

Introduction

In this project we aim to build the computerised version of the four board game, allowing for both human vs human and human vs computer gameplay with varying levels of difficulty. In addition we will make sure the game is accessible to those with colour vision deficiencies.

Problem Statement

There are various challenges we will have to solve in this project. Including but not limited to determining the appropriate UI, implementing colour vision deficiency accessibility, defining and implementing an easy and hard computer mode, allowing the game to be saveable and resumable, allowing a player to play either human vs human or human vs computer mode, and lastly optimising the program as to be able to extend it in the future to allow for networked versions of the game.

Stakeholders and key interests

Stakeholder	Key Interest
Game developers	Producing a functional and correct program implementing all the asked requirements
Players	Having a playable game that works correctly
Instructor(s)	Both for marking the project as well as future instructors potentially using this program to teach or as samples

Future developers	May choose to extend this program for example into a networked version, or even take inspiration from the already implemented aspects
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Users and user level goals

Stakeholder	Key Interest
Players	Being able to play a fun, accessible and interactive game without facing issues in gameplay, functionality or colour vision deficiency inaccessibility.

Summary of system features

The system shall do:

- 2 modes of play: Human vs human or human vs computer
- Adjustable computer difficulty: easy and hard
- Game saving and reusability
- Colour vision deficiency accessibility
- Scalability for potential future networking
- Run on any device that can compile and execute Java
- Obey the rules of the four board game

Project risks

Difficult parts may include:

- Implementing what a “hard” mode computer will play like, including strategic sophistications
- Ensuring the game stays within a 9x9 board frame regardless of how it “grows”
- Allowing for colour vision deficiency accessibility and doing it in such a way as to not hurt the UI or design of the game
- Including save and resume functionality
- Optimisations in general, as to make this project easily be extendable into a networked version