

Project 1

Assigned September 28

Team Assignment

Due October 15, 2015

This assignment is worth **65 points**, awarded for creativity, aspects of graphics used, closeness to the game, being operational and quality of presentation of the final product.

The goal of this project is for each team to simulate as close as possible the assigned game via OpenGL. If the game implies more than 2 players, then the users should be able to select how many players wish to participate.

You should employ all aspects of graphics learned in class, via exercises and homeworks, i.e. turtle graphics, animation, display lists, tiling/zooming, among others.

Creativity is essential, you are allowed to use OpenGL with C/C++ and Blender only. While it is expected that you will be verifying the rules of the games online, any copying of images and other game artifacts constitutes plagiarism and will result in point deduction.

The games are and team assignments are:

Perfection – Team 6, 12

The object is to put all the pieces into matching holes on the board (pushed down) before a time limit runs out. When time runs out, the board springs up, causing all or at least many of the pieces to fly out. In the most common version, there are 25 pieces to be placed within 60 seconds.

Parcheesi – Teams 1, 7

Parcheesi is played with one or two dice and the goal of the game is to move each of one's pawns home to the center space. The most popular Parcheesi boards in America have 72 spaces around the board, twelve of which are darkened safe spaces where a pawn cannot be captured. Each player selects four pawns of the same color and places them in their "nest," or starting area. The game board should be positioned so that each player's nest is to their right. Pawns enter play onto the darkened space to the left of their nest and continue counter-clockwise around the board to the home path directly in front of the player. Each player rolls a die; the highest roller goes first, and subsequent play continues to the left. On each turn, players throw one or both dice and use the values shown to move their pawns around the board. If an amount on one or both of the dice cannot be moved, that amount is forfeited. Any time a player rolls, he or she must use as much of the dice showing as possible. (i.e. If a player rolls 4 and 5 and could move either 4 or 5, but not both, then she must move 5.)

Sorry – Teams 5, 9

Each player chooses four pawns of one color and one player is selected to play first. Each player in turn draws one card from the stack and follows its instructions. To begin the game, all of a player's four pawns are restricted to Start; only a 1 or 2 card can release them to the rest of the board. Playing a 1 or a 2 places a pawn on the space directly outside of start; playing a 2 does not entitle the pawn to a second space (this is ambiguous on the 2007 Hasbro link instructions and the card instructions, but is explicit in the 1972 Sorry! Game instructions). Two pawns cannot occupy the same square. A pawn that lands on a square occupied by another "bumps" that pawn back to its own Start. Players cannot bump their own pawns back to start. If the only way to complete a move would result in a player bumping themselves, the player just loses their turn. If a pawn lands at the start of a slide (except those of its own color), it immediately moves to the last square of the slide. All pawns anywhere on the slide (including those of the same color, and including pawns on the "end spots" of the slide) are sent back to their respective Starts. The last five squares before home are the "safety zone". Access is limited to those pawns of the same color. Pawns inside the zone are immune to being replaced by an opponent's pawn with an 11 or a Sorry! card. However, a pawn is vulnerable to being forcibly moved backward out of the safety

zone by opponents in editions that allow a player to do so. Forced backward moves can cause a pawn to exit the zone, and a pawn can only enter home upon exact count: an 8 is unplayable when there are only 3 spaces remaining, for example.

Connect 4 (aka Captains Mistress) – Team 3, 11

Connect Four (also known as Plot Four, Find Four, Four in a Row, and Four in a Line) is a two-player game in which the players take turns in dropping alternating colored discs into a seven-column, six-row vertically-suspended grid. The object of the game is to connect four single-colored discs in a row—vertically, horizontally, or diagonally—before one's opponent can do so. There are many variations on the board size, the most commonly used being 7x6, 8x7, 9x7, and 10x7.

Candy Land – Team 4, 10

The race is straightforward, woven around a simple story line about finding the lost king of Candy Land. The board consists of a winding, linear track made of 134 spaces, most of which are red, green, blue, yellow, orange or violet. The remaining few spaces are named locations such as Candy Cane Forest and Gum Drop Mountain, or characters like Queen Frostine and Gramma Nutt. Players take turns removing the top card from a stack, most of which show one of six colors, and then moving their marker ahead to the next space of that color. Some cards have two marks of a color, in which case the player moves his or her marker ahead to the second-next space of that color. The deck also contains one card for each named location, and drawing such a card moves a player directly to that location's space on the board. This move can be either forward or backward in the classic game; backward moves can be ignored for younger players in the 2004 version of the game. Before the 2004 version of the game, there were three colored spaces marked with a dot. A player who lands on such a space is stuck (all cards are ignored) until a card is drawn of the same color as the square. In the 2004 version, dot spaces were replaced with licorice spaces that prompt the player landing on it to simply lose his or her next turn. The game is won by landing on or passing the final square; the official rules specify that any card that would cause the player to advance past the last square wins the game, but many play so that one must land exactly on the last square to win. The 2004 version of the game changed the last space to a rainbow space, meaning it applies to any color drawn by a player, thus clarifying any remaining controversy about how one exactly wins the game. The classic game takes longer to complete than one might expect, because the location cards can send players backwards. Also, the dot spaces could force players to exhaust several turns without moving.

Monopoly – Teams 2, 8

No description necessary.