

Project Description for Degree Projects

Department of Computer Science

Student:	Sarah Kerrigan	sake98@student.lnu.se
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Supervisor:	-
External company:	-
External supervisor:	-

Background

Real-Time Strategy (RTS) games are a sub-genre of strategy games where the game runs in real-time, in contrast to turn-based strategy games such as Chess or Civilization. Since the game is running in real-time, the player has to make often complex decisions in very short time and also be able to quickly react if something unexpected happens in the game. Players can play against other human players or against computer-controlled opponents. The complex and quick decision making is a very difficult task for a computer-controlled opponent, and developing such a software system is not a trivial task.

Problem formulation

There exist several open-source bots for the popular RTS game Starcraft. A majority of these, according to their descriptions, does not explicitly react to what the opponent does and only uses a static strategy for building bases and creating armies. I want to investigate how an adaptive, reactive strategy can be incorporated in an existing open-source bot. I plan to use some form of fuzzy logic for the adaptive strategy selection since it is capable of selecting among several options that fit the problem to a certain degree.

Expected result

I expect the adaptive, reactive strategy selection to be better (i.e. win more games) than a static strategy selection, but that the problem is very complex and not everything can be solved within the scope of a thesis project.