Introduction

The purpose of this assignment is to develop an AI bot for the open-source RTS game Spring (http://springrts.com/). The assignment is in two parts and this document describes the requirements for the first part.

About Spring

Spring is an open-source real-time strategy game engine. A number of different games, both free and proprietary, use the game engine and in this assignment we will use the Evolution RTS game. The goal of Evolution is to construct a base, build units and attack and destroy the opponent's base. Your own base needs powerplants and metal extractors to supply you with resources (energy and metal) to build your army. You can also defend your base with stationary missile towers and radars to better spot enemy units. Your attacking force should be a mix of light and heavy tanks with supporting artillery units.

In Spring you can develop own skirmish AI bots that is loaded into the game engine as a dll file. To start a skirmish game open the Springlobby application, select the Evolution RTS mod and a map of your choice. *1944BocageSkirmish* is a good map to start testing on. Go to the Options tab and select the DV1317 preset in the dropdown list and press the Load button.

 Add a bot by selecting the *Add bot* button and select from the list. If you have developed your own AI bot it should be visible in the list.

How to get started

Download the *spring-evolution-bundle-[version].zip* from Its Learning and unpack it to your hard drive or USB storage. Go to the source folder and follow the instructions in *Spring-Evolution-bundle_instructions.pdf*.

Requirements

In the first part of the Spring assignment you shall develop an AI bot that:

1. Builds an Engineer at the CommandFactory
2. Use the engineer to build 2 SolarPlants
3. Use the engineer to build a Radar
4. Builds 2 scout units (LightTank) at the CommandFactory
5. Sends the 2 scout units to explore the game world. The scout units can follow a pre-defined path or dynamically create a path while they are exploring.
6. Spring has a built-in pathfinder which you are allowed to use.
7. If a scout unit sees an enemy unit or building, display a message in the in-game console what the unit sees.

To think about when structuring the code is that you shall be able to re-use your code in the next part of the assignment so make it flexible and easy to extend.

Note that your bot shall have a relatively unique name to avoid AI's with the same name in the list.

Examination

To pass the exercise you must:

- Create a Spring AI bot that performs the actions listed above.
- The bot shall run under the Spring engine version that is provided from the assignment page in Its Learning.
- The assignment shall be performed in teams of one or two students.
- Add all files in *[Spring_home]/source/AI/Skirmish/[your bot folder]* to a zip or rar package.
- The package shall be submitted to Its Learning before deadline.

Q&A

Use the forum in Its Learning to ask questions about Spring. For questions regarding grades etc. send an email to jhg@bth.se. Note that no general Spring questions will be answered by mail.