Dissertation Plan

Abstract

Contents

Chapter 1: Introduction

* Intro
* Motivations
* Aim
* Summary / Conclusion?

Chapter 2: Background and Related Works

* Explain basics with diagrams and examples
* Talk more in-depth to complexity of the game
* Life and Death Problems
* Go terminology

Chapter 3: Requirements

* Functional Requirements
* Non-Functional Requirements
* Must/Should/Could/Won’t have

Chapter 4: Design

* Design Principles
* Board Design
* Game State Flow
* Overall Architecture

Chapter 5: Implementation

* Brute Force
  + Alpha-Beta pruning algorithm
  + Bad move removal
* Heuristic Methods
  + Board Evaluation
  + Pattern Searching
  + Move Generator
* Game Implementation
* Save/Load
* Board
* Editor Mode
* Play Mode

Chapter 6: Evaluation

* Testing
  + Testing Correctness of Go Implementation
  + Testing Correctness of Brute Force Methods
  + Testing Correctness of Heuristic of Smaller Problems
  + Testing Correctness of Move Generator
* Evaluation of Heuristic on Larger Problems
  + Solvability of Problems
  + Rate of Success
* Beta testing with Go players
  + Questionnaire

Chapter 7: Conclusion

* Summary
* Future Works
* Reflection