System Specification

Robo Ducks

Project Name	Roboducks
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Document state	In process
Version	V. 0.1

Revisions

Date	Author	Change
November 03, 2011	P. Bauer/T. Stütz	Template
November 06, 2018	Gewessler/Gaisbauer	First Version

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1 Initial Situation

Our goal is to participate in the German Open Standard Platform League. The German Open Standard Platform League is a soccer league where all teams participate using the same robot, the NAO robot from SoftBank Robotics. These robots play fully autonomously and each one takes decisions separately from the others, but they still have to play as a team by using communications. The teams play on a green field with white lines and goal posts, with no other landmarks, and the ball consists in a realistic white and black soccer one. These game characteristics generate a very challenging scenario, which allows improving the league every year.

2 Application Domain

Our competition are mostly teams from universities like the team B-Human which comes from the university Bremen. In this field it is very important to have sponsors because the most schools and universities can not effort too many robots. We have talked to some of the other teams and they said they would need about 50.000 Euros a year. As we mentioned earlier, our main goal is to participate in the German Open Standard Platform League but we can break this down to many sub goals. The first sub goal would be that we finish the framework, which we call "Duckburg", till the 24.12.2018. The framework is the base of our software which will contain the basic functions of a system.

3 Glossary

Agents are components of Duckburg which really make things go... literally. They are invoked by their Engines and then perform the task they are made to do. Examples for Agents could be: An Agent:

- ... that walks
- ... that calculates the position of an object
- ... that writes a log entry to a file
- and so on

This way we can develop functions without changing the whole framework.

4 Model of the Application Domain

This project gives us the opportunity to be part of the German Open Standard Platform League. This would be a big thing for our school because the other teams are all from universities. It would also be a good thing for our sponsor the Fabasoft because we would be very present in the media.

In our project we have some risks which we will have to take to account of. For example our robots are not that robust and it is possible that some parts of them get broken while we test them on something. This is not a major problem because we have a maintenance contract with Aldebaran but while the affected robot is in France we cannot work with it.

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