Iteration 1 - Group 3

Vision Document

I.   Introduction:

- In this project, we are building a GUI that allows the user to play the game of Blokus against human or CPU players.

II.   Problem statement:

- The fundamental problem we are solving is to create a digital game that has all the functionalities from the physical board game; in order to make it more convenient and accessible. During the course of action, our team will solve some difficulties such as finding an efficient algorithm to allow different variations on the number of CPU and human players, provide suggestions to the human player of what block to play, and finding the solution to the conundrum of expressing logic through a GUI.

III.   Stakeholders and key interests:

Players	Rejoice
Mattel (BLOKUS)	Sell games
Programmers	Make a robust program
Mark Hatcher and assistants	Supervise the development of the game
Environmentalists	Make better use of resources

IV.   User and User levels goals:

Provided on a different page as requested. (Page 2)

V.   Summary of system features:

- The system shall allow the user to select the <u>difficulty</u> of the computer players.
  - 3 levels.
- The system shall allow the user to determine the <u>number</u> of human players.
  - Maximum number of players is 4.
- The system shall allow the user to save/load his game.
- The system shall allow an option for user with *color vision* deficiency.

- The system shall provide a <u>suggestion</u> of the squares to choose.
- The system shall be able to validate a <u>move</u>.
- The system should allow the placement of valid blocks into the game board.
- The system shall announce the winner.
- The system shall count the number of points.
- The system shall display final scores.
- The system shall provide the option to play again.
- The system shall provide an option to restart a game.
- The system shall skip player's turn without valid move.
- The system shall set the difficulty of all the CPUs based on the selection.

VI. Project Risks:

I. Making Intelligent AI for hard level.

    a. Optimal moves.

II. Variations between type and numbering of players.

III. Displaying a different layout of the Blokus pieces for color vision deficiency users.