

A Classroom Scheduling Service for Smart Classes

ABSTRACT:

During past decades, the classroom scheduling problem has posed significant challenges to educational programmers and teaching secretaries. In order to alleviate the burden of the programmers, this paper presents Smart Class, which allows the programmers to solve this problem using web services. By introducing service-oriented architecture (SOA), Smart Class is able to provide classroom scheduling services with back-stage design space exploration and greedy algorithms. Furthermore, the Smart Class architecture can be dynamically coupled to different scheduling algorithms to fit in specific demands. A typical case study demonstrates that Smart Class provides a new efficient paradigm to the traditional classroom scheduling problem, which could achieve high flexibility by software services reuse and ease the burden of educational programmers. Evaluation results on efficiency, overheads and scheduling performance demonstrate the Smart Class has lower scheduling overheads with higher efficiency.

INTRODUCTION:

The classroom scheduling problem has been regarded as one of the most important challenges for educational programmers and teaching secretaries. In most cases, this is still a manual process, especially in the developing countries with a large amount of students and lectures. During the past decades, the problem has been concentrated and widely conducted using computer aid design (CAD) methodology. However, due to that the classroom scheduling has been long proved to be NP-

Technofist,

YES Complex, 19/3&4, 2nd Floor, Dinnur Main Road, R.T.Nagar, Bangalore-560032

Ph:080-40969981, Website:www.technofist.com. E-mail:technofist.projects@gmail.com

Complete problem, thereby the focus of current researches are shifting towards more practical instead of optimal technical sound solutions. Unfortunately, the growing complexity of the input factors is posing significant challenges to solve the classroom scheduling problem. Several significant constrained factors must be considered in the modeling such as timing, teacher, lecture, classroom, and students. Meanwhile, there are also additional constraints such as the multimedia requirements and seats constraints. It takes quite a lot of time and effort to make a practical and high efficient classroom scheduling plan.

Technofist,

YES Complex, 19/3&4, 2nd Floor, Dinnur Main Road, R.T.Nagar, Bangalore-560032

Ph:080-40969981, Website:www.technofist.com. E-mail:technofist.projects@gmail.com