# JU-TsubameGaesi 2005 3D Team Description

Takenori KUBO

Department of Communications
Faculty of Human Studies,
Jin-Ai University, JAPAN
kubo@jindai.ac.jp

**Abstract.** This paper describes current implementation of JU-TsubameGaeshi 3D soccer simulation team and the future plans.
JU-TsubameGaeshi 3D is a 3D soccer simulation team based on the agenttest.
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 TsubameGaeshi 2004([TG 2004]), we have developed 3d kick skills and ported simple world model, formation and strategies from 2D simulation teams([Zeng 1999], [Gnez 2000]). JU-TsubameGaeshi 2005 simulation team is based on TsubameGaeshi 2004. 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 Current Implementation

### 2.1 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.

### 2.2 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,

### 2.3 3D kick

The agent kicks a ball taking height into account. The height is calculated from distances from goals or opponents.

## 3 Future Plans

### 3.1 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, TsinghuAeolus etc).

### 3.2 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.

### 3.3 SASL League On The Net

We are planning to realize the automatic match making system on the internet like SSIL for SASL scripts. All teams in SASL League use the same low and middle level skills so that we can easily know which high level strategy is strong.

## 4 Conclusions

In this paper, We describ current implementation and future plans of JU-TsubameGaeshi. These plans will be realized in RoboCup 2005.

## References

[UVA 2003] Jelle R. Kok, Nikos Vlassis, and Frans Groen, "UvA Trilearn 2003 Team Descriptions", RoboCup 2003 team descriptions(2003)

[Zeng 1999] J. Nishino, T. Kawarabayashi, T. Morishita, T. Kubo, H. Shimora, H. Aoyagi, K. Hiroshima, H. Ogura, "Zeng99: RoboCup Simulation Team with Hierarchical Fuzzy Intelligent Control and Cooperative Development", RoboCup-99: Robot Soccer World Cup III, pp. 649–652, Springer (2000.8)

[Gnez 2000] Takenori KUBO, "Gnez: Adapting knowledge to the environment with GA", RoboCup 2000 team descriptions, Melbourne (2000.9)

[TG 2004] Takenori KUBO, "Tsubame-Gaesi 3D Team Description", RoboCup 2004 team descriptions(2004)