Automated Timetable Generation Using Genetic Algorithm

by
vishwa
manish
harshan

Objectives

* Automate the timetable creation process.

*Optimize the use of resources such as rooms and instructors.

* Effectively handle complex scheduling constraints.

* Reduce manual effort and minimize errors

Existing system

* Manual scheduling is labor-intensive and error-prone.

*Traditional algorithms have limitations in handling complex constraints.

*Heuristic methods provide approximate solutions but lack flexibility.

* High manual intervention is required for adjustments.

Proposed system

*Implement genetic algorithms to automate scheduling.

* Manage and adapt to various constraints dynamically.

*Reduce manual input and errors in the scheduling process.

* Generate optimized timetables efficiently.

Hardware Requirements

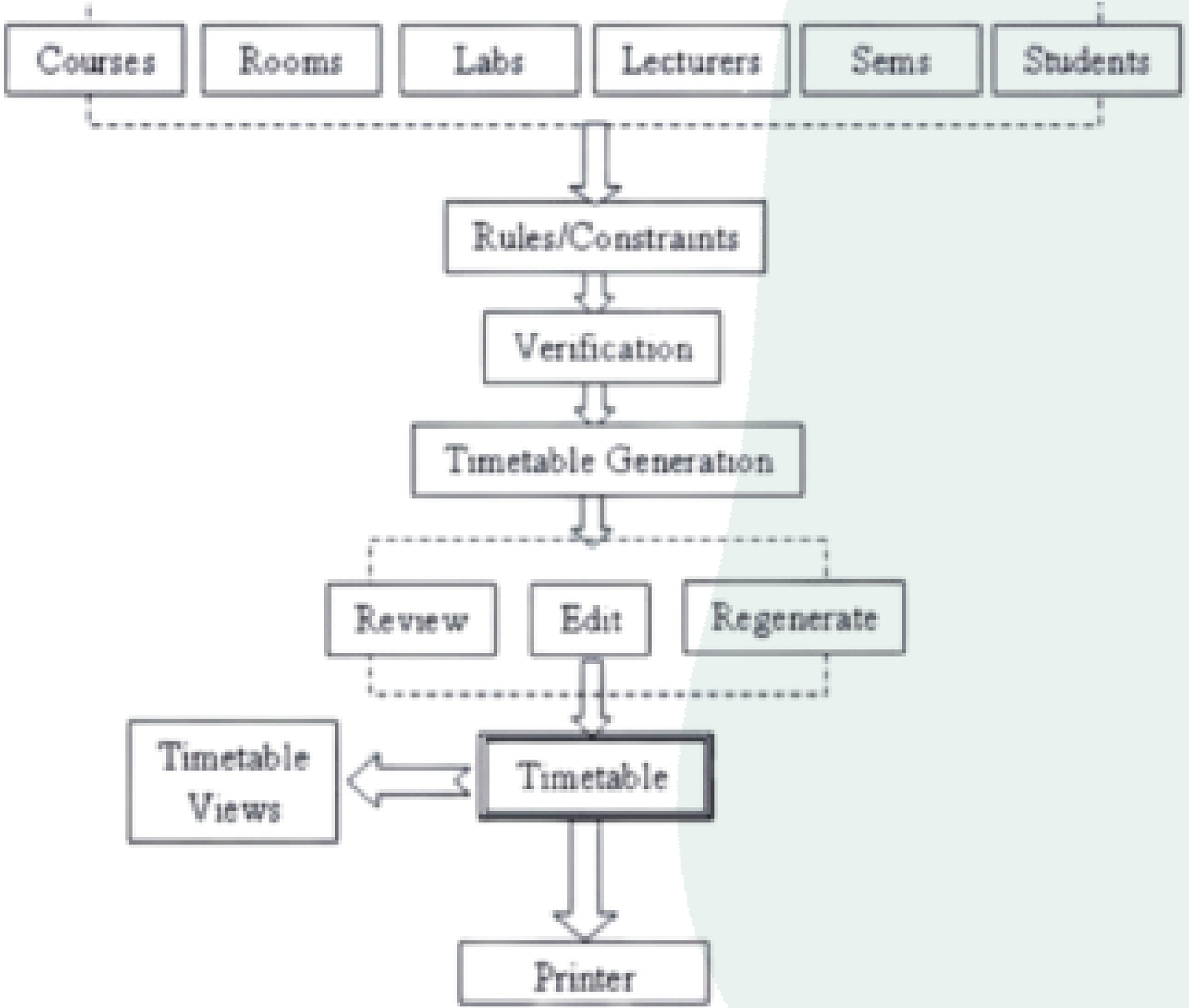
- High-performance PC or server for processing.
- Database server for managing scheduling data.
- Sufficient RAM and CPU for handling computations.
- Reliable storage for saving constraints and timetables.

Software Requirement

- Programming languages like Python, Java, or C++.
- Genetic algorithm libraries such as DEAP or ECJ.
- Database management systems like SQL or NoSQL.
- GUI tools such as Tkinter or JavaFX for interface development.

Literature Review

- Review of genetic algorithms applied to scheduling.
- Challenges and constraints in timetable scheduling.
- Comparison of traditional methods and evolutionary algorithms.
- Recent advancements in scheduling techniques.


Courses
Rooms
Labs
Lecturers
Sems
Students
Rules/Constraints
Verification
Timetable Generation
Revsew
Edit
Regenerate
Timetable Views
Timetable
Printer

Thank you