SYSC 3110 Project

Team Group

Explanations Milestone 4

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Changes from Milestone 3:

AI Player:
- The GameModel now does not know if its players are human or AI players
- The Player class now has a blank playTurn method which is called in the GameModel nextPlayer method
- This allows AI player moves to be performed automatically if it is their playTurn that is called, but does not perform any moves when it is called on a human player and allows their turn to proceed normally

Game Controller:
- The GameController class was refactored to remove reused code, and to clean up large methods
- The switch commands have been cleaned so that each case calls its own method, to remove the logic for multiple tasks appearing in one single method

Map:
- The map class no longer contains a hardcoded map, as all games are started by reading an XML file, either a custom map, a saved game, or the default Risk map which is also saved as an XML and is provided

New Additions for Milestone 4:

Save Game:
- Save game now stores all information about a game in an XML file
- It saves the list of countries each player owns, the map, and the number of troops in each country
- All information is taken from the GameModel using various for each loops and stored within appropriate XML tags
- All XML file methods are static, as it uses less memory and no useless object need to be created

Load Game:
- Load game uses the mapFromXML method to take a file name and parse the XML file into objects
- This recreates the players with names, the countries they hold, and the state of the map, including the number of troops, and the position of each country, as well as each county's neighbors

Custom Maps:

- Custom maps are handled similarly to loading games, except it only reads countries, neighbors, continents, and country positions
- Once all objects are created and countries are placed on the map, a new game starts
- Players are entered as before, and the game proceeds only using a custom map instead of the hardcoded map as in previous versions
- The hardcoded map no longer exists, and now all games are started with an XML file, either the default map which is provided, or a custom map
- The game checks when a map is selected if it is valid. If the map selected is not valid (contains any unreachable countries) the game starts with the default map