

<Project Title>

Project Contorium

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1. Problem Definition and Background Information

In this project, we will develop a videogame that will be played by programmed AI bots. With this game, participants will be able to improve their artificial intelligence programming skills and test them against each other.

While the video game industry is huge and growing, there are not a lot of games where instead of the player, the player written AI plays the game. We believe that if we provide a platform for software developers to compete with other developers using their AI programming skills via a video game, these people will try hard to win and also enjoy their time.

While there are not many similar projects to reference, there is an international scientific initiative called [RoboCup](#). RoboCupSoccer, one of the main themes of the initiative is about creating teams of fully autonomous, cooperative robots that exhibit advanced competitive behaviors and strategies(1).

2. Significance of the Problem and Motivation

In the project, we will develop intelligent bots to play the game and provide the platform for the game.

One of our main goals is to make the game fun to watch and play, so that there can also be an audience enjoying. Also another very important goal is to make the AI development process as easy and intuitive as we can for the participants so that we can make the game more accessible.

Although we have considered other public project ideas, as senior computer engineering students, we believe that with this project we can leave something nice for the future of our department. The competitive side of this idea along with the already interesting artificial intelligence features made us excited.

The main reason for absence of similar products should be the size of the target audience. This game is pretty much only for software developers and people who are interested in AI.

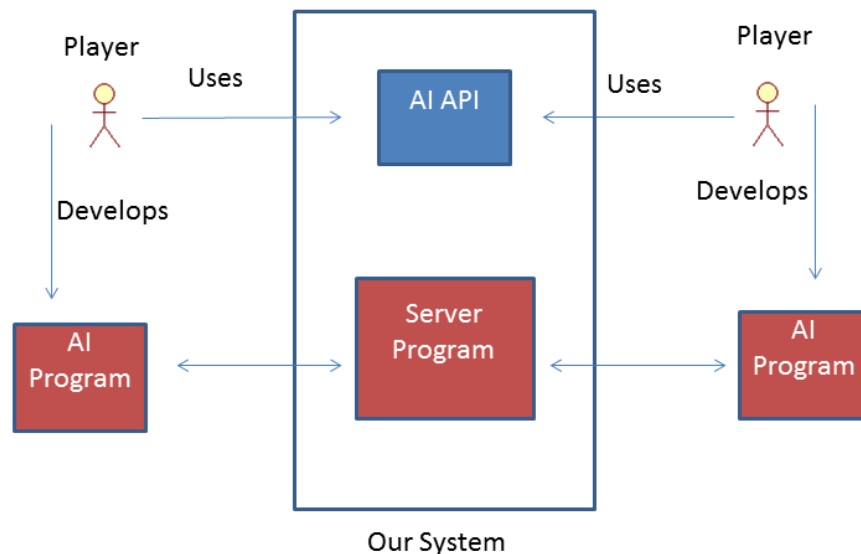
We think that computer engineering department students at our university would be interested in such product and if we do a good job this can turn into an anniversary event where players get together and compete for a prize.

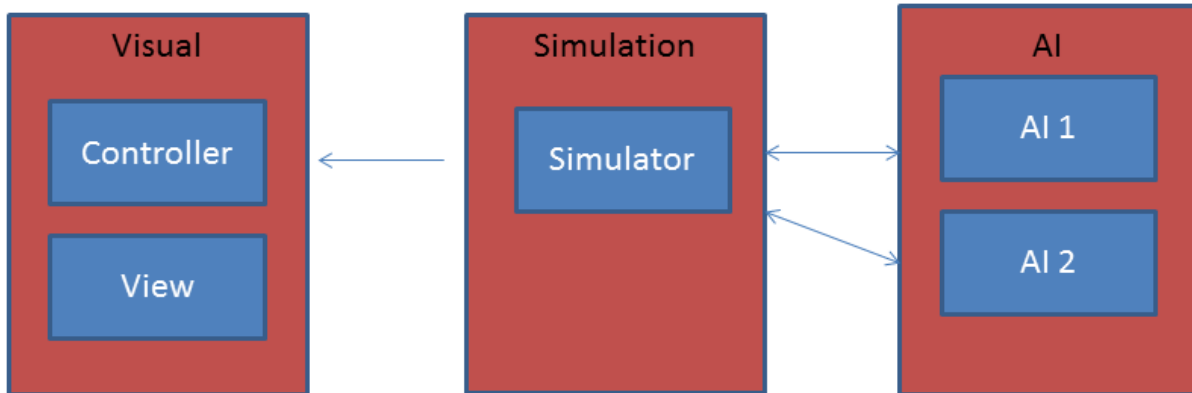
3. Draft Project Plan

We are going to create a system in which players will use their AI programs to control the game. There is going to be a server program which will periodically ask for input from the player written AI programs. Server is going to simulate the game and will reach to a conclusion.

We are going to provide the players with an API to program their AIs. The players will design their AIs according to our guidelines and rules.

We are also going to implement a visual simulation of the simulated game so that people can watch and cheer for their side.





Visual module will communicate with our simulation module and will visualize the simulation. Simulation module will communicate with AI programs and simulate the game. AI module will provide input for the simulation.

We will use OpenGL for the visual , C/C++ for our simulation and AIs.

4. References

- 1) <http://www.robocup.org/about-robocup/>