

Arimaa-2.0

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Jesse

1. [renderInitialBoard Long Method](#)

The GUI class's `renderInitialBoard()` method, which begins on line 120, was originally excessively long. It contained a large of duplicated code within the cases of the switch statement. This duplicated code was extracted into a new method so that it can be changed in only one place and effect everything it needs to. The code has also become much more readable.

2. [mousePressed Long Method](#)

The GUI class's `mousePressed` method, which begins on line 734, was very complex and long. While it was complex by necessity, to handle the movement of pieces on the game board, it has been simplified some to increase readability. Chunks of code with high cohesion were extracted into their own methods.

3. [GUI repeated file locations extracted to variable](#)

Our GUI class had strings to file locations scattered across it. These file locations were extracted to final instance variables so that if these locations were to change, they can be changed in only one location. These variables are declared on lines 42-57.

4. [ImagePanel Class](#)

Our `ImagePanel` class was originally an inline class within GUI. Due to the little cohesion it has with GUI, we extracted it out into its own class. This increased the cohesion of the GUI class, while only affecting coupling in a minor way.

Taylor

1. [Button Creation Duplicate Code](#)

Originally, creating each button and label for our user interface required about 5 lines of code. These same five lines were duplicated all over the GUI class, cluttering the functionality. Extracting the creation of buttons and labels to new methods cleaned up the class considerably and made the code clearer. We also considered making a parameter object to reduce the amount of parameters these methods take. However, it was decided that this was not worthwhile because we would only get all of the fields in this object immediately after calling the method. The `createButton` method can be found on line 409 of the GUI class and the `createLabel` method can be found on line 397. Uses of these new methods are scattered across the GUI class.

2. [Load game and New Game duplicate Code](#)

Our code for loading a saved game and creating a new game was very nearly identical. We simplified this by extracting these to a new method, which is called from both locations. This greatly increased the modifiability of our code and made it easier to read. This new method, `setUpForGame`, can be found on line 223 of the GUI class.

3. [Replace Errors with Exceptions](#)

Our system originally handled error cases by returning -1. This return value would have broken the system had it occurred, so we decided to create a new Exception and throw it. This allows us to provide more information about the error. These `ArimaaExceptions` are thrown throughout the GUI class, for example on lines 857, 868, and 888.

Trevor

1. [createWinWindow Long Method](#)

The method used to create the window that displays the winner originally contained code duplicated several times elsewhere in the system. To remedy this, we created the `createButton` and `createLabel` methods that were previously created. This method can be found on line 200 of the GUI class.

2. [checkWin Long Method](#)

The method our system used to check for a player's victory was needlessly long and complex. We fixed this by rewriting some of the method's logic to be more concise and by extracting parts of it into other methods. This method can be found on line 239 of the Game class.

3. [Push Long Method](#)

Very similar to the above situation, Game's push method was not only excessively long, but also not implemented efficiently. This method's logic was rewritten to be both clearer and more efficient. Parts of this method were extracted to new methods, to increase code clarity. This method can be found on line 385 of the Game class.

4. [Turn Timer Bug](#)

Our game contained a small bug where the game's turn timer would not pause while saving the game. Because of this, it was possible for a player to lose while attempting to save the state of their game. This was corrected through a slight tweak to the timer's functionality, so that it better fits the design requirements.