Monte-Carlo Tree Search for Robocode

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***Abstract*— The abstract goes here. Please try to make it less than 150 words. We suggest that you read this document carefully before you begin preparing your manuscript.**

This template is for LaTeX users of the Advanced AI in games class. Authors should use this sample paper as a guide in the production of their report(s).

I. Introduction

What problem are you trying to solve?
Why is this important?

II. Background

Most games attempt to engage the player by presenting a number of challenges for the player to overcome. Sometimes these challenges consist of precision, timing, execution speed and reaction time, while in other cases the challenge consists of making a strategic choice. When making these strategic choices, a player must consider not only the present state of the game, but also the actions taken by the adversary (either another player, an artificial intelligence or the game itself).

A. Monte-Carlo Tree Search

B. MCTS in Partially Observable Games

III. Game Mechanics

How does the game work that you are using?
Why do you need AI in this game?

A. Influence of Robocode mechanics on MCTS

IV. Methods

How does your algorithm work? Describe in as much detail as you can fit into the report.
Also, how did you interface it to the game?

V. Results

Did it work?
How well? Provide some figures, and a table or two.
How much time does it take?
Remember to include significance values (remember the t-test?), variance bars Reread some of the papers from class and compare how they report their results.

VI. Conclusions

The conclusion goes here.
What are the strengths and shortcomings of your method? Why did you choose method X instead of Y? How well would it generalize to other game genres? How would you develop it further, if you had time?

References

[1] J. Orkin, "Three States and a Plan: The A.I. of F.E.A.R." *Monolith Productions / M.I.T. Media Lab, Cognitive Machines Group*, 2006, [Online; accessed December 9, 2014]. [Online]. Available: http://alumni.media.mit.edu/ jorkin/gdc2006_orkin_jeff_fear.pdf