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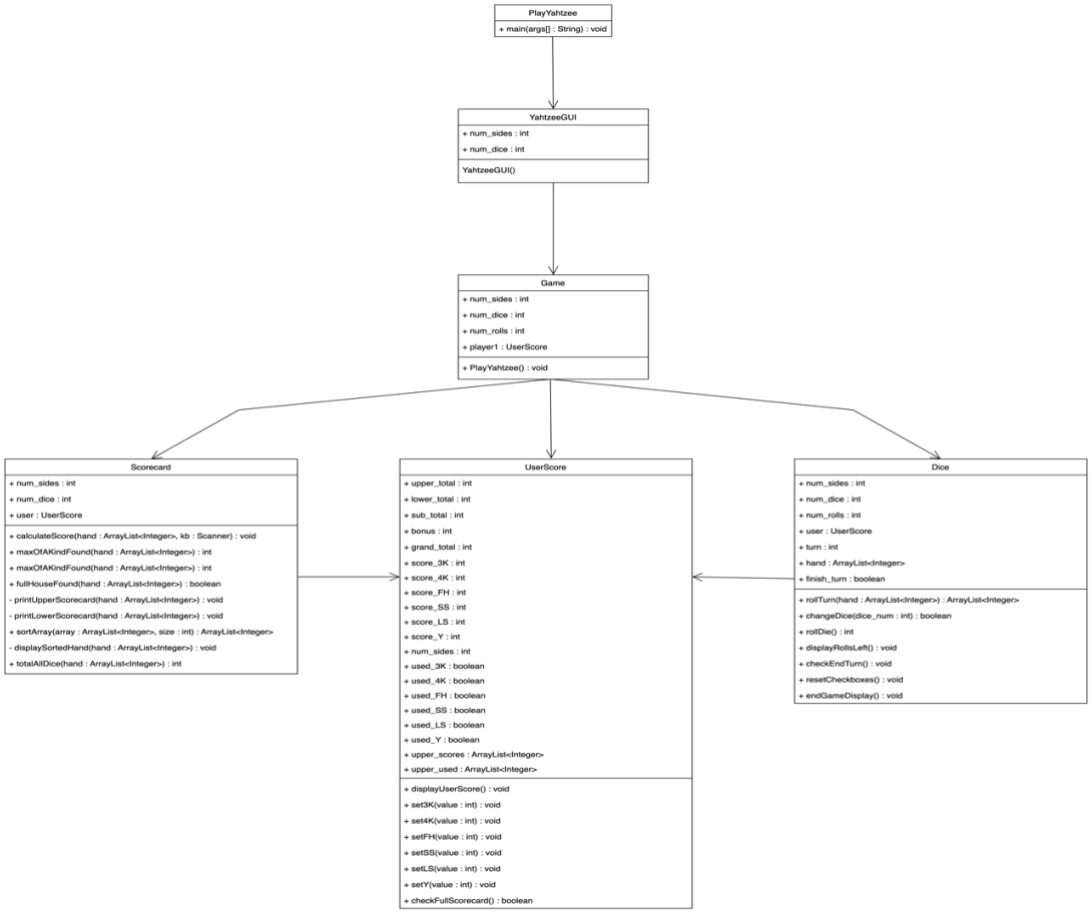
CPSC 224: HW #5 Summary

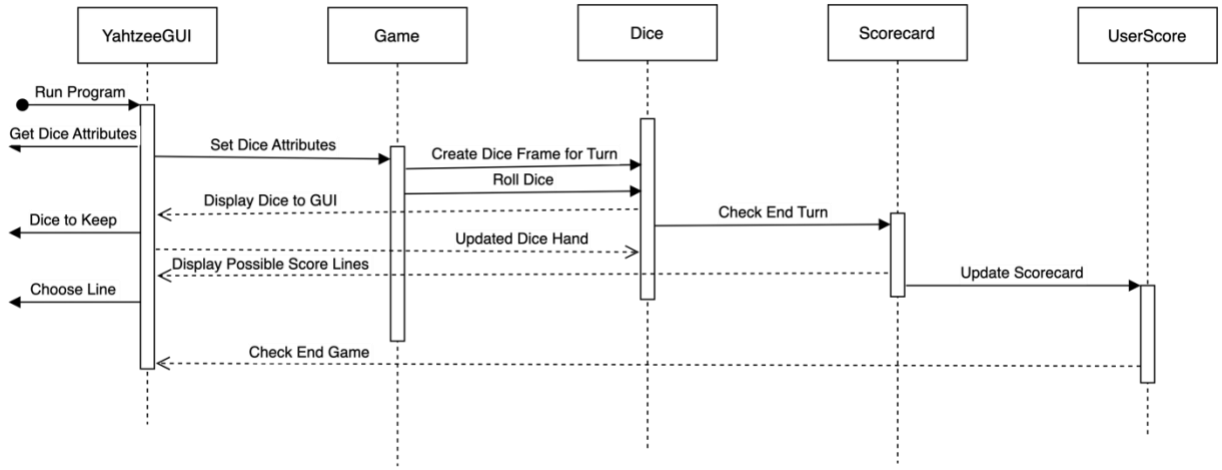
Summary/Purpose:
The general overview of this development in the Yahtzee program was to create and implement a graphical user interface for the player. This means that all the terminal interactions needed to be converted to a GUI environment, where a user could interact with the game through buttons, menus, and selections. The GUI needed to complete a full game of Yahtzee, providing available scoring lines, and ending once the scorecard is full.

Overview/General Design:
My approach to the GUI for Yahtzee was to utilize small, compartmentalized frames for each aspect of the game. A configuration frame would pop-up at the beginning of the game, setting all the dice attributes, before taking the user to the game display where they would roll the dice and select the dice they wanted to keep. Next, another frame would provide the user with options for scoring that are still available while always providing a scorecard to refer to throughout the match.

UML Class Diagram:



UML Sequence Diagram (for a specific turn):



Major Design/Programming Issues:

One major programming issue that I encountered had to do with the configuration frame. The way I was initially calling it would create the configuration screen, but the game would start to play before the dice attributes were set. To fix this, I moved the play game method into the ActionListener for the configuration frame. This prevented the game from starting prematurely, and it provided the game sequence with a better flow. Another issue I encountered was trying to display the dice during rolls. I wanted to design a display that would not require a lot of backend code to select dice to keep. To fix this, I named the png images integer values, which allowed me to create new ImageIcons in a for loop, rather than storing all of the images in an array.

Retrospective:

Looking back, I think I would have given myself more time to work on the GUI layout before writing my code from start to finish. I think I really struggled to get a design down for the game, and I ended up with a functioning game that was a little too scattered across frames. For the group project, I intend to focus much more time on drawing up a solid design before moving on to coding each frame and aspect of the game.