## Readers Guide

# Glossary

# Report

Group 514

November 6, 2014

## Contents

# 1 Introduction

# 2 Pre-analysis

## 2.1 Initial Problem Statement

Is it possible to create an "Artificial Intelligence" opponent in a game, which evolves according to the players skills and performance. An opponent that would never become too difficult or too easy, but instead create a challenge according to players performance.

## 2.2 Artificial Intelligence

intro: what is AI? What types of AI exists? SOTA. ( EA / GA etc)

## 2.3 Adaptive difficulty

describe how an AI could evolve according to players skill and performance. Which could be by the use of evolutionary algorithms.

### 2.3.1 what is difficulty?

describe how one can define difficulty in games. How can difficulty be idenfitied? Is it not dependant on each specific game/game mechanics? We find Dynamic game difficulty balancing. Perhaps research others.

## 2.4 Game selection

Define through research plausible game genres/types which can be used. Describe that we focus on either TD, RTS and Pacman. document with aquired research.

## 2.5 Final Problem Statement

Can an adaptive difficulty be implemented in Pacman through the use of a genetic algorithm in accordance with dynamic game difficulty balancing?

# 3 Analysis

# 4 List of Requirements

# 5 Methods

# 6 Design

# 7 Implementation

# 8 Evaluation

# 9 Re-design

# 10 Discussion

# 11 Conclusion

# 12 Appendices