

## Readme

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We have implemented all three sequence diagrams from the last milestone. This readme will outline how you complete these diagrams with the program, and what each file we handed in contains.

You may use the directions below to implement the sequence diagrams from the last milestone.

### **Display map of terrain of size 10 by 10 (units in tiles)**

- Within the code you may set the viewing size of the map by removing and adding comments within the MapView file. By doing so a different sized map will be loaded when the program begins.
- By default what we see of the map is set to 19 x 21 tiles.

### **Move map view north by five units**

- You may do this by right clicking on the map 5 units north or using the “wasd” keys to move the view.

### **Move player's character west by five units**

- This can currently be completed by selecting a unit, pushing “g” and then left clicking on the map where you wish them to finish.
- Currently we have it so the unit is not limited to how far he can move (we plan to change this), and he “teleports” to the location (which we also plan to change when we limit the distance per turn)

Included in this file we have given a list of possible use cases for the three new program implementations: “city creation”, “unit creation”, and “unit movement.” We will also include three new sequence diagrams to demonstrate certain aspects of these use cases. Note that since we have already completed some of the unit movement use case we will provide a sequence diagram for what we have not yet completed. These new sequence diagrams can be found in three different ArgoUML files with file names corresponding to the use case they represent. In complement of this we will also underline the three use cases we will provide sequence diagrams for in the list of use cases below.

Also in this document we have our old use cases that have been redefined and expanded upon. We will also therefore recommit modified sequence and class diagrams to correspond with changes that have happened in our program since the last milestone. These files will be held in a redefined folder within the sequence diagrams folder.

**City Creation Use Cases:**

- Create a city using a 'Settler' unit on a land tile.
- Apply a name to a newly created city.

**Unit Creation Use Cases:**

- Create a 'Warrior' unit from a city.
- Create a more advanced unit from a city (Will need to look into research tree).
- Create a Settler from a city (should reduce level of city by one).
- Cancel the creation of a unit.
- Queue up creation of several different units.

**Unit Movement Use Cases:**

- Move a unit one space west.
- Move a unit 5 spaces west.
- Attempt to move a unit to a tile that will take more than one turn (Should queue up).
- Attempt to move a unit to an unobtainable location.
- Move a water unit over ocean tiles.
- Move an air unit over ocean tiles.
- Move into an owned city
- Move into an owned unit.
- Move into an opposing unit (FIGHT).
- Move land unit over ocean tile (shouldn't be possible).
- Move ocean unit over land tile (shouldn't be possible).

## **Redefined Use Cases (use cases from milestone one)**

- Save a game that is currently under way in order to quit and continue it later  
This entails us taking all the world object and saving it so it can be accessed later and loaded when you want to play again.
- Load a saved game from a file  
This entails being able to open the save document and rendering all the specified tiles and units/cities.
- Start a new game for 2 players  
This entails generating a map from a text file that has two starting locations. You may achieve this by selecting these options when starting a game.
- Win a game  
This entails a player wiping all of an opponent's units off the map, and will be a simple check to see if the player's units array and cities are non existent.
- Use a settler to create a city  
This is described above and is one of our new sequence diagrams.
- Use a city to produce a unit  
This is described above and is one of our new sequence diagrams.
- Use a city to produce a settler  
This is the same as creating a unit but is special as it reduces the population and level of your town by one.
- Queue up a movement path that has been found via a path finding algorithm to be the most efficient manner of moving  
This algorithm will take into account several things such as: distance, impassable tiles, obstacles, movement costs, roads, etc.
- Fortify a unit in a city  
This entails going into the CityView and selecting a unit to fortify. This unit then gains a bonus to its defensive stats if the city is attacked.
- Use a combat unit to attack an enemy unit  
This entails a player moving his unit into an enemy unit, at which point in time each unit takes damage accordingly. There are three outcomes here, they are:
  - a. Kill the enemy  
This entails removing the enemy from the map and the tiles unit array..
  - b. Get killed by enemy  
This entails removing your unit from the map and the tiles unit array.
  - c. No one dies  
This means neither are removed.
- Use a combat unit to attack a city (both with and without units in it)  
When the city has units in it (fortified or not) a combat will occur in the same manner as the last use case. If the city does not have units or has lost all its units then the city is randomly decided to either be destroyed or taken over.
- Open the research menu and select a technology path  
This entails us creating a new ResearchView and passing it the player's current research advancements then allow the player to select his next research path.
- Press the turn done button to signify the end of your turn

This entails that the screen would switch to the next players turn, and that everything which occurs at the end of the turn occurs.

- Change the resource that a city is using  
This entails the opening of the CityView pane (by clicking on a city) then selecting a resource that is not already selected from within the Cities area
- Increase the level of your city and assign it a new resource to collect  
This entails that you have been collecting enough food for your city to grow to cause it to level up. To assign it a new resource you can follow the above use case.
- Change what your city is producing  
This is described above and is one of our new sequence diagrams.
- Pull up a help document for any aspect of the game, units, movement, production, etc.  
This entails you selecting a help menu item from the main View causing a dialog box to pop up.
- Surrender/Quit game  
This causes your towns to stop producing units and to sit idle. This means that it is easier for players to take your towns. If you leaving means the other player is no longer playing against someone then the other player then automatically wins.
- Load a unit into a transport  
This entails you moving your unit onto the same tile as the transportation unit. This unit then joins the transport and moves with the transport when the transport moves. The unit can then leave the transport by clicking the transport and selecting the unit from the unit viewer and moving the unit.
- Use a worker to Build a tile modification (road, irrigation, etc.)  
This entails a user selecting the unit and then pressing a hotkey corresponding to the desired action. The unit then performs this action if it is not out of action for the turn otherwise it is queued up to occur the next turn.