Graduation project

Application of Knowledge-Based Systems in planning train maintenance

NedTrain is maintaining trains for the Dutch Railways (NS). Currently a train is coming in for maintenance after being in operation for a specific number of hours. When a train arrives at the maintenance centre it is inspected to make a list of what parts needs maintenance or revision. Based on the inspection NedTrain plans the train for maintenance. The disadvantage of this approach that it is very hard to plan the maintenance of trains, because they do not know what they might expect before the train arrives at the maintenance centre.

Therefore they are testing the possibility to equip trains with measuring devices that measure the condition of different parts such as doors, wheels, and engines. Information on the state of a part can be used to determine the best time to call in a train for maintenance, which can be compared with the schedule of the maintenance centre. Determining the best time for calling a train in for maintenance requires knowledge about maintenance. Therefore NedTrain is looking for the possibility to support this activity with a knowledge-based system.

The goal of the graduation project is to design a knowledge-based system that supports Nedtrain in planning train maintenance based on the condition of parts of the train. The assignment follows the lifecycle of developing a knowledge system and starts with a feasibility study (technical as well as economical) and is planned to end with a prototype of a knowledge-based system for this type of application.

Interested in this graduation project?
Please contact Virginia Dignum (Virginia@cs.uu.nl) and/or Remko Helms (Remko@cs.uu.nl).

About NedTrain - Experts in maintenance and overhauling!

NedTrain overhauls bogies, wheel sets, engines or complete trains. Installs complicated safety systems. Repairs damage and provides technical maintenance. Work to be proud of. Work that is done well due to years of experience. So trains carry on running. Safe, reliable, clean, cost effective and there when you need them.

Keeping you on track
In short, NedTrain ensures that rolling stock performance is optimised without the transport operator or owner having to give it a thought!