

Project specification

Marcus Lundqvist
marclun@kth.se

Daniel Hollsten
hollste@kth.se

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1 Introduction

Soccer or as we say in Europe, football attracts millions of spectators, fans, and other expectant individuals. Football is enjoyed by millions of people since it is understandable for most people, easy to play with your friends, and it is a non-predictable game.

In the 21th century football have gained immense popularity in the field of computer science. Not only for entertainment as video games but also in simulation environments. The original goal of the robocup initiative was to by year 2050 have implemented a team of fully autonomous humanoid robots that could win against the human world champion team in soccer[2]. Since then the project have expanded into several other fields such as the 2D robocup soccer simulation that will be covered in this essay. This branch of the robocup initiative was created to encourage the field of artificial intelligence.

2 Problem statement

Implementing flawless artificial intelligence for digital football players is a complex task. The problem lies in creating a cooperating football team with players that are aware of the importance of different roles on the pitch. This essay will argue for this importance by analyzing how a real football team behaves. Are there differences between real and simulated football teams that can be exploited? If so, how can this be done?

3 Approach

We will analyze a real football team and compare to well performing simulation teams. What differences are there? We will try to identify one or two key areas/tactics where there is a difference that is not easily explained by simulator characteristics, and then implement this isolated tactic to demonstrate the concept. Then, if possible, we will add it to the behaviour of an existing team and analyze the outcome.

4 References

References

- [1] Athanasios, Terzis, *FC Barcelona - A Tactical Analysis*, ISBN10: 0956675239, 2012, February.

- [2] The RoboCup Federation, *What is RoboCup?*, <http://www.robocup.org/about-robocup/>, 2012.
- [3] The RoboCup Federation, *Soccer Simulation League*, http://wiki.robocup.org/wiki/Soccer_Simulation_League, 2012, June.
- [4] FC Barcelona, *Tiki Taka Barcelona analysis*, <http://www.youtube.com/watch?v=lGuaQ1khn2k>, 2012, February.

5 Time plan

Robocup Soccer		Start date:	18/1/2013																	
Task	Start date	End date	Duration (days)														DEADLINE		DEADLINE	
				Date	v.3	v.4	v.5	v.6	v.7	v.8	v.9	v.10	v.11	v.12	v.13	v.14	v.15	v.16	v.17	v.18
1.0 Planning																				
1.1 Marcus	18/1/2013	6/2/2013	21																	
1.2 Daniel	18/1/2013	6/2/2013	21																	
2.0 Analysis																				
2.1 Marcus	3/2/2013	24/2/2013	22																	
2.2 Daniel	10/2/2013	24/2/2013	10																	
3.0 Design																				
3.1 Marcus	10/2/2013	3/3/2013	17																	
3.2 Daniel	30/1/2013	3/3/2013	32																	
4.0 Implementation																				
4.1 Marcus	4/3/2013	31/3/2013	27																	
4.2 Daniel	4/3/2013	31/3/2013	27																	
5.0 Testing																				
5.1 Marcus	1/4/2013	7/4/2013	7																	
5.2 Daniel	1/4/2013	7/4/2013	7																	
6.0 Presentation																				
6.1 Marcus	13/4/2013	22/4/2013	10																	
6.2 Daniel	13/4/2013	22/4/2013	10																	
7.0 Report																				
7.1 Marcus	1/2/2013	11/4/2013	69																	
7.2 Daniel	1/2/2013	11/4/2013	69																	
Color representation		Meaning																		
Green		Planning																		
Blue		Analysis																		
Purple		Design																		
Turquoise		Implementation																		
Yellow		Testing																		
Black		Presentation																		
Pink		Report																		
Orange		Rev-Report																		