

CMPM 148 – Assignment 6: Incremental Game

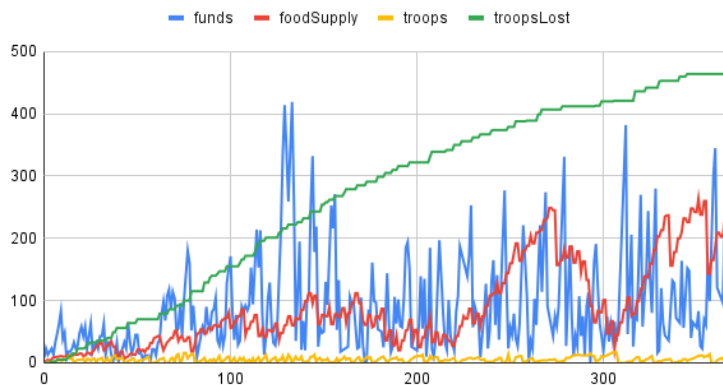
Long Term Loops (Troop Management):

One of the central, long-term looks of this incremental game involves the management of the player's troops. In this portion of the game, the player must use funds, which are acquired periodically over time, to purchase food supplies and troops to add to their army. Food supplies are necessary to purchase because, over time, the troops that the player has purchased will need to utilize them, and if the player does not have enough of these food supplies, they will lose some of their troops. In this sense, the primary loop here is a balancing one, where the player acquires funds, purchases food and troops, and the troops deplete the food supply over time, or, if there is not enough food, then the number of troops decreases. In this sense, the primary loop is properly managing the amount of food and troops that are bought, so as to ensure that the troops have enough food to survive and the player can continue to purchase more troops that they can send out on conquests to gain more land for the player. There are several different factors which contribute to the increasing/decreasing levels of funds, food, and troops, besides just the automatic acquiring of funds over time.

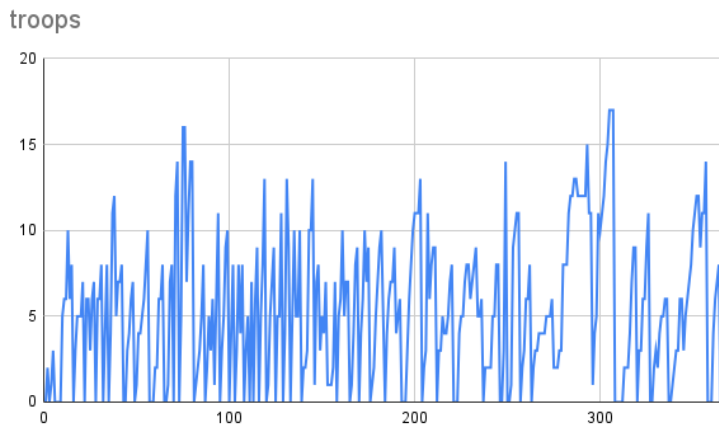
The player can send out a number of their troops on a conquest, during which they will not drain the food supply, for the chance to add new lands to their collection. However, in the process of embarking on a conquest, the player will trade some of their troops for the chance of getting these new lands as they will lose a portion of the troops that they send out on a conquest, thus adding another aspect of balancing to the game loop. In turn, these lands add certain benefits to the player: conquering a farmland will grant the player with an automatic increase to food supply over time, so they don't need to purchase food as often, but will also eventually increase the cost of food to buy and the amount of food that troops require to be sustained; conquering a town will grant the player the potential to bring back more troops (and will also grant them with points to spend to increase their troops' stats more frequently); conquering a fortress will also grant the player more troops, but will also eventually increase the cost of these troops (and also grants more points to the player to increase their stats); and lastly, conquering a castle will increase the amount of funds that the player receives over time so that they may buy more troops and food supplies, but also raises the cost of troops as well. Each of these things helps to increase the rate of production, but also increases the cost of many things as well, thus further contributing to this balancing loop.

In addition to this, there are also several random events which will occur later in the game when the player loses more of their troops and defeats more enemy troops. These events include ones that drain a portion of the player's current funds, deplete a portion of the player's food supply, cause a portion of the player's current troops to be lost, causing the player to lose one of their conquered lands, or even prevent the player from purchasing more troops as easily. In this sense, even as the player begins to get more lands which increase the rate of production for their fund and food, thus making it easier to sustain more troops at a time, it also increases the possibilities that any of these resources may be suddenly depleted, thus further contributing to this balancing loop, and also to the narrative aspects of the game, where it becomes harder to sustain the player's army the more of their troops and their enemy troops perish throughout the game.

The following graphs demonstrate some of the effects of this balancing loop:



In the above graph, it can be seen that the amount of funds, food supply, and troops fluctuates wildly throughout the duration of the game, with high increases and decreases which contribute to the central balancing loop of the game. When the player gains more funds, they are decreased rapidly when the player purchases more food supply and troops. Towards the later half of the game, the amount of total funds can reach very high levels, but will be brought down more as players attempt to purchase more troops for their army. The player's food supply also increases and decreases, as the player buys more food supply or conquers farmlands to increase their rate of production, but these supplies are depleted when the player's troops eat them, or an event occurs which decreases their total. In the later half, while the amount of overall food supply increases to a larger amount, it can often be brought down very quickly, as troops start to need more food to sustain themselves, or events occur which randomly deplete the player's total.

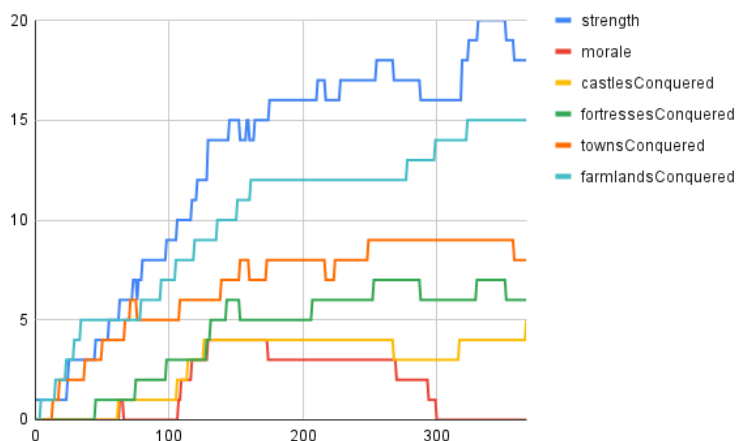


The graph above shows the number of troops throughout the game a bit more closely. Towards the beginning of the game, the player purchases more troops, but these levels fluctuate a lot more frequently, as the troops can be sent out on conquests and fewer return from the battle alive, or some of them do not receive enough food, but overall, the total number of troops stays fairly balanced, as more perish and the player replaces them with new ones using the funds they have acquired. Towards the later half of the game, the fluctuation of these troop numbers decreases, primarily because it becomes harder for the player to purchase new troops when a larger number of their troops start to die off, but they still die off during random events or in battles. During this section of the game, it becomes harder to conquer lands, as it becomes more difficult to purchase new troops (the player may try to buy troops, but they end up running away

instead of joining the player due to how many troops have perished in battles), thus less are sent out on battles and the player becomes more desperate to increase their funds to try and buy more and sustain a larger amount, so that they have enough to send out on the now harder conquests.

Short Term Loops (Combat / Conquering Lands):

A more short term loop in the game, besides the central balancing loop discussed, involves the simple combat mechanics of the game as the player sends troops out to conquer new lands. In this minigame, the player has three central statistics which may determine the outcomes of a potential conquest: their current number of troops, their troop's strength, and their troop's morale, and each of the four different types of lands to conquer also have these same stats as well, but a bit more randomized. The player has the choice to increase either their morale or their strength when they get points from successfully conquering lands, while the overall stats of each land increase depending on how many of that type of land the player has been able to conquer. In general, farmlands have lower numbers of troops, strength, and morale, making them easy for the player to claim for themselves but they reward the player with less points; towns have slightly more troops and strength, and reward the player with slightly more points; fortresses have the highest strength and reward the player with more points; and lastly, the castles have higher numbers of troops and strength, making them difficult to obtain but also rewarding the player with the most points. The loop that this creates is a positive feedback loop, where the player conquers lands, the overall stats of these lands increase, and the player is able to increase their stats as well. This loop becomes a bit more variable towards the end, as there are random events which occur and may decrease some of the player's stats.



In the graph above, the results of this loop can be seen. Over time, the player is able to increase their stats, both strength and morale. Strength tends to increase faster, as it is more helpful in being able to successfully conquer lands. The rate of these stats increase slowly over time, and even decreases at some points near the end due to random story events. It can also be seen that the towns and farmlands are the lands which are conquered at higher rates, as they have the lowest initial stats, whereas fortresses and castles increase at a much slower rate, as their stats are much higher. Overall though, this data demonstrates the overall positive feedback loop in this sub-loop, where acquiring more lands in conquests allows the player to increase their stats, which in turn also individually increases the stats of each type of land, as they become harder for the player to successfully acquire.