User Manual:

The user is prompted to select between the two available maps, the classic World Map and the new Canada map. Then the user is asked to enter the number of players, enter between 2 and 6. The player is then prompted to enter the number of AI players, the user is allowed 0 – the number of players minus 1 AI players. So, if the user selected 6 players at the beginning, they could have 0 – 5 AI players 0 – 4 if they chose 5 and so on so forth. When that is resolved the players are initialized and the game is started.

Player1 goes first, it’s the draft phase and the user is given a set amount of troops based on how many territories they control. The user can click on a territory and give them some armies. Once the user has divvied up all armies they received that turn, the attack phase begins. A user can select a territory and select “choose attacking territory” or “choose attacked territory”, only a territory the user controls can be chosen to attack with and vice versa for attacked territory (it must be a territory he does not control). A territory can only attack a neighboring territory. The user can attack as many times they want, they can move on to the fortify phase by accessing Game Commands and selecting “end attack”. The fortify phase allows the user to move troops from one territory to another but only once per turn. The user first chooses a territory to move armies FROM, the next territory they are prompted to enter an amount of armies to gain from the first territory. Fortifying automatically ends the users turn but if they want to end before that they can click on “Game Commands” in the menu bar to end their turn. The user can also click “Other Commands” in the menu to get help on what they are supposed to do, quit the game, or save the game and load it at a different time. To save the game the user simply clicks the Save button in the command menu, and to load it they can do the same thing but with the Load button. The user can save and load at any point.

A player is eliminated when they have no territories.

The game will continue to be played until all players are eliminated. The player who conquers the world is crowned the winner.

Design Choices:

So, for this milestone we were asked to implement a save and load feature, as well as a new map that the player can play on.

To save the game, the Professor recommended we use Serialization. We used Serialization in the labs too, so it wasn’t new to us. We made a save method that would take in a string, that string would be the file name. We would first make a new .json file using the file name. This file is called “SavedGames.json”. We then made a FileOutputStream using the newly made file, and then an ObjectOutputStream using the newly made FileOutputStream. We then wrote to our object stream all of the important object to our game, the Frame, the game logic, the menu items, and the territories in the buttons. Our file and object streams are then closed, if the save was successful a message is printed saying so, if not then a failure message is printed.

To load the game, we wanted to read all of the object we wrote into our .json file. Our load method takes in a file name, same as the save method, “SavedGames.json”. We then made an ObjectInputStream. Then we have to read all of the saved objects in our save method to their respective object. For example, we saved our GUI frame (RISKView object), so we have to read from the saved RISKView object into a new RISKView object. We did the same for every object we saved in the saved method. Then we closed the object stream and set the game contents to the ones we read to. We set the frame to visible and our load method is set to close the old game upon loading a new game.

For the new map, we simply copied our format for the original map. We changed a lot of because the maps are obviously different, but the logic is ultimately the same. We saved our two maps into .json files. One is called “WorldMap.json” and the other is called “Canada.json”. In the two files we saved the buttons of the two maps, because the buttons are all that make up the map.

There is an issue with the Save/Load feature. There really only is one issue but it can be viewed in different ways: If the player starts a game, selects a map, chooses a number of players and AI players. Then saves that game, closes it and starts a new game with a different map or a different amount of players and AI players, and then loads in the saved game – At first it will look like the saved game was loaded like normal but as soon as a play (A territory is conquered) is made it will revert back to the newly started game. This is because in our save method, we save the view, and the game from the currently played game. That means the currently played game’s settings will override the saved game settings. The code doesn’t actually break, and the game can continue to be played but it will not be the loaded in game. This issue is avoided by saving a game, and only loading it into a game with the same settings (i.e. Same map, number of players, number of AI players).