculties are teaching different subjects in different semesters and also within same semester faculties are handling two different subjects. The major challenge is that the time table required to schedule according to the faculty provided time slots where timetables are prepared in such a way that faculty timings do not overlap. In this project, we develop the application of Time Table which can be automatically generating time table according faculty available time slots. The system will ensure that the time of faculties will not clash in classroom or for any other coordinating matter. This system gives efficient time table generated according to professional college requirement. Setting arrangements are the crucial topic when considered about the relationship between the students and teachers.

**Keywords:** Colleges, Time Table, Faculty, Courses, System, Classroom Seating, Matrix Crossover, Relationship between Students, Fitness rates of all Students.

### I. INTRODUCTION

Generating a time table is serious and meticulous task there is no room for errors. It has to be made perfectly accurate because if any errors are present in time table it can really mess up with entire organization's schedule. The project that we have made enables one to create a time table with dead eye accuracy. Our algorithm will ensure that no two timetables will collide each other thereby messing up people's time. This automatic generated timetable application will reduce the complexity of manually creating a timetable. Timetabling problems may be solve by wide variety of methods inherited from operation study such as graph coloring, local search measures such as tabs search, simulated annealing, genetic algorithms or from backtracking based constraint fulfillment handling. In this work,

timetable problem is formulated as a constraint fulfillment problem and we proposed a realistic timetable algorithm which is capable of taking care of both hard and soft constraints. It is a complete time table solution for Colleges which will enable them to create timetables without much challenge digitally rather than manually constructing the time table. It is large and highly constrained, but above all the problem differs greatly for various colleges and learning institutions.

Classroom seating arrangements is done by using a Genetic Algorithm. By using optimization to the Classroom Seating Arrangements it will carried out between two students in the case where one student is sitting left hand side or right hand side of the other student.

## II. METHODS

### 2.1 Evolutionary Algorithm

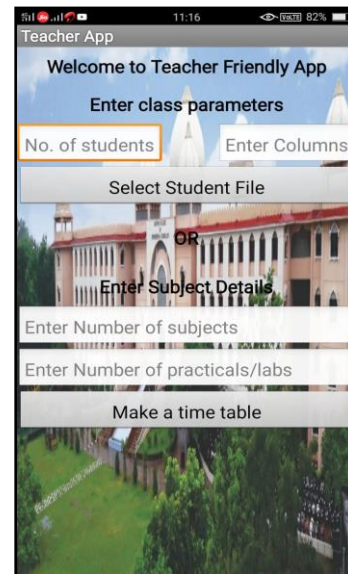
EA (Evolutionary algorithm) is used to solve a large limitations based university timetable issues. In their approach Heuristics and context-based reasoning methods are utilized for achieving realistic timetables in minimum time. A combinatorial optimization problem developed to solve the university timetabling problem where a set of measures has tube planed into time periods and established into suitable rooms. Manually generated timetables is maintained, it is universal problem due to lack of suitable methods implemented.

### 2.2 Genetic Algorithm

A genetic algorithm to determine classroom seating arrangements In order to determine the optimal classroom seating arrangements, a genetic algorithm is applied on the basis of the questionnaire results and the analysis of the observation of behaviors between students. Major problem here is of determining the optimal classroom seating arrangements is a kind of combinatorial optimization problem, and it is well known that it is difficult to solve the problem.

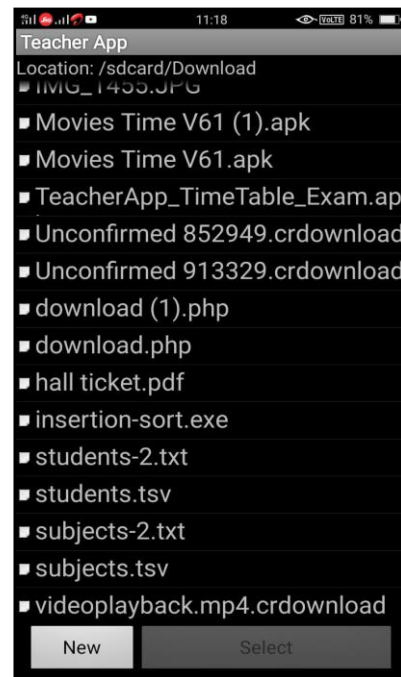
## III. RESULT AND DISCUSSION

This is the First page of our project in consists of 2 parts i.e The first is for “Classroom Seating” and the other is for Time Table Generation. Classroom Seating consist of 2 columns i.e No. of Students and Column. User need to enter the total No. of Students as well as the total No. of Columns in a Class to make an Examination Seating Arrangement.



**Figure 1 :** User Interface Page

For Time Table the User need to enter No. of Subjects as well as No. of Practical to Generate the Time table.



**Figure 2:** File Page

This is the second page of the project which consist of all types of file. After Entering the total no. of

Subjects and Practical, user need to select. Subject file to get the output.

```
Monday: [MC] [DAA] [TCP/IP] ##
BREAK ## [DWM] {LP} {LP}
Tuesday: [TCP/IP] [DWM] [DWM] ##
BREAK ## FREE[MC] [LP]
Wednesday: [DAA] [DAA] FREE ##
BREAK ## [LP] [TCP/IP] [MC]
Thursday: [LP] [MC] [TCP/IP] ##
BREAK ## [DAA] FREE[DWM]
Friday: [MC] [DAA] [TCP/IP] ##
BREAK ## [DWM] [LP] [LP]
Saturday: [DAA] [TCP/IP] ##BREAK
## [LP] [DWM] [MC]
```

**Figure 3** : Output Page

Last but not the least is the Output page. As soon as user select the Subject file and click to the Next button the Time table is Generated and it contain no block lectures and no one subject in a single day.

#### IV. CONCLUSION

As we are about to conclude our project, the system can be considered a useful system since it helps the lecturer to improve their process of preparing the timetable. We compare our project that is the Classroom Seating Arrangement with traditional one that is determined by using student ID numbers or intentions of the students and the homeroom teacher.

#### V. REFERENCES

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