CS3343 Project

Group 9

Connect Four

Analysis and Design Report

**TODO!**

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**Summary of the project**

1. Project Description

Reversi (Othello / Black White Chess) is a simple board game with black and white chess. The one with more chess on the board will win. As this game was popular when we were young, we would like to develop this game and to bring back our childhood memories.

1. Stakeholders

Related stakeholders of the game:

|  |  |
| --- | --- |
| Stakeholders | Description |
| Player | They can select whether they would like to play as Player VS Computer or play as Player VS Player. |
| Project team members | Developing this game |
| AI (Computer) | It is basically a computer that will play with the player. |

1. Objectives of the project

Objective 1: Entertain users

This project is being developed to entertain users and they can spend time with others with this game.

Objective 2: Exploring the algorithm and enjoying the joy of learning project management

We would like to know how the games work, and would like to learn how to do project management through the development of the application.

**Summary of Methodology**

1. Software development methodology used

* Test-driven Development

In the first cycle, we will focus on writing codes and test cases together.

After the first cycle, we will consider to enhance the design of the program and writing more test cases.

After running those test cases, we will fix the bug and refactor those code.

1. Project Team Organization

|  |  |
| --- | --- |
| Name | Position |
| Mickey Lau | Project Manager |
| Thomas Tong | Assistant Project Manager |
| Kent Tsui | Tester |
| Andy Wong | Programmer |
| Jake Lin | Configuration Manager |

1. Development tool to be used

For the development tool, we used Eclipse to create java project and writing java files.

For the tool that we used to generate test cases, we used jUnit which can be found in the eclipse. We used EclEmma 2.0 for checking the coverage of the test cases. For the Development platform, we used Windows 7. For the documentation tools, we used the Microsoft Office Word.

**Configuration Management**

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Release 1 | Release 2 | Release 3 |
| Project Plan | ver 1.0 | ver 2.0 | ver 2.0 |
| Program file “AI.java” | - | - | ver 1.0 |
| Program file “Check.java” | ver 2.0 | ver 2.0 | ver 3.0 |
| Program file “ChessPiece.java” | ver 1.0 | ver 2.0 | ver 4.0 |
| Program file “Display.java” | ver 1.0 | ver 1.0 | ver 2.0 |
| Program file “Main.java” | ver 1.0 | ver 1.0 | ver 1.0 |
| Test script “ReversiTest.java” | ver 1.0 | ver 3.0 | ver 4.0 |

**Work Breakdown Structure**

Reversi (Our software Project)

1.0 Project Management

1.1 Preparing Project Plan

1.2 Preparing Project Schedule

1.3 Writing Requirement Doc

1.4 Time keeping

1.5 Weekly PMS reports

1.6 Weekly Meeting agenda

2.0 Technical Design

3.0 Design Documents

4.0 Testing

4.1 Unit Testing Checklist

4.2 Integration Testing Checklist

4.3 System Testing Checklist

**Project Schedule**

Release 1

|  |  |  |
| --- | --- | --- |
| Tasks | Start Date | Finishing Date |
| 1. Writing project Plan | 13/9/2014 | 20/9/2014 |
| 2.Set Up Development Environment | 16/9/2014 | 17/9/2014 |
| 3.Writing User Story 1 | 21/9/2014 | 21/9/2014 |
| 4.Writing Test Cases For User Story 1 | 23/9/2014 | 26/9/2014 |
| 5.Writing Code | 24/9/2014 | 2/10/2014 |
| 6.Documentation | 1/10/2014 | 3/10/2014 |

Release 2

|  |  |  |
| --- | --- | --- |
| Tasks | Start Date | Finishing Date |
| 7.Update Project Plan | 4/10/2014 | 11/10/2014 |
| 8.Writing User Story 2 | 8/10/2014 | 8/10/2014 |
| 9.Code Refactoring | 9/10/2014 | 15/10/2014 |
| 10.Writing Test Cases For User Story 2 | 10/10/2014 | 13/10/2014 |
| 11.Produce UML diagrams | 18/10/2014 | 21/10/2014 |
| 12.Writing Code | 16/10/2014 | 31/10/2014 |
| 13.Documentation | 29/10/2014 | 1/11/2014 |

Release 3

|  |  |  |
| --- | --- | --- |
| Tasks | Start Date | Finishing Date |
| 14.Writing Code | 2/11/2014 | 27/11/2014 |
| 15.Writing Test Cases | 2/11/2014 | 27/11/2014 |
| 16.Produce final set of user story | 15/11/2014 | 20/11/2014 |
| 17.Produce final set of class diagram and design UML diagrams | 20/11/2014 | 23/11/2014 |
| 18.Documentation | 20/11/2014 | 28/11/2014 |
| 19.Presenatation Preparation | 1/12/2014 | 4/12/2014 |

**Future Planning**

In the future, we would like to implement functions below in order to enhance the game:

* 1. Improve the logic of AI

We are planning to further develop the AI in order to makes the game more challengeable and enjoyable.

* 2. Implement Graphical User Interface
* As we are still using a command Line Interface at this moment, so we would like to implement a user friendly GUI in order to attract more users to play our game. We are planning to implement it in our future release.
* 3. Further enhance the algorithm in order to run the game faster.
* We would like the AI to think faster (implement a more efficient algorithm). So, it can makes the game more challengeable.