Computer software that could plan English football fixtures

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(PhysOrg.com) -- Can computers solve the logistical nightmare of planning English football fixtures?

Professor Graham Kendall from the School of Computer Science at The University of Nottingham believes they can. He has devised a special [software](#) programme for the Christmas and New Year fixtures which automatically takes into account detailed criteria laid down by the football authorities and reduces travel distances for clubs and fans.

Graham Kendall, a professor in computer science, said: "The biggest difficulties occur at Christmas and New Year when the top clubs play at least twice over the holiday period. As well as coordinating 92 teams and 46 fixtures I have captured many other real world problems such as avoiding local derbies, ensuring that teams do not play each other twice over the Christmas period, and trying to limit the travel that has to be undertaken by the supporters."

The software has been programmed to recognise a complex set of guidelines laid down by the football authorities for Christmas and New Year fixtures. These are aimed at easing the pressure on policing and the transport network.

The software has been designed to:

• Recognise local pairings so certain teams do not play at home on the same day — such as Manchester United and Manchester City, Liverpool

and Everton and Chelsea and Fulham.

• Prevent paired teams playing each other over the holiday period.

• Ensure club plays at least one away match and one home match over Boxing Day and New Year's Day.

• Limit the number of London clubs playing at home on any one day.

• Limit the number of paired teams playing at home.

Professor Kendall is currently discussing his results with the Football League and now wants to extend this work to produce fixture lists for the entire season — incorporating a total of 2036 games. The only thing he cannot control is the weather.

Professor Kendall's work will be discussed at the 2009 MISTA (Multidisciplinary International Conference on Scheduling: Theory and Applications) Conference, which he chairs and organises. It will be the 4th conference in the series, which attracts experts in the theory and application of scheduling from all over the world.

More details can be found at www.mistaconference.org/2009/ .

Provided by University of Nottingham (news : web)

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