# CPSC 224 Final Project

## PROJECT PLAN
**10/26/2024**

## Candy Land

## Pink Ladies

**Prepared by:**

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# 1 Project Overview

## 1.1 Project Summary

We are making CandyLand. This is a luck-based card drawing game that 2 to 4 players can play. The players take turns drawing cards with different colors on them. Cards will have one colored square or two and the player will move forward that many colored spaces. Meaning, if you draw a blue card with two squares, you would find the next two blue squares and move your character to those spaces. There are also special cards with pieces of candy on them that correspond to different pieces of candy on the board. If you draw one of these cards, you have to move to the space with the piece of candy on it whether it moves you forward or not.



# 2 Project Requirements

## 2.1 Major Features

Provide a description of the major features that must be implemented for a viable and useful product. Major features include broad feature areas, constraints that must be met, and other major items that must be completed for the project to be considered successful. You should have at least 4-5 major features.

**Table 1: Major Features**

| Feature | Description |
| --- | --- |
| Choose number of players | At the start of the game, it will prompt the users to select how many players will be playing. Two to four will be required. |
| Draw Card/play turn | When a player takes a turn, they will be able to draw a card to move their character. This will be implemented as a dice roll behind the scenes. |
| Move Character | Once a player has drawn a card, their character will automatically move to the next corresponding match on the board. |
| Choose game piece | After players choose how many players will partake in the round, they will be able to choose the character they play as. They will have four choices and their will not be an option to play as the same character. The four characters to choose from are Mally Mallo, Twirly Girl, Cutie Cone, and Giggly Gumdrop. |

| Determine Winner | Once a player reaches the end of the board, a title card will be put up saying that they are the winner and the game then ends. |
|---|---|

## 3  Project Game Design

### 3.1  Initial User Interface Design

The first screen the user will see is the start menu. On this screen they will choose the number of players. Once the user hits start, they are moved to a new screen where each player can choose their character. After all the characters are chosen and the user hits "start game" the screen changes to the board. The board will be a colorful path that simulates the game and shows the character pawns moving towards the finish. Once a player reaches the end the screen will change to a winner screen announcing which character won and congratulating them.

### 3.2  Initial Software Architecture

The Candyland game will run using four different classes. The game will be initialized in the Candyland class. This is where a board is created and populated with players. The Board class holds a list of spaces and the deck of cards that can be drawn. Each card can have either one or two squares that are labelled by a color. When a player plays a turn, they draw a card from the deck in Board and then their character moves to the next index in the list of spaces that matches the color of the card they drew. If the player draws a card with two squares on it, they move to the second instance of the card's color in the list of spaces. The first player to reach the end of the spaces list is the winner of the game.
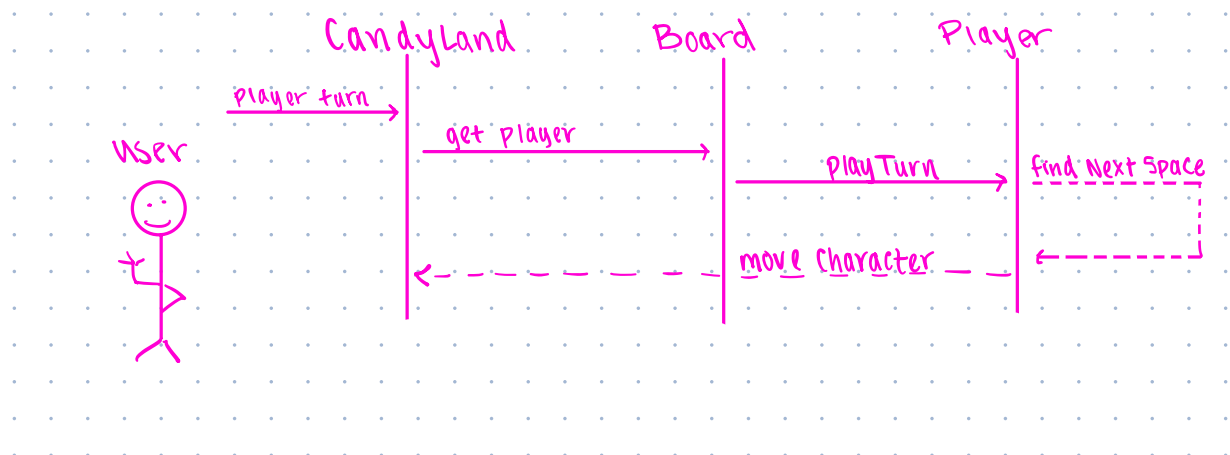
**UML Diagram:**
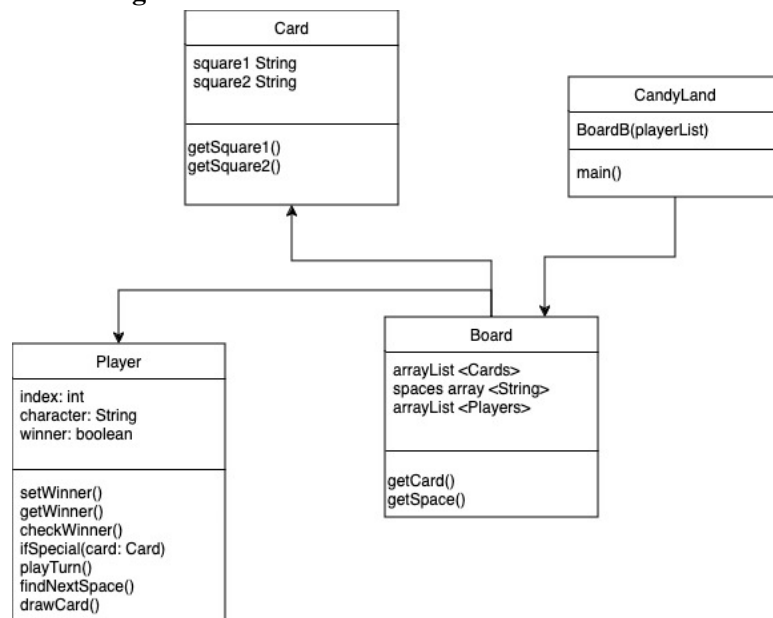
Sequence diagram 1:
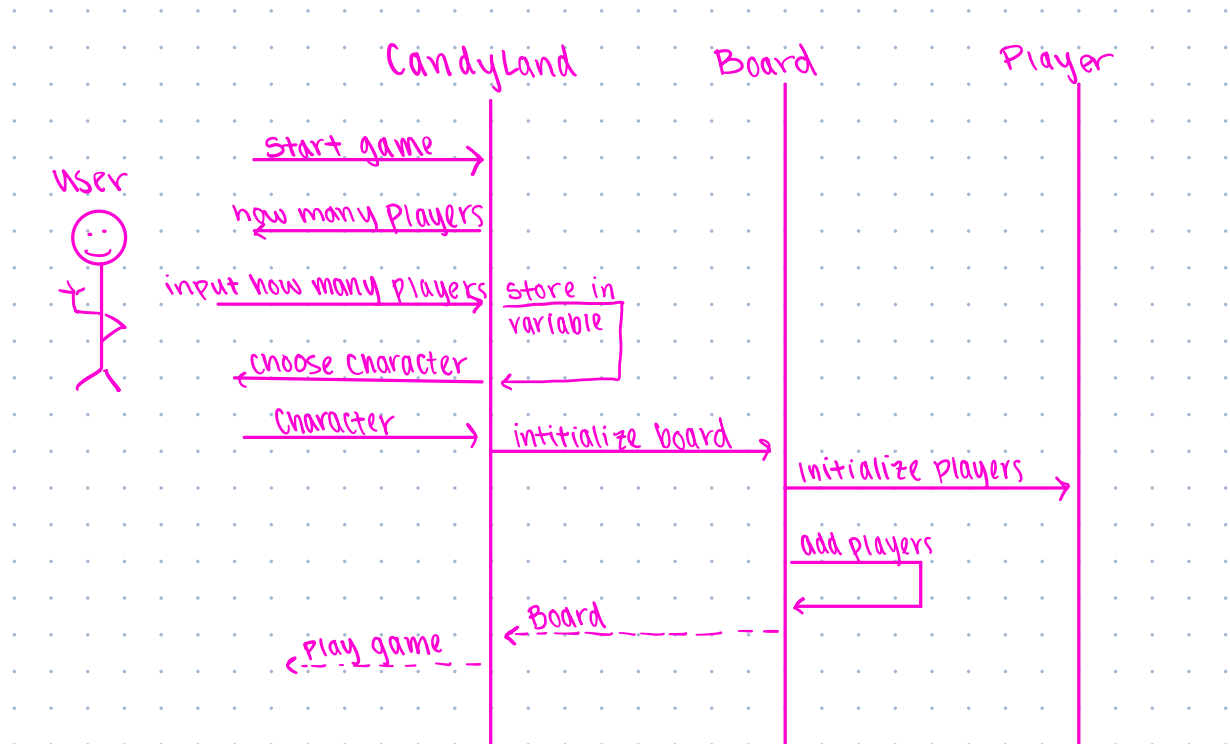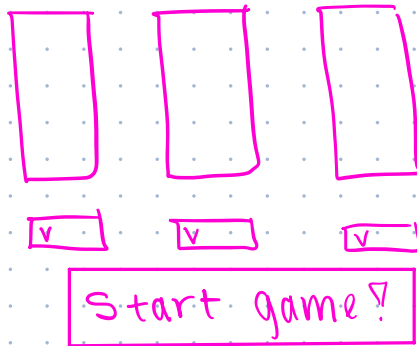


Sequence diagram 2:

Game layout:
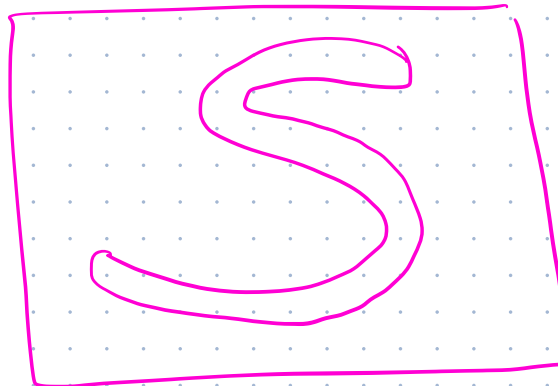
4 Screens:

1st screen:

# Candy Land

play with [ v 2 ] players

Start!

2nd screen:

Choose your character:

| | |

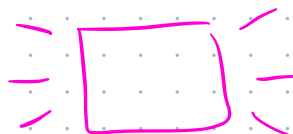[ v ]   [ v ]   [ v ]

Start game!

3rd screen:

Board

S

4th screen: < Player Name> Wins!!!

[ ]

## 4 Project Schedule

Current plan is to meet up weekly/biweekly and code as a group and discuss the project.

**Table 3: Major Scheduling Milestones**

| Milestone | Description | Target Completion Date |
|---|---|---|
| FP2 | Make outline for the project. Fill this document out and create a timeline for Candy Land. This includes initial UML diagram. | October 26 2024 |
| Dividing Code | Set up git branches, divide code up too. Start coding together. | November 1 2024 |
| Coding Checkpoint | Check in for how the project is going so far. | November 14 2024 |
| Wrap up Project | Finish up the project and fix any issues. | November 30 2024 |

## Appendix

THE OBJECT OF THE GAME is to travel through "Candy Land" along the path of colored spaces. The moves are made according to colored squares or picture cards drawn by the players. TO START THE GAME, shuffle the cards well. Place them in a pile face down within easy reach of all players. The youngest child should play first. He draws the top card from the pile and moves from "Start" to the first matching colored space along the path. Other players follow in turn. All players observe these simple rules:

1. Each player is represented by a different colored playing piece.
2. All players begin at the "Start" arrow.
3. They travel in the direction of the "Mileage" signs.
4. When a color card is drawn, the player moves along the path to the next space that matches the square on that card. If the card has two colored squares on it, the player moves along the path to the second space that matches it.
5. When a picture card is drawn, as the "Gingerbread Man," etc., the player moves to the space matching that picture. This may send the player ahead or back along the path (an exception to rule No. 3). The player proceeds from the picture space on his next turn.
6. Players take advantage of the "MOUNTAIN PASS" and "RAINBOW TRAIL" only when they stop exactly on the spaces at the beginning of these short cuts. The player moves immediately to the other end of the path and proceeds from there on his next turn.
7. Players must follow the directions on the board regarding the "CHERRY PITFALLS" and the "MOLASSES SWAMP." Note: Drawing a single or double card of the color wanted by that player, allows him to move.
8. Two or more players may occupy the same space.
9. "HOME" is reached by landing on the last blue space or drawing a card that would take the player beyond that space if the path continued.

10. If all of the cards are used and the game is not finished, reshuffle them and use the pile over again.

WINNING THE GAME THE FIRST PLAYER TO REACH "HOME" WINS THE GAME.