

Which materials/key concepts from this course did you apply on the project?

In order to create the TicTacToe board, we utilized Graphical User Interface (GUI) and JComponents. The View was a JFrame that would contain a 2D array of JButtons representing the 3x3 grid. This required a review of the material from Chapter 5 particularly JButtons and Layout Managers, such as GridLayout in this case. For JButtons, we used the technique shown in Midterm 2 for implementing a single ActionListener for each of our style selection buttons. This technique involved creating a method that returned an ActionListener which would change the board to a specified style.

In terms of design patterns, we needed to utilize the Model View Controller and Strategy patterns from Chapter 5. The Model View Controller essentially encompasses the entire project with the model storing the states of the board, the view being the GUI, and the controller updating the model. The Strategy pattern was used in selecting the board style. Finally, we used the concept of deep copying. For our undo function, we need to both save and load the previous board. Simply setting them equal to one another would only be a shallow copy and the previous board would always be the same as the current.

Which topics did you have to learn through self-study in order to complete the project?

There were not many topics required to learn outside of content provided in chapters 4 and 5. When referring to the strategy design pattern in chapter 5, we noticed there was only one example provided. This example was a bit complicated to follow, thus we sought out for another example that was a fairly more simple to understand. Utilizing this example assisted the team in implementing the project in the strategy design pattern. Another topic we had to self-study in order to complete this project was looking up the documentation for the Font class. This included how to create a new Font object, the available constructors, and the different types of font we could provide to the user during the start up of the game.