

SIRIM FC Team Description

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In the study of making the SIRIM FC project it has been taken into account that a definition of intelligence is in the ability of a program to learn and understand, to solve problems and make decision. However, one must also realise that in many real world situation the ability to learn and understand of a problem before one has to make a decision do lies on the ability of oneself to do so quickly.

The competitive environment of a soccer simulation league enables such study to be made since each agent has a limited time to react before the condition varies. However, it has to be noted also that the amount of time is not fixed therefore it is imperative that one might get away with a longer time before decision can be made.

In real world situation it is also can be noted that a decision made must not always be right at all time. As at any one time a seemingly wrong decision can be of advantage at another point. This has been proven time and time again in soccer simulation league or in the real life soccer itself.

Therefore using this principle the goal of SIRIM FC project is to promote the use of agent approach to solving complex real world problem. These continuous problems are of the same level of uncertainty as faced by the agents during the soccer simulation league.

SIRIM FC has been a test bed for algorithm for weak methods that can be use to generalised set of problems without having to extensively mine the knowledge to solve the problem. It was realised that the time involved in analysing the situation in a global manner opportunities of solving the problem in a gaming situation might be lost. It is imperative that decisions that are made faster have more chances to be corrected latter.

The approach in the current version of the algorithm is to be build upon the idea taken by the Tsinghuaelus of using a global planning with local eyeshot approach. The algorithm is implemented via a low-level machine rules for agent actions. The priority is given to the global team effort where the agent local plan are always linked to the global team desire.

The global team desires are kept simple as to two duties in defending and attacking. The distributed optimisation plan depends on the time on where the and with who the ball is on the field at the time. The team desires are communicated through the all the agents in stages thus communication skills are kept to a minimum.

The attacking desires correspond to the need of the team to keep the ball. Where as the defending desires correspond to the need of the team to get the ball. The local plan state where the player should be at any one time to satisfy the global desire.

As a whole the system work such that the abstraction levels work in harmony with the play that the decision can be taken into account with the smallest number of cycle need to be taken for condition assessment. In part the system work up to a level where the ball can be maintained at a safe position for the in a majority of times via a dynamic whole team effort. This approach retains the situation where the agent behaviour are more stable and goal oriented eliminating abrupt changes caused by random factors.