

Team Project 2: Chess AI

SPRINT 2 - Retrospective

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Scrum Master: Abigail Dougherty

Team Retrospective Summary

During this retrospective meeting, we agreed that our team was ultimately successful throughout this sprint. Towards the end of the sprint, our team was faced with a time-crunch, but we were able to implement our goals by the deadline. Our main goals for this sprint included creating a simple heuristic, implementing an AI, fixing the check logic, and building the minimax functionality. We were able to complete all of our goals. In the projects current state, when the program is run, the user (the white team) can choose a move, the AI will then generate a move via the minimax function. In the current version, the game uses a simple heuristic with three main choices of a valid move. These include capturing an opposing piece with the highest point value, escaping capture, and moving a random piece to a random valid location. In the final sprint, we intend to improve this heuristic.

One thing that we agreed we did well on Sprint 2 was communicate. Despite the many tasks at hand on this sprint, our team communicated effectively in regards to the sprint's progress. The sprint meetings were productive and efficient - updating each other on task progress. Additionally, the team worked well to determine the logic of the minimax function. The minimax function was the largest and most time-consuming goal of this sprint. Since it was the most complicated, it took the most coordination. We worked as a team to think thorough the logic that was necessary for the function.

Something that our team can improve on is task allocation. Each task was given to different individual team members, but most tasks were completed by all members. This was unexpected and caused complications with overall productivity. Despite some poor task allocation, the sprint was ultimately completed and we agreed to be more precise in the next sprint. The tasks were also completed in an efficient manner.

Some changes that were made during this Sprint include updating the logic of check/checkmate, and restructuring some of the classes of our code. Updating the classes was necessary to implement the AI. In the previous code setup, the GUI was in the game functionality class. After realizing this issue, the structure of the classes was overhauled.

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	In-progress	3
alpha-beta pruning all levels	1	72	In-progress	72
alpha-beta pruning more effective by sorting	1	72	In-progress	72
Networking (client-server)	2	72	In-progress	72
End of game screen	3	3	In-progress	3
Option to return to menu or start again	3	3	In-progress	3
Welcome Screen Interface	3	3	In-progress	3
Start New Game	3	3	In-progress	3
Team Selection	3	3	In-progress	3
Game Options	3	3	In-progress	3

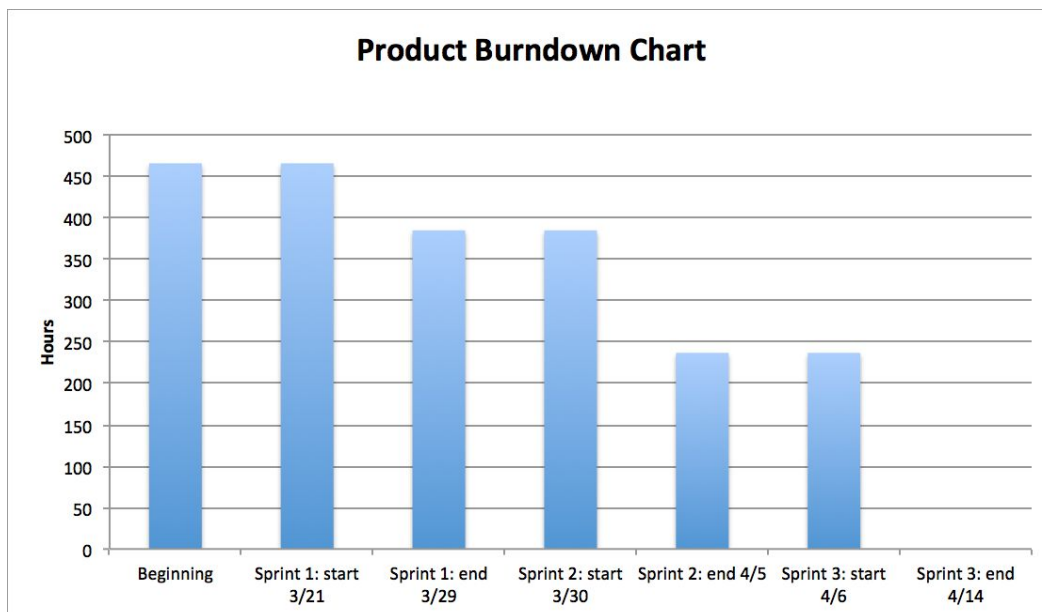


Figure 1: Updated Project Burndown Chart

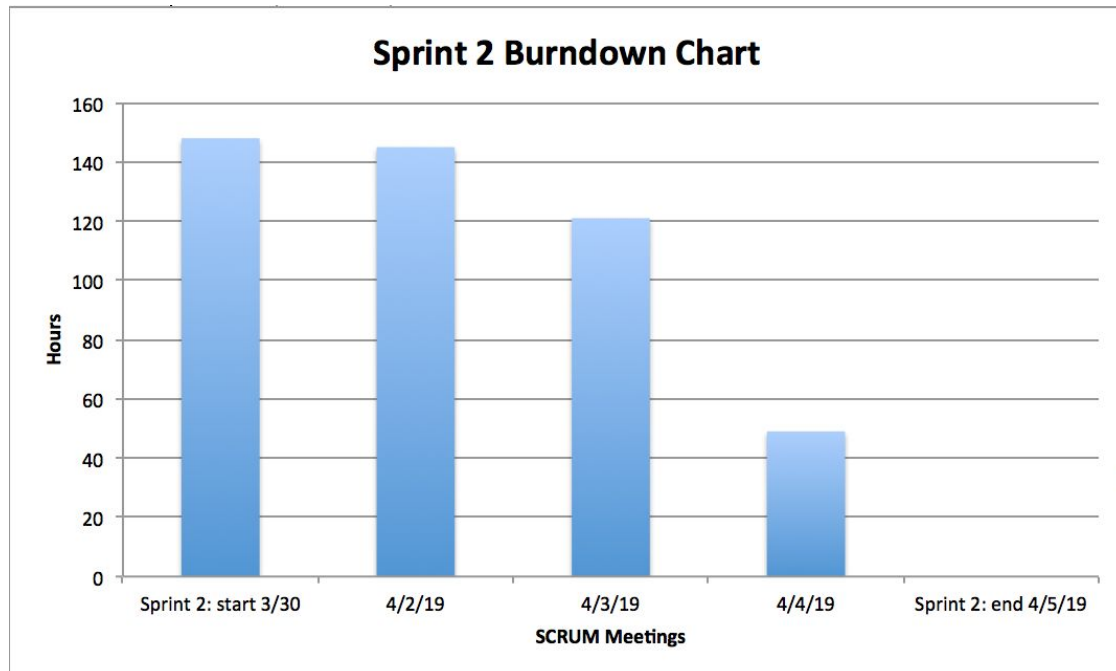


Figure 2: Completed Burndown chart for Sprint 2