Team Project 2: Chess AI

SPRINT 3 - Retrospective

Team Members: Abigail Dougherty, Dawson Fields, Dustin Ladd
Scrum Master: Abigail Dougherty

Team Retrospective Summary

In this Sprint, the team communicated and delegated tasks efficiently. On the first day of the sprint, the team agreed to delegate tasks and each team member focused on different aspects of the code that would be necessary for the sprint's completion. Dustin worked on finishing the AI, Dawson implemented the client-server according to the specifications, and Abigail built the user-interface for the main menu. The team agrees that in this sprint, we communicated effectively. The team was kept up to date as major changes needed to be made, and everyone worked efficiently to accomplish the sprint.

The major goals that we set for this sprint included creating a main-menu and adding various features to the user-interface, implementing alpha-beta pruning to the minimax function, and building the client-server. All of these main goals were accomplished.

In the main menu, the user is prompted with three options: "Single Player", "Multiplayer". If the user chooses single player, the game connects to a server and the user plays against the AI. The Multiplayer option allows the user to choose whether the system will be connecting the user or AI to an AI, or to a user.

Some changes that needed to be made during this sprint included a major overhaul of the architecture of the game. Our team had a plan to serialize the board states and send them between the server and clients. After reading the specifications of the client-server implementation more closely, we realized that these changes were not needed to implement client-server via sending moves back and forth. Another change that we agreed upon was choosing to not sort the alpha-beta pruning. In the current version of the game, alpha-beta pruning works recursively.

One thing we all struggled with was in finalizing the AI gameplay. We came across a null-pointer exception in a very specific case. In hindsight, had we discussed the structure of minimax in further detail at the beginning of the sprint, we may not have had so many structural issues.

Table 1: Updated Product backlog

Product Backlog				
Product Name: Chess AI	**Scrum Master:** Abigail Dougherty		**Start Date:** 3/21	**End Date:** 4/14
Task	**Priority**	**Time Estimate (Hours)**	**Status**	**Remaining Hours**
Sprint 1			**Start Date:** 3/21	**End Date:** 3/29
User enters a click-defined move	1	3	Complete	0
Board updates according to user input	1	3	Complete	0
Game checks if input is valid (move validation)	1	72	Complete	0
User gets a response for an invalid input	2	3	Complete	0
Determining winner/loser	3	3	Complete	0
Sprint 2			**Start Date:** 3/30	**End Date:** 4/5
Finalize checkmate	3	3	Complete	0
Heuristic model to select intelligent moves	1	72	Complete	0
AI looks one move ahead in tree	2	1	Complete	0
Minimax implementation	1	72	Complete	0
Sprint 3			**Start Date:** 4/6	**End Date:** 4/14
alpha-beta pruning 1 level	3	3	Complete	0
alpha-beta pruning all levels	1	72	Complete	0
Networking (client-server)	2	72	Complete	0
End of game screen	3	3	Complete	0
Option to return to menu or start again	3	3	Complete	0
Welcome Screen Interface	3	3	Complete	0
Start New Game	3	3	Complete	0
Team Selection	3	3	Complete	0
Game Options	3	3	Complete	0

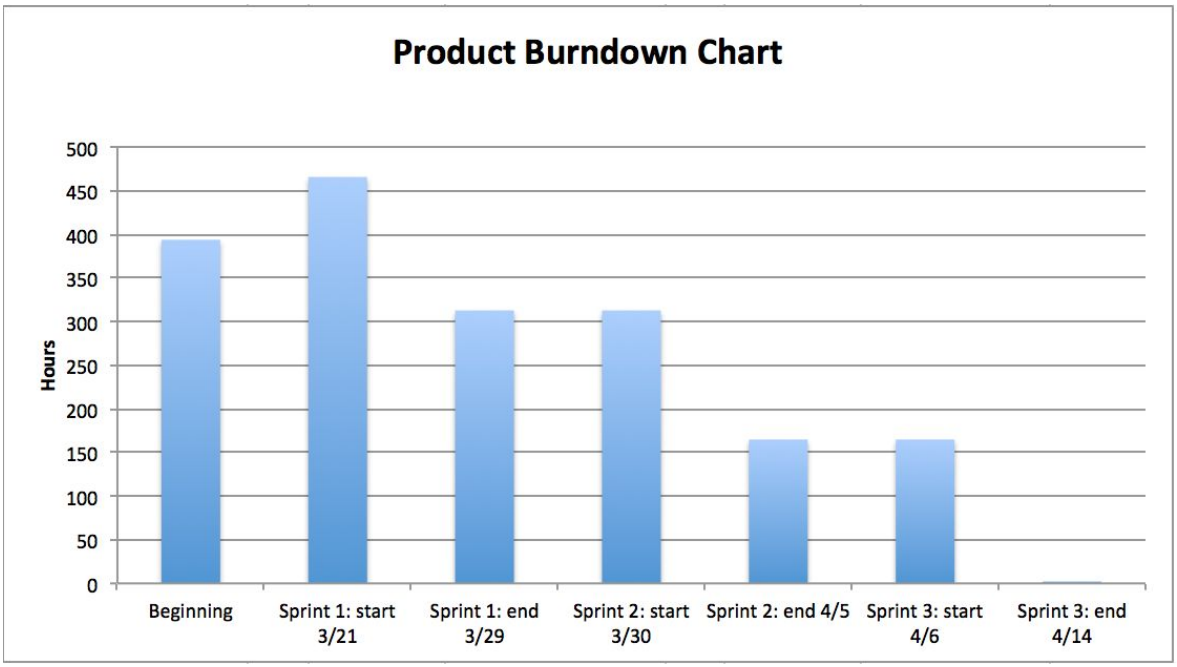

Figure 1: Updated Project Burndown Chart

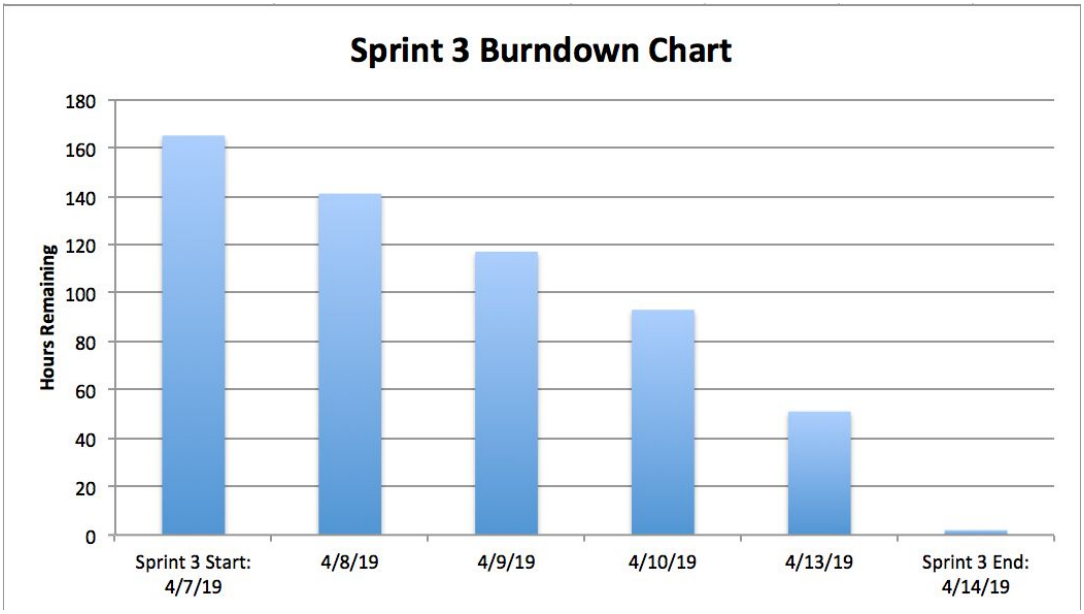

Figure 2: Completed Burndown chart for Sprint 3