

TokyoTechSFC 2005 3D Team Description

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Abstract. This paper describes the plan of the TokyoTechSFC 3D soccer simulation team for the RoboCup 2005. The TokyoTechSFC 3D is developed based on the team TsubameGaeshi 3D that has participated in the RoboCup 2004. We are trying to transport our 2D soccer team methodology to our new 3D team. And, in order to collaborate with our 2D team from the view point of the adaptation of player agents, we are planning to extend our training tool for the 2D agents to the 3D environment.

1 Introduction

The TokyoTechSFC 3D is a new team for the 3D soccer simulation league of the RoboCup 2005. This team is a part of our main team TokyoTechSFC 2D soccer simulation team. So, we are planning to transport our 2D team's basic libraries and techniques to this new 3D team.

Currently, we are developing our team based on the team TsubameGaeshi 3D[1] that has participated in the RoboCup 2004. And, for the convenience, we exported agenttest package from rcserver3d¹. If we can prepare the environment where rcserver3d has been installed successfully, this exported package enables us to develop a simulation soccer team for the rcserver3d easily with portability.

As a collaboration with our 2D simulation soccer team, we are planning to develop a new monitor that has a compatibility with the monitor protocol of rcserver3d.

2 Development Plan

2.1 World Model

Because the physical model and the perception model of 3D simulator is not stable yet, we are not focusing on this problem field. But, if some limitations are added to the perception of 3D agents, the techniques of our 2D team will help us to deal with this problem.

¹ Available at: <http://www.ntt.dis.titech.ac.jp/~akiyama/robocup/pukiwiki/>

2.2 Basic Skills

Because the physical model of 3D simulator is very different from 2d simulator, we have to develop a new libraries for the player agent's basic skills. We are now focusing on the ball interception skill. Although it is difficult to get the best solution for this skill even if the environment is 2D, this becomes more complex task in the 3D environment because a ball can fly in the air and player agents cannot control to keep the ball around his body.

2.3 Team Strategy

We plan to transport the team strategy technique of our 2D simulation team to the 3D team. However, because all basic skills have not worked well, it is still under planning phase. Current our team strategy is very similar to the basic team of FC Portugal[4] released after the RoboCup 2000. After implementing and testing the basic skills, we will start this challenge.

2.4 Monitor

We are now developing a GUI training tool that enables us to instruct team strategy to agents for the 2D environment[3]. This tool has been developing as an agent training tool in our 2D project. We plan to extend our tool to the 3D agents. Because we use the wxWidgets[2] as a GUI library, our tool is very extensible and has much portability.

3 Conclusion and Future Works

In this paper, we described the development status and plans of our 3D soccer simulation team TokyoTechSFC 3D. Because 3D simulation is a new environment and is not stable yet, we believe that our main work is to develop the basic skills for a while.

We plan to develop a new 3D monitor based on our 2D training tool. This tool will be useful when our development status becomes a team strategy level.

Acknowledgement

We would like to thank for the release of the TsubameGaeshi 3D source code.

References

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