Software Engineering Cowards – SPRINT 6 DELIVERABLE

Brian Ashworth – RedSoxFan

John Johnson (Scrum Master) – jdj20

Edwin Mellett – WynWinz

Aaron Tamenne – atamenne

https://github.com/RedSoxFan/2174\_CS1530\_SoftwareEngineeringCowards

(17 APR 2017)

SPRINT 6 ACCOMPLISHMENTS

This sprint we completely finished implementing all of the Hnefatafl rules, and added our own additional functionality. We included an AI so that the user can play against the computer, and they can also choose which side they want the AI to be (attacking or defending). We continued to communicate just by meeting in class and using a group text. No meetings with the customer occurred during this sprint, as we were pretty sure we had a good grasp on what specific tasks we needed to accomplish and how to accomplish them. However, we have a corner case that arises when checking for the fort capture where the isFortSolid method runs with the number of flooded squares being less than forty. We also did not implement the edge fort rule in the event that only the king lives because that is how we interpreted the rules. We noticed that since the AI is computationally intensive and sometimes takes a good bit of time depending on the types of calculations it has to do for the particular scenario. However more often than not the AI usually executed its moves in less than ten seconds. Some problems initially rose when integrating the AI because it conflicted with draw forts, but those problems were fixed with some inspection. We also had a bug from a previous sprint where we were not properly resetting the variable used the check if fifty moves without a capture have happened. Other accomplishments included adding tests that we lost points for not including on previous sprints, and fixing the problem with loading corrupt or empty text files. We also completed a lot of refactoring of the code in order to make it more efficient and readable, and try to eliminate redundancies between classes in order to increase code quality.

USER STORIES COMPLETED

**Story Points: 16**

As a player

I want to be able to play against an AI as a defender or attacker

So that I can play by myself

**Story Points: 8**

As a player

I want the king and his defender's side to win if the king is adjacent to an edge, can move, and it is impossible for the attacks to capture him after any number of moves

(aka Exit Fort)

So that the Copenhagen rules are obeyed

**Story Points: 8**

As a player

I want the attackers to win if there is a barrier of attacker's pieces surrounding the king and all remaining defenders preventing the king from escaping

So that the Copenhagen rules are obeyed

**Story Points: 8**

As a player

I want the attackers to win if the defenders repeat the defending board position three times while no piece is captured

So that the Copenhagen rules are obeyed

**Total Velocity: 40**

DEFECTS FOUND

A defect from a previous sprint was errors occurring when the user tried to load a corrupted board file or an empty board file, which we fixed by adding exception catching to the load board method and creating a new type of exception. We also ran into errors when initially integrating the AI due to the draw fort causing problems, but these errors were fixed by adding the additional check for that rule into the AI. Finally we fixed a bug that occurred with keeping a running tally of how many moves have been performed without a capture since we were mixing a couple variables up with each other, so it was a simple fix.