



Dynamic Crew Allocation (R2.105)

Background

In an ideal scenario for bulk railways, crew rosters should be regular and equitable. In reality, however, train timetables are highly variable and are generally not known when crew rosters are constructed. Moreover, crew requirements can frequently change in response to unexpected delays and events. Hence, there is a need for an efficient strategy for rostering crews in bulk railways.

Objective

The main objectives of the project are to develop policies for constructing effective and equitable crew rosters in an environment where train plans are highly variable and not known in advance, and to develop practical strategies for assigning crews to tasks.

Outcomes

This project will develop fast and efficient policies and algorithms for rostering crews and for allocating crews to trains in a bulk railway. The methods developed will be implemented in prototype software tools.

Benefits

The benefits of this project to the rail industry include reducing train delays caused by unavailability of suitable crew, providing efficient methods of recovery from unplanned events, increasing effective crew utilisation, and increasing overall reliability and efficiency of the supply chain.

Project timeframe

1 March 2009 to 28 February 2010

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