

# Chess Alpha Report Content Table

**This is only a draft; the final index will not necessarily be the same.**

## 0. Prelude (This will not be an actual section in the final report)

1. Abstract
2. Acknowledgements
3. Important disclaimer (explaining my circumstances and that my project may continue until July for my home university)
4. Table of Contents

## 1. Introduction

1. Motivation
2. Context
3. Considerations
4. Objectives
5. Planning/Gantt Chart

## 2. Background and Research

1. Chess as a game
  - a. Rules and difficulties
  - b. Past attempts to make a chess AI
2. Technical knowledge
  - a. Algorithms
    - i. MinMax
    - ii. NegMax (Not used in the project)
    - iii. Alpha Beta Pruning
    - iv. Monte Carlo Tree Search
    - v. Neural Networks (Not used in the project)
  - b. Design Patterns
  - c. Software Engineering Practices
    - i. Documentation
    - ii. Coding
    - iii. Debugging
    - iv. Testing
      1. Unit Tests
      2. Alpha Releases and Testers
      3. Nim (Only objective research on this game)
      4. Chess End Games
  - d. Game API
    - i. Description
    - ii. Origins
    - iii. Features
    - iv. Changes

### 3. Software Requirements Specification

1. List of functional requirements
2. List of non-functional requirements

### 4. Feasibility and Choices Taken

1. Software choices
  - a. Eclipse
  - b. GitHub
    - i. Why to use a VCS?
    - ii. Folder structure
  - c. ...
2. Model choices
3. Coding choices
4. Expected time and resources
5. Feasibility of the project
6. Testing choices
7. User Interface

### 5. Design, Architecture and Diagrams

1. Overview
2. Class Diagrams
3. Sequence Diagrams
4. Other information relevant to the design

### 6. Components and Implementation

1. User Interface
2. Most relevant classes in the design

### 7. Testing

1. Unit Tests
2. ToString
3. Nim
4. Chess end games
5. Playing against humans

### 8. Project Evaluation

1. Overview
2. Strengths (Best parts)
3. Problems encountered
  - a. Critical problems (Problems that could not be solved)
  - b. Solutions to other problems
4. Things that could have been done better

### 9. Conclusions

1. Introduction
2. Lessons learnt

3. Should (or shouldn't) have done
4. Personal opinion

## 10. Future work

1. State of the project (why the development will continue)
2. Future new features
3. Improvements to existing features
4. What to expect from the final project

## 11. Bibliography