**Project Abstract**

Timetables are used in schools, colleges, universities, hospitals and in many other fields. Although most of the administrative work in universities is computerized, time table generation is still carried out manually in most of them due to inherent difficulties. Making a timetable manually is a time consuming and complex job. The proposed system will provide a solution to the tedious job. The timetable generator is a desktop application which aims at saving time and efforts. It is a research-based project and utilizes the object-oriented concepts of Java.

Professional universities have a number of different courses, each having its own subjects. Instructors teach different subjects in different semesters. The major challenge in timetable generation is the overlap in class timings; timetables should be generated in a way that the faculty timings do not overlap. In this work, we develop an application for automatic timetable generation, so that the faculty need not worry for time clashes and do not need to perform permutation and combination in order to generate a suitable timetable.

Every university has its own timetable generating problem. The commercially available softwares might not be able to fulfill the needs of every university. To overcome this problem, we have come up with a flexible system, which can be used by most of the universities. In this proposed system, the user will enter the necessary details of the instructors, subjects, classes, rooms and lecture slots and the timetable for the students and the teachers will be automatically generated. The timetable will be free of errors such as overlapping of timeslots and unavailability of free classrooms. In addition, room numbers will also be specified by the system to avoid any inconvenience. The user will also have the option to either save the time table or regenerate a better one. We will adopt the constraint programming approach for this system and will also make use of the genetic algorithm to come up with a more efficient and accurate system.

In order to get a better idea of the existing systems and the possible improvements, the following research papers were analyzed:

<https://www.researchgate.net/publication/326265336_A_STUDY_ON_AUTOMATIC_TIMETABLE_GENERATOR>

<https://www.irjet.net/archives/V6/i2/IRJET-V6I2199.pdf>

<https://www.academia.edu/6173200/TIMETABLE_GENERATION_SYSTEM>

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