Wargame

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Synopsis:

In this project we will develop a small language to control the logics of a multi agent system.

Preface

This report is written in the fourth semester of the software engineering study at Aalborg University in the spring 2011.

The goal of this project is to acquire knowledge about fundamental principles of programming languages and techniques for description and translation of languages in general. Also a goal is to get a basic knowledge of central computer science and software technical subjects with a focus on language processing theories and techniques **ref. to study regulation**.
We are going to achieve these goal by designing and implementing a small language for controlling a multi agent system in the form of a wargame. We are going to use Visual Studio and C#, because we have used these tools in earlier semesters and are used to the C# syntax.

The report is written i LaTeX, and we have used Google Docs and TortoiseSVN for revision control.

Source code examples in the report is represented as follows:

```
if (spelling.ToLower().Equals(spellings[i]))
        {
                this.kind = i;
                break;
        }
```

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The Wargame

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2.1 Wargame Scenario

The war game is initialized and the number of agents on the teams is chosen by the user. The first user types the first command, and clicks the button *Execute* to execute the command. When the user is done making his draws, he ends his turn by pressing the *End Turn* button. The moves available for the user to make is up, down, left and right (one coordinate at a time), and it is also possible to make several moves with an agent, if you select the agent and type the coordinates you want the agent to move to. When a collision between agents from opposing teams occur, a random function is called, which decides which agent wins the fight, favoring the unit with the highest rank.

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Appendix A

Appendix

A.1 Other Games

Figure A.1: Screen shot of the game user interface in Red Alert 2.

Figure A.2: Screen shot of the game user interface in Command and Conquer 3.