Player Behavior and Team Strategy in Robocup Simulation 3D League

Georgios Methenitis

Technical University of Crete

Chania, August, 2012

Outline of Topics

Robocup Competition

RoboCup is an international robotics competition founded in 1997. The official goal of the project is stated as an ambitious endeavor: "By the year 2050, a team of fully autonomous humanoid robot soccer players shall win the soccer game, complying with the official rule of the FIFA, against the winner of the most recent World Cup".

Robocup Leagues

Soccer Simulation League

one of the oldest leagues in RoboCup's Soccer. The Simulation League focus on artificial intelligence and team strategy. Independently moving software players (agents) play soccer on a virtual field inside a computer. There are two subleagues: 2D and 3D.

Architecture

Connection

Perception

Localization

Localization Filtering

Motions and Movement

XML Based Motions

TEXT Based Motions

Actions

Simple Actions

Complex Actions

Vision Actions

Other Sensors' Actions

Communication

Messages and Communication

Coordinations Beliefs

Subsets in Coordination

Coordination Splitter

Soccer Field Value

Active Positions

Active Coordination

Team Formation

Role Assignment Function

Positions for Support Subset

Support Coordination

Mapping Cost

Movement

Communication

Coordination

Matches

Future Work