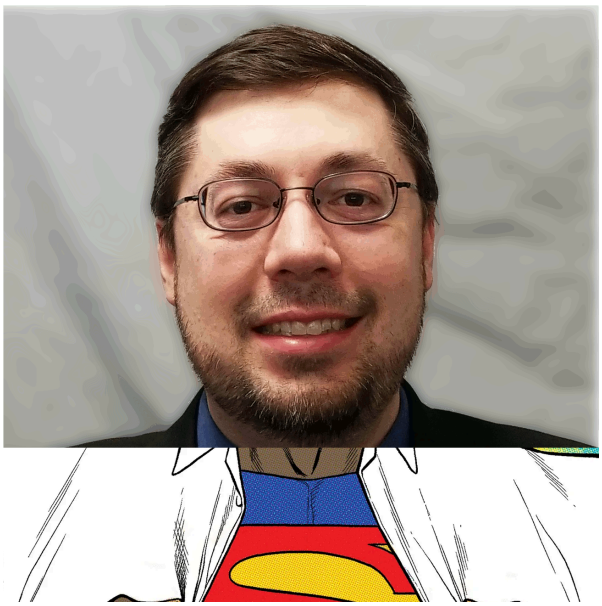
CPSC 224 Final Project

PROJECT PLAN
4/2/24
Pegs & Dice

Olivares Enthusiasts



Prepared by:

Evan Delanty

David Sosa

Matthew Benson

1 Project Overview

1.1 Project Summary

Pegs & Dice is a strategic board game where players aim to move pegs into specific positions within a 5 x 12 grid by utilizing the outcomes of two dice rolls. Each player takes turns rolling the dice and strategically setting up combos to move their pegs to their upmost position. You can re-roll unused dice, but you can only use the re-rolls if it's the same result of the original combo. Pegs are moved forwards based on how many combinations of two dice equal the wanted result. The goal is to position all twelve pegs at the top level of the board in order to win!

2 Project Requirements

2.1 Major Features

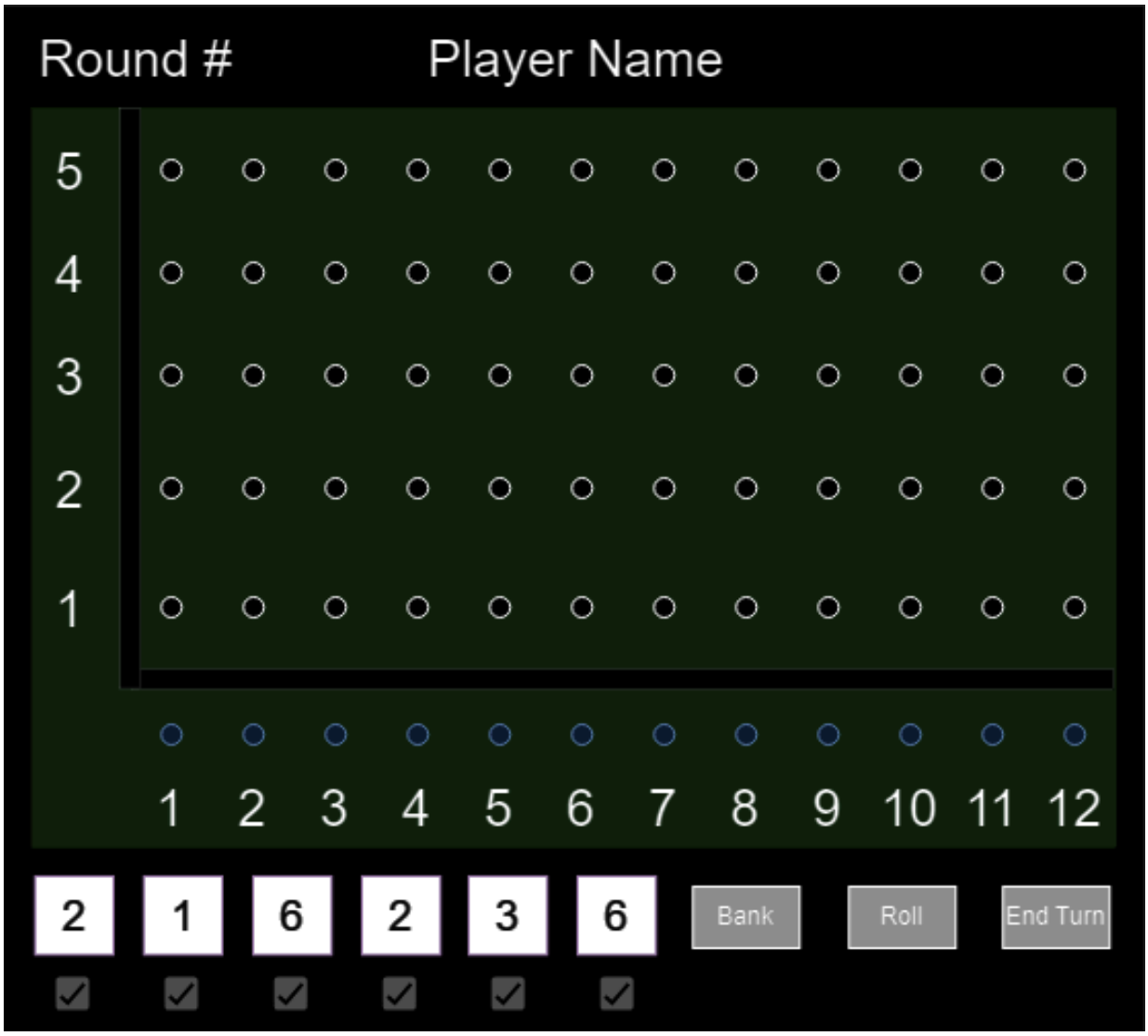
Table 1: Major Features

Feature	*Description*
Dice Rolling & Meld	A player must be able to simulate a dice roll and be able to choose a combination or number based on their inputs.
Board Status	A player must be able to see a live representation of their current board state and be able to see which pegs moved.
Re-rolling & Hot Hands	A player must be able to re-roll unused dice to try and create another combination of their previous combo(s) sum. Based on successful re-rolls they should get a new set of dice and continue their turn to find a different combination.
Winning	A player must be able to win if all their pegs have reached row 5.
Round Count	A player must be able to see what round it currently is (new round when all players have had their turn).

3 Project Game Design

3.1 Initial User Interface Design

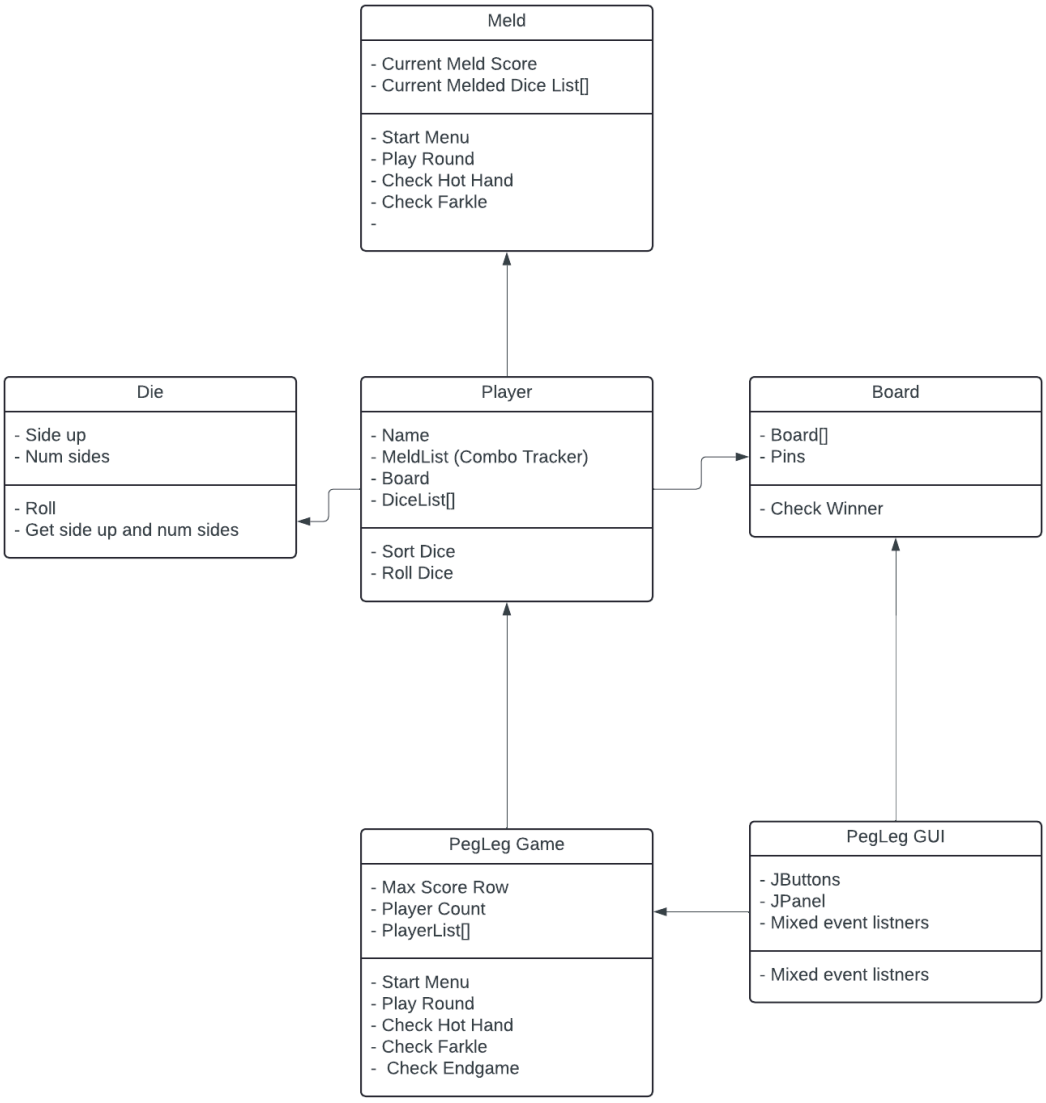
In terms of functional widgets, a player should be able to interact with "Bank", "Roll" (for both initial rolling and re-rolling), and "End Turn". Once the dice have been rolled, a player should be able to interact with the checkmarks below each corresponding dice in order to add it to and from their combo.


Round #
Player Name
5
4
3
2
1
1 2 3 4 5 6 7 8 9 10 11 12
2 1 6 2 3 6
Bank
Roll
End Turn

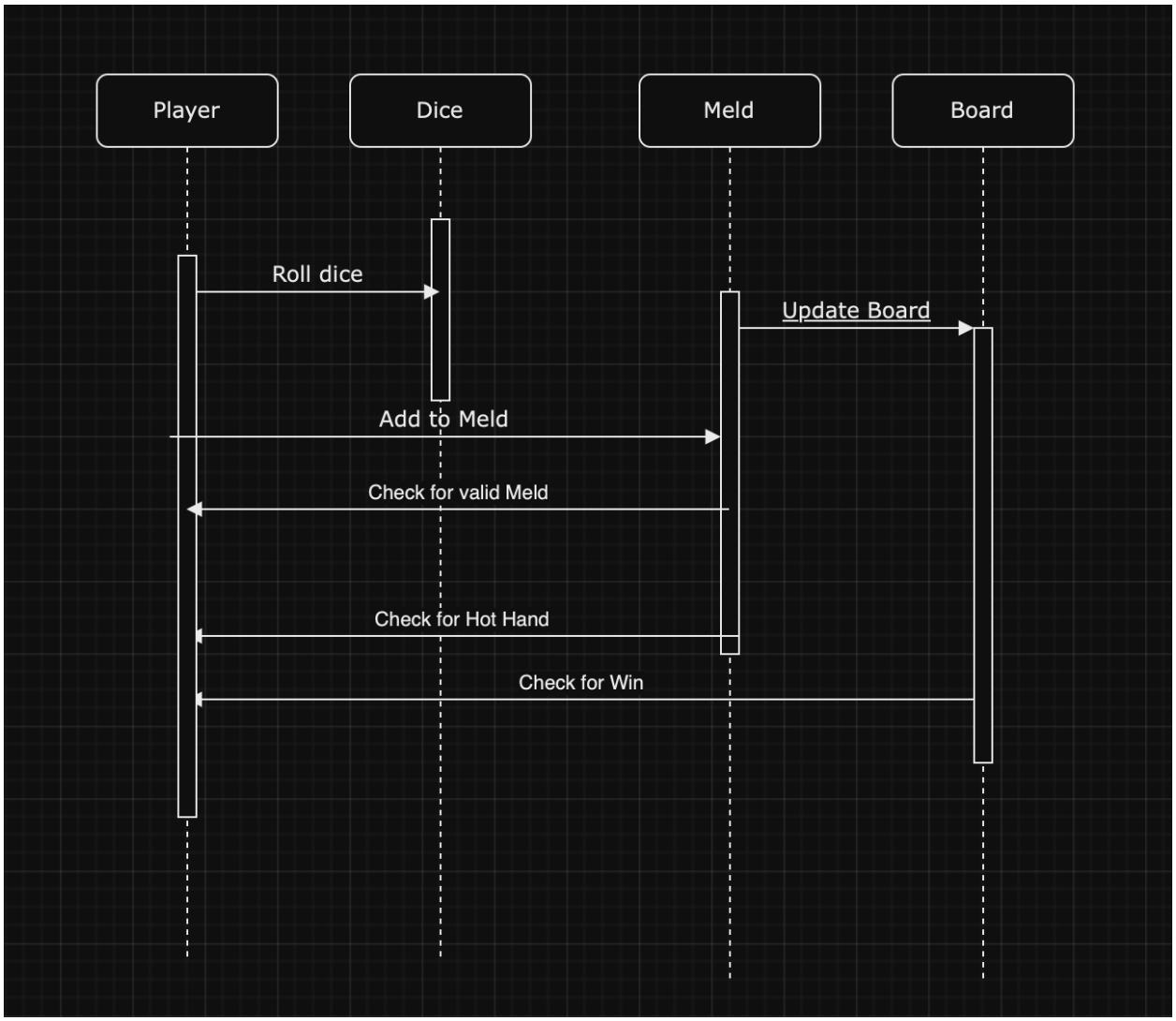
3.2 Initial Software Architecture

UML Diagram:

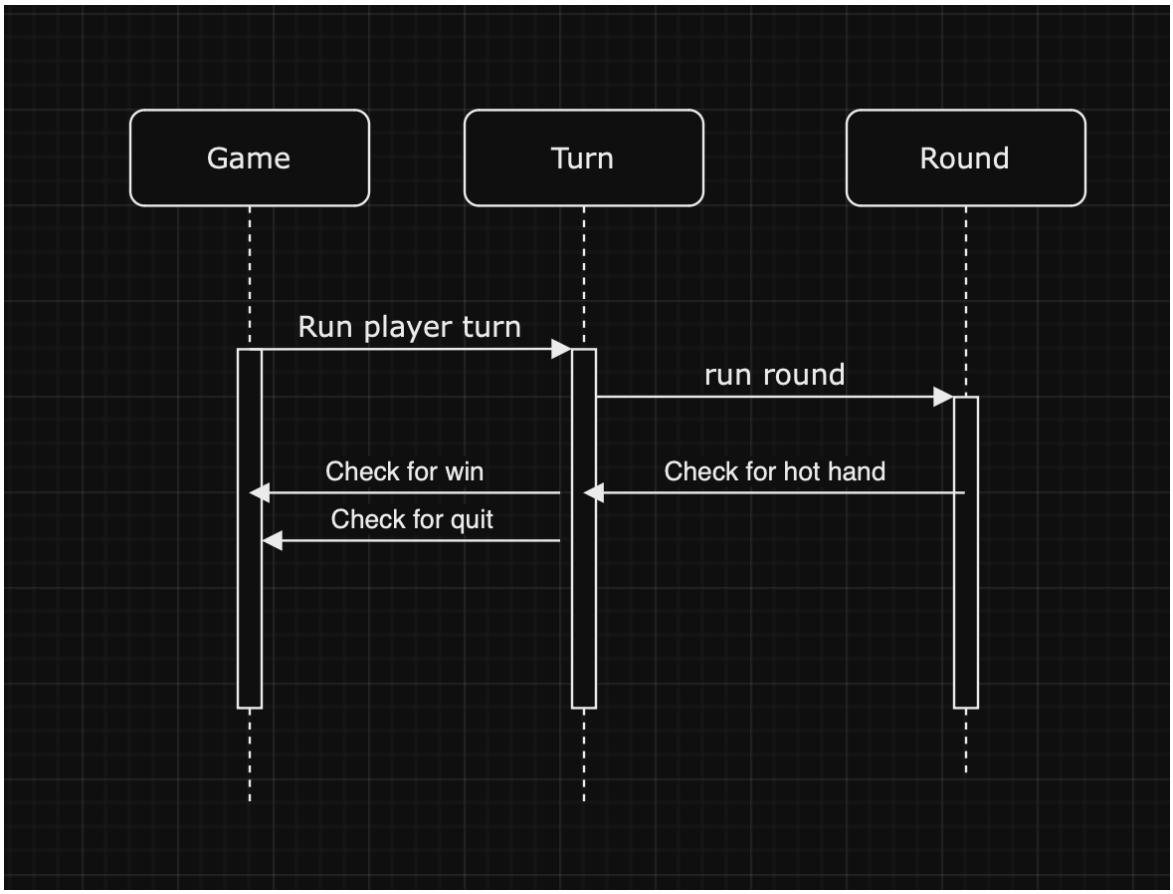
Below is the UML Diagram of our application. As you can see, a lot of the functionality is based around the Player Class. The Player has all sorts of attributes including a board, melds, and dice. The bulk of the functionality and scoring is done within the player's attributes. The PegLeg Game starts and runs the game, in essence, it's in charge of all things required to make the game run smoothly. The PegLegGUI Class is closely tied to the Board, since it will be changing, and interacting with the PegLeg Game Class. This class also acts as a Menu.



UML Sequence of a Round:



UML Sequence of a Game:



4 Project Schedule

Provide a description of the major scheduling dates of your project. For each schedule milestone dates, clearly describe the milestone (e.g., what features will be implemented) and when the milestone must occur by. Include the project plan, code complete, presentation, and final report dates.

Table 3: Major Scheduling Milestones

Milestone	*Description*	*Target Completion Date*
Layout the GUI	Write a skeleton class for the full GUI with no functions.	4th of April
Finish peer evals #1	Complete the individual peer feedback	4th of April
Finish the grid layout of the board and finalize GUI	Create the initial board and related player methods/variables.	11th of April

Create dice rolling, re-rolling, and hot-hands functionality	Create functioning dice rolling, melding, and re-rolling systems.	18th of April
Flesh out interactions between player input and the board. Finalize project.	Allow the user to interact with the board and dice melds to create a full turn.	25th of April
Finish presentation	Finish presentation **BEFORE 28th** and present the week of the 29th	28th of April
Finish final report	Complete the final report	9th of May
Finish peer evals #2	Complete the individual peer feedback	10th of May

Appendix

Board Example