

## Software Project Scheduling Problem: A Review

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### Abstract

The software project scheduling problem (SPSP) is one of the most important activities in the development of software projects. The main factor for completing software projects according to the planned cost and schedule is the use of accurate and correct scheduling. SPSP includes resource planning, cost estimation, manpower and cost control. Therefore, it is necessary to adopt an algorithm for the scheduling of software projects that considers the best time to complete the projects, taking into account the cost and resource limitations. The simultaneous reduction of cost and time in the development of software projects is very necessary and essential for software production companies. Therefore, due to the reduction of the asymmetry of the two factors mentioned in the projects, it is necessary to make a balance between the project time and the cost. In SPSP, the most important element is the Resource Constrained Project Scheduling Problem (RCPSP). RCPSP includes assigning a number of tasks to a resource or resources with limited capacity and time constraints to achieve the optimization of task scheduling with minimum time.

**Keywords:** Software project scheduling problem, Software projects, Project scheduling problem with limited resources, Heuristic algorithms.

### Highlights

- Investigating software project scheduling techniques and comparing the types of methods.
- Expression of methods, main idea of the method, advantages and disadvantages of the methods.
- Introducing classical methods and artificial intelligence methods used in this field and comparing the methods.
- Shows that artificial intelligence methods have better performance compared to classical models.

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