

TsubameGaesi 2007 3D Team Description

Takenori KUBO

tknrkb@gmail.com

Abstract. This paper describes current implementation of TsubameGaesi 3D soccer simulation team and the future plans.

TsubameGaesi 3D is a 3D soccer simulation team based on the agentspark. We are interested in the high-level strategy of soccer agents. the aim of this project is to build a platform that is able to focus on programming high-level strategies of agent.

In current implementation, our agent already has primitive features(world model, formation, 3D kick). In our plan, We will design a simple language for describing agent strategy and implement an interpreter as the agent.

1 Introduction

In TsubameGaesi 2004,2005,2006([TG 2004],[TG 2005],[TG 2006]), we have developed 3d kick skills and ported simple world model, formation and strategies from 2D simulation teams([Zeng 1999], [Grez 2000]). TsubameGaesi 2006 simulation team is based on agentspark . We are interested in the high-level strategy of soccer agents. We will design a simple language for describing agent strategy and implement an interpreter as the agent.

2 Future Plans

2.1 Basic actions

At first, 3D soccer agents must get basic skills (kick, run, work and stand up). We will implement learning function for the skills in agents with some methods (NN, GA and etc.).

2.2 World Model

The world model hold coordinations of all objects (a ball and players) in the field. And velocities of all objects are calculated from changes of objects' positions. In additions that, The world model provides estimated positions of all objects.

2.3 Formations

The team has a simple formation system. The format of formation definition is based on UvA Trilearn([UVA 2003]). Formation switching will be implemented in the near future,

2.4 porting More Strategies from Strong 2D Teams

At this time, Strategies and knowledges is not implemented enough. So low and middle level skills will be ported from strong teams in 2D simulation(UvA Trilearn, Brain-Stormers, TsinghuaAeolus etc).

2.5 Soccer Agent Strategy Language

Soccer Agent Strategy Language(SASL) is a simple language for describing agent strategies. After ported strategies, agent will be implemented as SASL interpreter so that the strategies is able to be called from SASL scripts. Therefore, the agent can be developed by only writing SASL scripts.

2.6 Soccer Strategy Development Environment

We are planning to realize a Integrated Development Environment for strategy of RoboCup soccer agents. The major features are as follow.

- Operation support: Every Operations(starting simulation, keeping logfiles and more) are able to be started by automatic or 1 click.
- Debuging support: log visualize and analyze.

It will make easy to start RoboCup Soccer Simulations.

3 Conclusions

In this paper, We describe current implementation and future plans of TsubameGaeshi. These plans will be realized in RoboCup 2006.

References

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