

Project Summary

csci205_final_project

Project Details

Members

- Clara Chaplin
- Kate Douglass
- Kona Glenn
- Marion Duval
- Vy Tran

Project Retrospective

What was your initial goal?

Our initial goal was to create a fully functioning minesweeper app with multiple levels and a game timer. We had a few other features that we wanted to add if had time, like the different color modes.

What did you achieve?

We achieved all of our initial goals and more during this project. In addition to our initial goals, we successfully added multiple color themes, an instructions pop-up, a quit button, and a play again option. We also added more visual effects/changes to make the game easier and more appealing to play.

What went well in the project?

Our teamwork, coding, and design skills all came together in this project to create our minesweeper app. We were able to successfully plan and complete the tasks we wanted to for each sprint. We all were able to find parts of the project that allowed us to showcase our best skills and work on parts that interest us.

What could be improved?

We could have had better communication throughout the project. There were a few times we were all on slightly different pages about who was supposed to be doing what which slowed us down a little. We also could have done a better job of commenting code as we went so everyone could understand.

What would you change if you did the project again?

If we did this project again, we would have spent a little more time in the design and planning phase to avoid a lot of the struggles and confusion we experienced during the first sprint.

Charts

Health Bar

Project Health

csci205_final_project (As of: 12-7-2022)
Includes backlog



● Unstarted (3h) ● Started – Remaining (0h) ● Spent (91.85h)

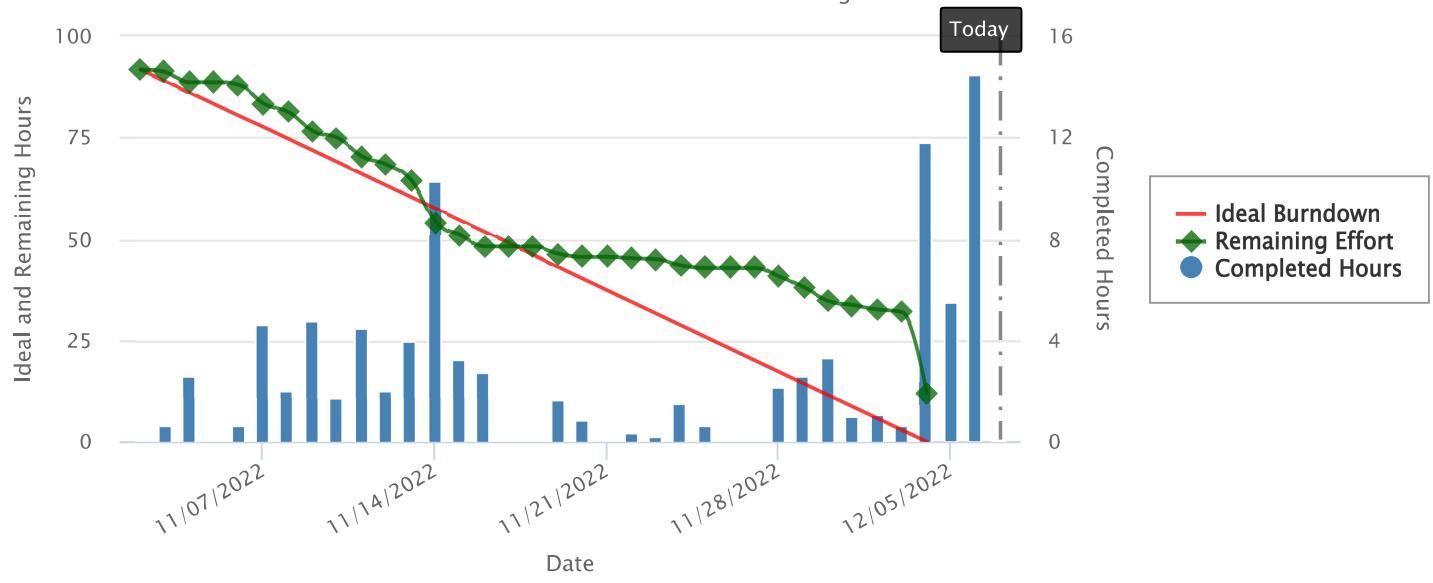
Highcharts.com

For the most part, we completed all of the work that we wanted to get done. At the end of sprint 3, we added two optional tasks that we would have liked to add if we had time. These were a hint button and color-coding the numbers of the cells in the view. However, we did not have time to finish these within this sprint, so they are left as unstarted work. We do have a few tasks left that are marked as "deleted tasks" where someone add a new task to log their time when there was already a task that existed for that work.

Burndown Chart

Project Burndown Chart

csci205_final_project (As of: 12-7-2022)
Does not include backlog



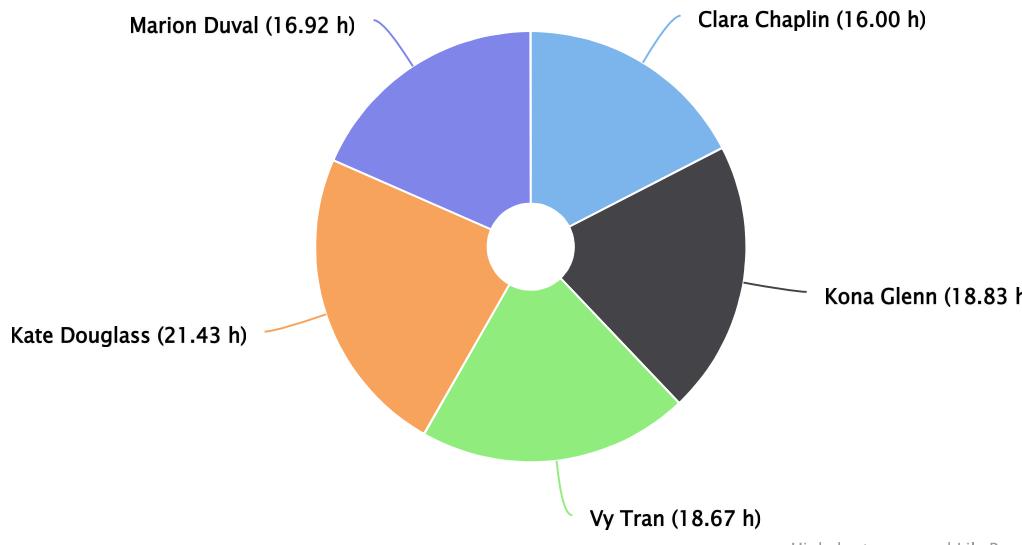
Highcharts.com and Lily Romano

Overall, everyone kept on top of their work. Early on in the project, everyone was very good about logging the time they spent each time they worked on the project. During sprint 3, we were on Thanksgiving break and therefore did not spend a lot of time working on the project. Then, when we came back from break, we were out of the practice of logging our time, and would tend to log our work after we completed a task rather than every time we worked on it.

Assignee Chart

Project Hours assigned vs. completed

csci205_final_project (As of: 12-7-2022)
Does not include backlog



Highcharts.com and Lily Romano

Overall, we tried our best to distribute the work as evenly as possible. We also tried to cater the type of tasks people were assigned to to both what they were good at and what they wanted to do. This, on top of some of our underestimates of how long certain tasks would take led to the differentiation in the number of hours each of us spent working on the project. Some of the differences also came near the end of the project when someone who was finished their work and had more time took on the tasks of others to help get the project to the finish line.

Name	User Stories	Bugs	Tech. Tasks	Design Tasks	Spikes	Doc.
Clara Chaplin	5.5	0.75	6.17	0.33	0	3.25
Kate Douglass	2.28	1.25	10.02	2.67	0	5.22
Kona Glenn	1.67	0	3.33	4.5	0	9.33
Marion Duval	0	0.58	8.42	1.17	0	6.75
Vy Tran	3	0	14	1.67	0	0

Sprints

Sprint 1

Dates:

11-2-2022 to 11-9-2022

Review:

What went well in the sprint?

We have a good initial design that we are all excited about. We are all on the same page about where we want the project to end up.

What could be improved?

We could do a better job of evenly dividing work, especially the coding tasks. We also need to do a better job of explicitly saying when and what we are working on.

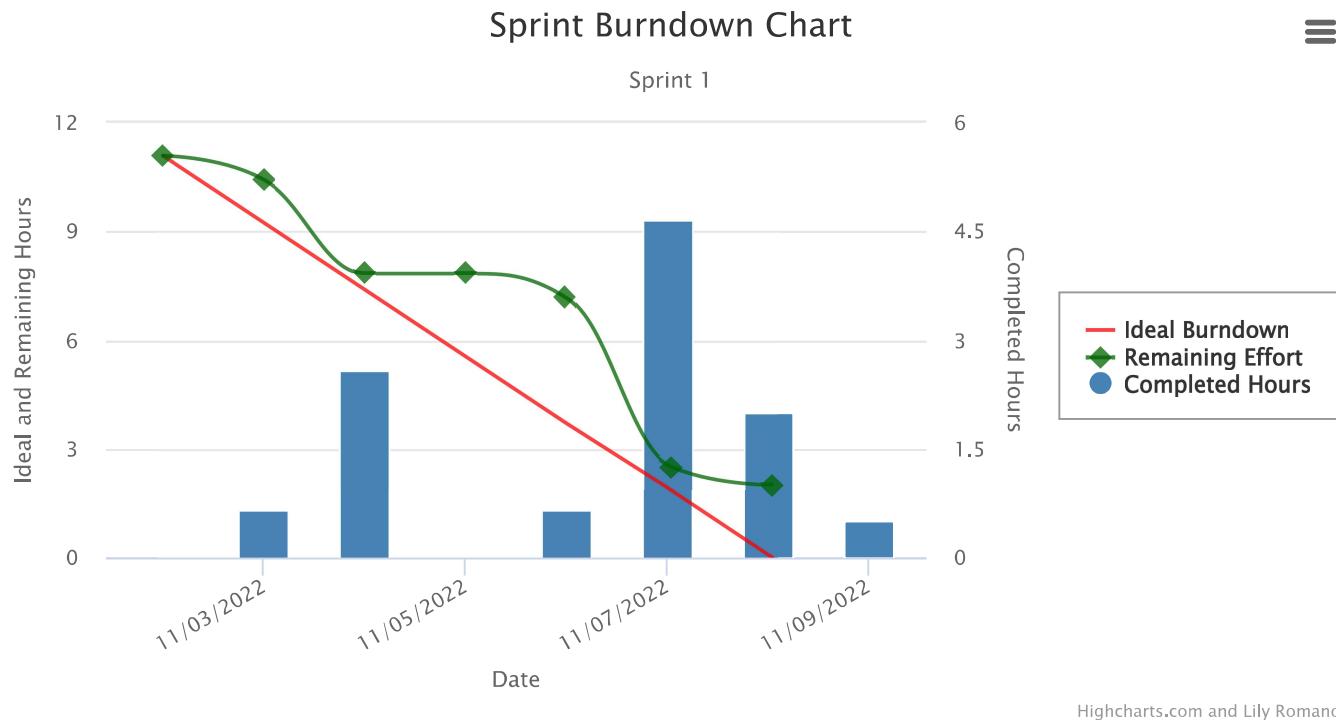
Are you on track? What is your plan if not?

We are on track, but we all think we can get a lot more work done this next sprint.

What will you improve on in the next sprint?

For the next sprint, we want to have a very basic, but functional minesweeper app. We also want to have JUnit tests or about:blank

some other form of testing for all of our methods.



Sprint 2

Dates:

11-9-2022 to 11-16-2022

Goal:

We want to have as much implementation and functionality as possible because going into the next week, a lot of us have a lot of exams. We also want to get done most of the work that really requires collaboration before break so that we can continue to make good process in sprint 3.

Review:

What went well in the sprint?

We did a better job at coming up with and dividing tasks that we could all get done in the sprint time frame. We were all able to work on things simultaneously instead of waiting for one another to finish different tasks.

What could be improved?

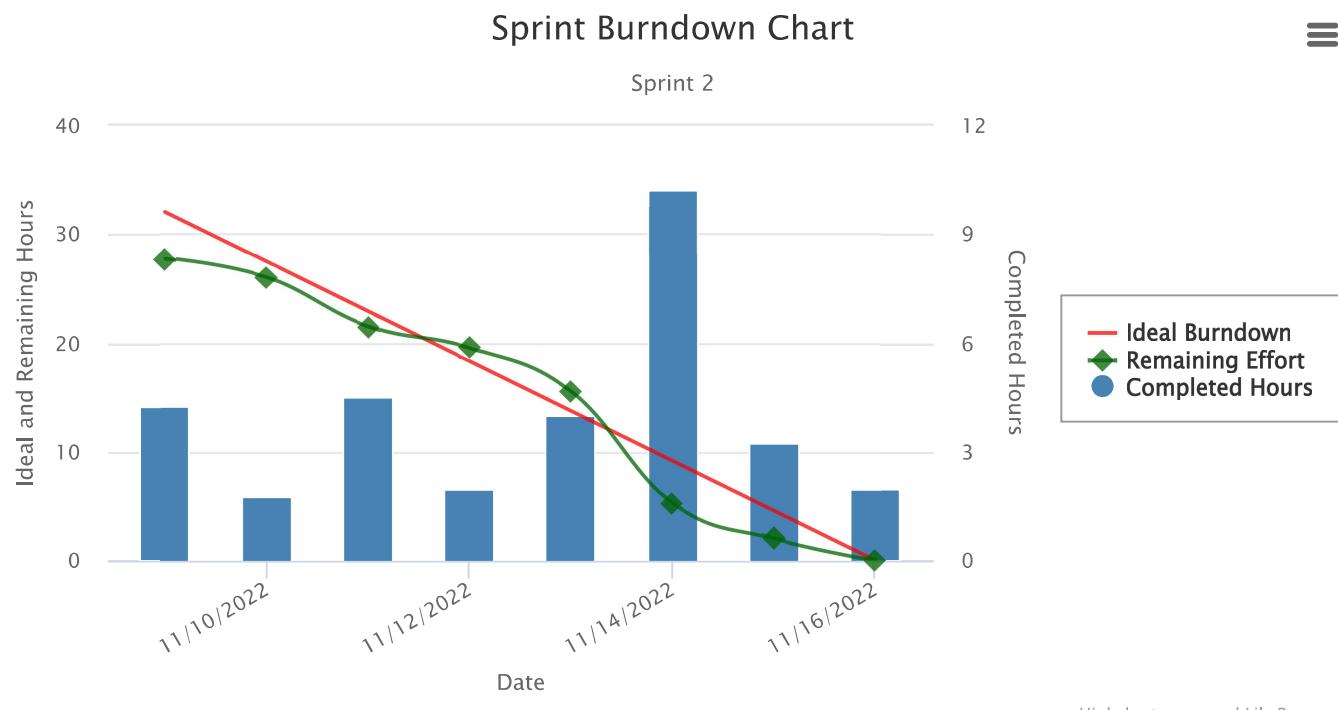
We could improve by planning our tasks at the beginning of the sprint better, rather than doing all of our tasks and then coming up with more as we went along.

Are you on track? What is your plan if not?

We are on track as our game is functional, which was our goal for this time frame.

What will you improve on in the next sprint?

We will spend a bit more time planning in advance and coming up with a more adequate number of tasks for the sprint. We also can improve on communicating about what we are working on and pushing through Discord. While it wasn't an issue in this sprint, it could be an issue in the future.



Sprint 3

Dates:

11-16-2022 to 11-28-2022

Goal:

Our goals are to allow the user to change the levels, adding visual features that make gameplay more enjoyable, and working on the "best time" and "play again" in the end of game pop-up. We also need to figure out the issues with the colors. Additionally, we will add an instruction popup that appears at the beginning of the game and then again whenever you click the question mark button.

Review:

What went well in the sprint?

Our project really started to come together during this sprint. We were able to connect all of the individual pieces we had been working on. We have a more advanced working model and just have to bind our additional features together.

What could be improved?

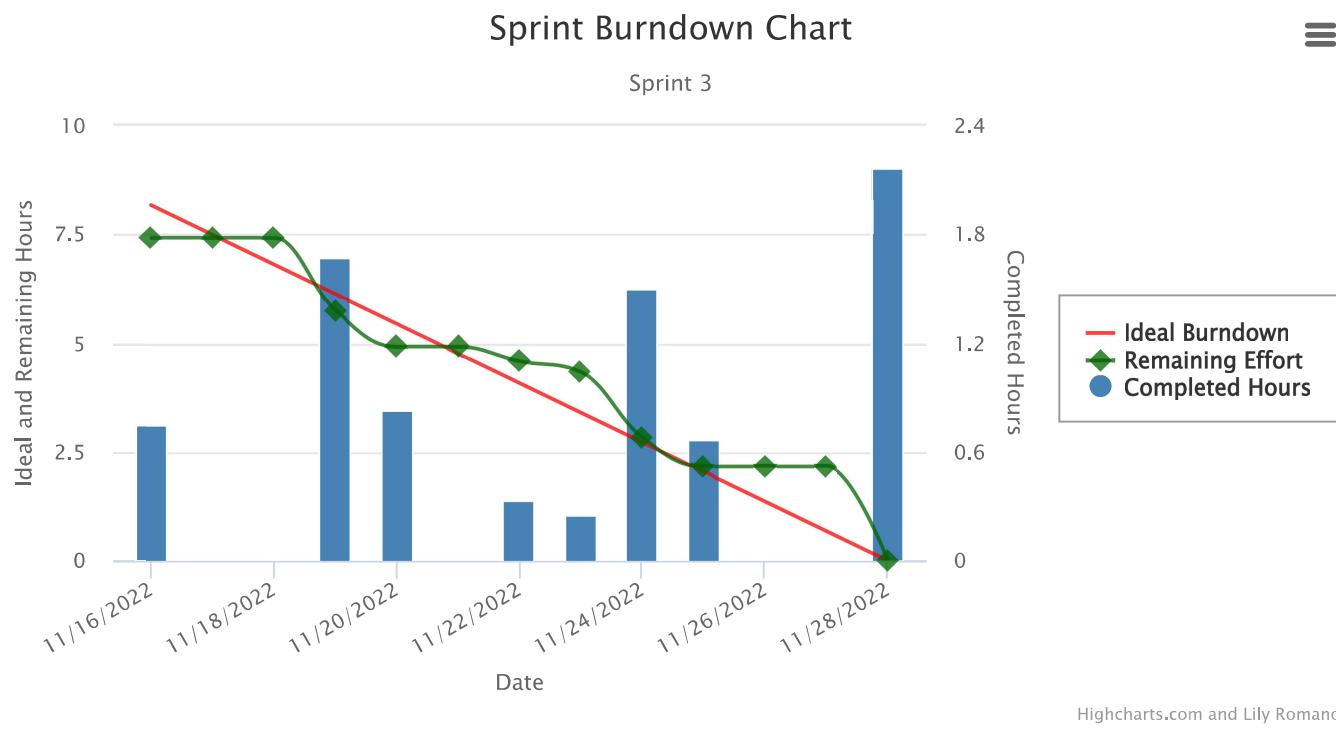
We could improve on how much time we invest into the project. With break and exams we struggled to find time to focus on this project.

Are you on track? What is your plan if not?

We are on track and are just adding final details now. We all have a very good idea of what we have left to finish.

What will you improve on in the next sprint?

We will improve on spending more time on the project as we have fewer outside priorities this week. We will also try to communicate what we are doing better, as we got away from that this past sprint.



Sprint 4

Dates:

11-28-2022 to 12-5-2022

Goal:

Our goal for this sprint is to bind the time feature, the flags remaining feature, the different difficulty levels, the different color modes, and the instructions to actually work. We are also going to write the user manual and the design manual documents, make sure our UML and State diagrams match any updates we've made, and clean up the rest of our code so that it is ready to submit at the end of the sprint.

Review:

What went well in the sprint?

All of our features really came together in this sprint. We all put in a lot of time and finished all of the tasks we wanted to get done. We also were able to fix a lot of bugs that we didn't think we were going to be able to figure out. In the end, we have a great app that we are all proud of.

What could be improved?

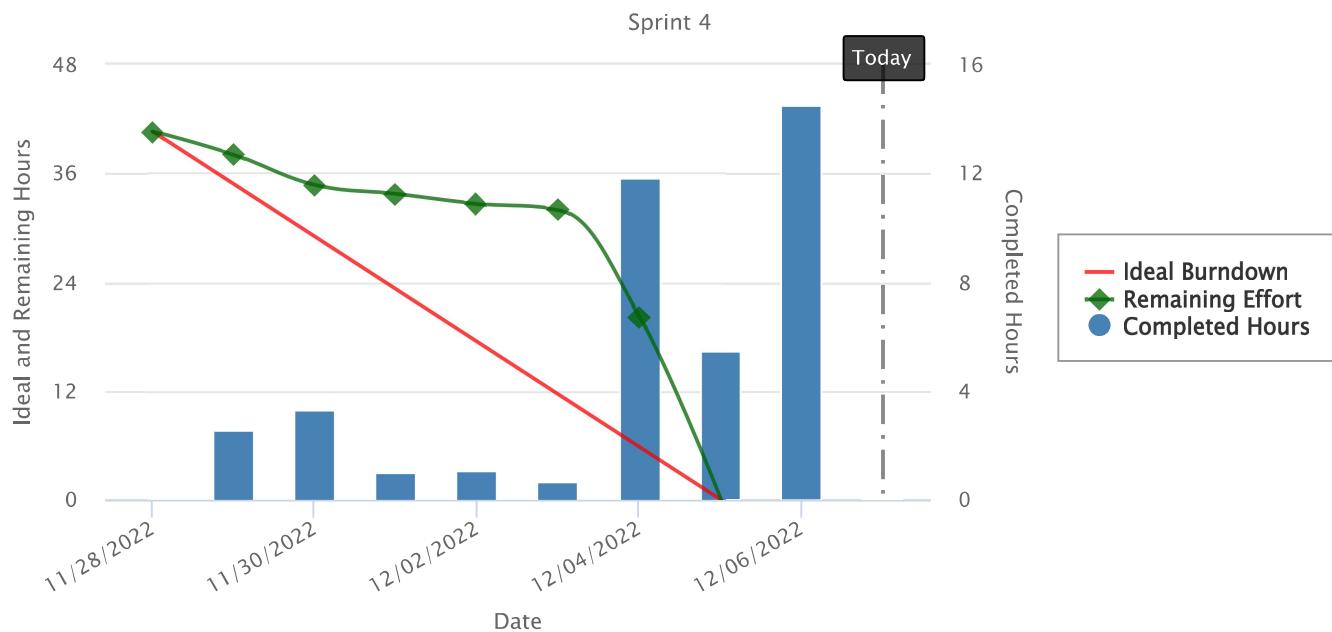
We could have had slightly better communication. Our communication has come a long way since the first sprint, but there is still room for improvement. We could have also payed more attention to the tasks on AIECode to make sure we weren't adding new tasks that were already there.

If you were to continue the project, what would you improve on in the next sprint?

If we were to continue the project, we would add some more features that we thought of later on in the project that we didn't have time to get to. We would have color coded the numbers, added a hint button, added background music, and added some more color themes.



Sprint Burndown Chart



Highcharts.com and Lily Romano

Personas



Sylvia Schonenberg

Quote

"I love to play brain games during my lunch break at work, especially those that are quick and simple yet still challenge the mind!"

Narrative

Sylvia wants to challenge herself with a brain-teaser type of game that is relatively quick to play when she has some free time after work. She likes lots of brain games, such as the crossword in the Sunday paper, and she enjoys our app because it is a quick and fun game that challenges the brain.



Emma Hansen

Quote

"I like to play addicting brain games with exciting effects during all of my free time!"

Narrative

Emma is a child/teenager who likes to play games when she gets bored. She will be using an app for her own entertainment and to pass time. She will enjoy any creative effects we add to the game that make the game more engaging to her.



Levi Jean

Quote

"All of my friends love to compete in how well we can beat a brain game!"

Narrative

Levi is very into games and especially likes to play games with his friends. They often have some friendly competition among them when playing brain games. Levi will be using our app in a social setting and would enjoy a feature that shows how well he did (a score of some kind) so he can compare that with his friends.



Rafaele Nogueira

Quote

"I saw my friends playing minesweeper and wanted to play, but when I tried, there were no instructions and I couldn't figure it out."

Narrative

Rafaele is interested in playing Minesweeper, but doesn't know how to play. They could not figure out how to play on their own. To help Rafaele we could add instructions or possibly a "hint" button that could uncover an additional square to show the number.

Table of Work

Showing 1 to 74 of 74 entries

Search:

	Title	Type	Est.	Spent
closed (74)			94 h, 51 m	0
Sprint 1 (12)			11 h, 5 m	11 h, 5 m
Basic UML Class Diagram	Design Need		50 m	50 m

Title	Type	Est.	Spent
Complete READ.ME (and research Mindsweeper)	Documentation	55 m	55 m
CRC Cards to Identify Initial Classes	Design Need	20 m	20 m
Implement The Model	Technical Task	4 h	4 h
Initial controller	Technical Task	20 m	20 m
JavaDoc for Each Class	Documentation	20 m	20 m
Make relationships between classes	Design Need	20 m	20 m
Set up Java Framework for Every Class and Method	Design Need	1 h	1 h
UML State Diagram	Design Need	1 h	1 h
Understand Initial Code	Technical Task	1 h	1 h
understand initial code	Technical Task	30 m	30 m
Work on User Manual	Documentation	30 m	30 m
Sprint 2 (20)		32 h	32 h
Add counting bombs/flags	Technical Task	1 h	1 h
Add the time features	User Story	1 h	1 h
Add Top Pane Labels	Technical Task	45 m	45 m
Bind mouse click events to open cells	Technical Task	3 h	3 h
Complete Javadocs for all classes	Technical Task	2 h, 45 m	2 h, 45 m
Create User Case Diagram	Design Need	40 m	40 m
Creating flag and bomb graphics	User Story	2 h	2 h
Figure out merge conflicts	Technical Task	1 h	1 h
Implement The Controller	Technical Task	6 h	6 h
Implement The Model	Technical Task	2 h	2 h
Implement The View	Technical Task	2 h	2 h
Initial controller	Technical Task	20 m	20 m
Initial work on the view	Technical Task	5 m	5 m
Learn FXML	Design Need	3 h, 30 m	3 h, 30 m
Making all bombs reveal when the game is lost	User Story	30 m	30 m
Reassign Neighboring Bombs on Click	Technical Task	2 h, 40 m	2 h, 40 m
Tests for all methods written until the end of sprint 2	Technical Task	30 m	30 m
Work on Cell class and create CellTest class	Technical Task	1 h	1 h
Work on the model to incorporate game state & create test class	Technical Task	45 m	45 m
Work on User Manual	Documentation	30 m	30 m
Sprint 3 (10)		8 h, 10 m	8 h, 10 m
Add different levels and Update the view upon changes	User Story	30 m	30 m
Add reset board feature	Technical Task	2 h, 10 m	2 h, 10 m
Add Top Pane Labels	Technical Task	20 m	20 m
Create an instructions feature	User Story	35 m	35 m
Fix checkered pattern	Technical Task	45 m	45 m
Fully implement the time feature	Technical Task	30 m	30 m
Implement different color schemes	User Story	1 h, 30 m	1 h, 30 m
JavaDoc for Each Class	Documentation	1 h	1 h
Refactor Lengthy Methods	Documentation	20 m	20 m
Test and Add Details to User Personas	Design Need	30 m	30 m
Sprint 4 (29)		40 h, 36 m	40 h, 36 m
Add different levels and Update the view upon changes	User Story	2 h, 30 m	2 h, 30 m
Clean Up Code and Add Necessary Comments	Technical Task	1 h, 10 m	1 h, 10 m
Complete the Flags Remaining	Technical Task	30 m	30 m

Title	Type	Est.	Spent
Create an instructions feature	User Story	1 h, 50 m	1 h, 50 m
Create Presentation to Accompany Video	Documentation	7 h, 30 m	7 h, 30 m
Deleted Task	Documentation	1 m	1 m
Deleted Task	User Story	1 m	1 m
Deleted Task	Documentation	1 m	1 m
Deleted Task	Documentation	1 m	1 m
Deleted Task	User Story	1 m	1 m
Deleted Task	Technical Task	1 m	1 m
Edit and upload video	Documentation	1 h	1 h
Finish README	Documentation	30 m	30 m
Fix board display on PC vs Mac	Bug	40 m	40 m
Fix the bug with the number of bombs appearing	Bug	30 m	30 m
Fix the heap thread error	Bug	40 m	40 m
Fully implement the time feature	Technical Task	1 h	1 h
heap error	Bug	45 m	45 m
Implement different color schemes	User Story	2 h	2 h
Implement the Exit Button	Technical Task	20 m	20 m
JavaDoc for Each Class	Documentation	1 h	1 h
Redraw the board when choosing a new challenge level	Technical Task	3 h	3 h
refactoring code / updating javadoc	Documentation	45 m	45 m
Update CellTest, including fixing the error	Technical Task	1 h, 45 m	1 h, 45 m
Update ModelTest	Technical Task	45 m	45 m
Update UML diagram to reflect actual implementation	Design Need	2 h, 10 m	2 h, 10 m
Work on Design Manual	Documentation	5 h, 40 m	5 h, 40 m
Work on Scrum Report	Documentation	30 m	30 m
Work on User Manual	Documentation	4 h	4 h
Backlog (3)		3 h	0
(Optional) Add hint button	Technical Task	1 h, 30 m	0
(Optional) Color-code numbers and change font/size	Technical Task	1 h, 30 m	0
Deleted Task	Documentation	0	0

Daily Scrum

11/3 We met as a group from 11:30 - 12:30 to finish setting up AIECode and brainstorming work tasks to add. We added user personas and discussed the project in general. We started creating an initial UML Class Diagram.

11/4 10:00 am Clara, Kona, Vy - We thought about the relationships between our classes and reflected these in the UML Diagram. We also began coding the initial framework into IntelliJ, and started working on the UML State Diagram.

11/4 12:00 pm Kate, Marion - We worked on, and almost finished, the CRC cards. We also added banners and javadoc for all of the classes and worked on the READ.ME.

11/7 10:00 am We all met as a group and decided what we should work on for the rest of the Sprint and divided up work. We also figured out dates that we can meet this week. We are focusing on implementing an initial view and controller to display a very small and very simple version of minesweeper.

11/9 12:00 pm Kate, Marion - We worked on and finished the first draft of the UML use case diagram. We will discuss what we are going to work on next when we meet as a team tonight.

11/9 9:00 pm Entire group - We met as a group and worked through the sprint review, retrospective and planning. We came up with a plan to have a better workload distribution and communication. We then added and adjusted what tasks we need

to complete as a team and assigned them to people. Kate is going to work on the game timer and help Marion with the controller class. Marion is going to work on the controller class and the flag counter. Vy is going to finish the model. Clara is going to work on the cell class. Kona is going to work on the view class. Everyone is going to write tests for the classes they are working on.

11/11 9:00 am Entire group (but Marion) - We worked on our tasks, fixed Kona's git issues, figured out our plan for implementing the timer, and planned out how we are going to implement our game state. We also found a group meeting time for Sunday (early afternoon).

11/11 1:00 pm Kate and Marion - We implemented the controller and fixed any resulting issues in other classes. We then handled merge conflicts that resulted. Marion is going to work on the flags remaining class. Kate is going to work on the documents some, or help other people with their assigned work.

11/13 6:00 pm Entire group - We figured out where everyone has gotten in their assigned tasks and merged our code together so everyone has the same code again. We each worked on our code and asked any questions we had. Kona will keep working on the top pane view. Kate will work on getting popups for when the game is over. Marion will work on starting the reassigning bombs so that you always click on a zero. Vy will keep working on getting the zeros to cause a chain. Clara will work on the docs more.

11/14 10:00 am Entire group (but Kate) - Workday: Marion worked on regenerateAdjacentBombs() method. Kona worked on the topPane and plans on pushing that by tomorrow at the latest.

11/14 12:00 pm Marion and Kate - Fixed gameState problem that allows regenerateAdjacentBombs() to work. Worked on hover color-change issue. We will both work on Javadocs.

11/16 10:00 am Clara, Kona, Vy - We started the sprint review.

11/16 12:00 pm Marion and Kate - We finished the sprint review. Marion will work on the User Manual and implementing the flags remaining feature. Kate will work on resetting the board and implementing the time feature.

11/28 10:00 am Entire group(but Kate) - We worked on the sprint review and tried to figure out Clara's merge conflicts.

11/28 12:00 pm Kate and Marion - We reviewed what was done for the sprint review and sprint retrospective and added anything that we felt necessary. We then fixed the reset board method that had been messed up during merging. We also added some comments to code that needed them. Finally, we started adding more work to sprint 4.

11/29 12:00 pm Entire group - We met to discuss and finalize all of the remaining tasks that we want/need to finish by the end of this last sprint. Marion will focus on completing the user manual along with working on some of the extra features we have not started if time allows. Kona will focus on writing the design manual and write the instructions that will appear in the app. Clara will bind the color feature and the different board sizes to the view so that they are working, update all of the tests, and update the UML and state diagrams. Vy will draw the new boards in FXML and implement them with the updating board size code. Kate will work on implementing the timer, flags remaining, instructions, and quit game button so they are working in the view along with helping out with the documents.

11/30 9 am Kona, Clara, and Vy - We continued to work on our parts of the project, and spent some time discussing the memory error. Kona completed the instructions. Clara worked on bindings and the memory error. Vy continues to work on the board sizes.

11/30 12 pm Marion and Kate - We got the timer working and fixed the amount of bombs generated depending on where you first click. Marion will work on the user manual and Kate will work on color coding the numbers and possibly the font/size as well as revising the user manual.

12/2 10 am Entire group but Marion - We worked on our assigned tasks. Kate and Kona fixed some bugs with the tool tip and other things. Clara worked on the JUnit tests. Vy worked on the board difficulty levels.

12/4 3pm The entire group met for a couple hours - We fixed the heap error which was being caused by too many images being rendered, this allowed Vy to complete the difficulty level feature. Clara is still working on JUnit tests because the Cell Test was having some problems related to image rendering. Marion is finishing up the User Manual and Kona is finishing up the Design Manual. Kate worked on updating the UML diagram. We are having a strange outcome on Kate's computer after the new difficulty levels were implemented where the squares are not lined up correctly, so we will work on fixing that in the next couple days. We are on a good track for wrapping up the project.

12/5 9 am Entire group but Marion - We gave TA Jackie a quick demonstration of our project. Kona continued to work on the Design Manual, Kate worked on adding the package structure to the README, Clara reconfigured the package structure, and Vy worked on figuring out the errors with the board appearance differences on different computers.

12/5 11 am Marion and Kate - We updated the UML diagram together (since it is easier with two people). Marion worked on the User Manual. We fixed the bug that was on our computers for the board sizing, hopefully it works on everybody's computers.

12/6 4pm Entire group - We met to finalize the details on our slideshow presentation, and also recorded our video of the final product.