# Project Summary

# csci205_final_project

## Project Details

### Members

- Alexa Horvath
- Julia Calderone
- Viveka Kurup
- cee006

### Project Retrospective

#### What was your initial goal?

Our initial goal was to create a functional board game that is intuitive for its users and a fun source of entertainment. We also hoped to bring an online version of a classic board game to life, making it possible for generations of families to play the game!

#### What did you achieve?

We were able to create a functional board game for one user at a time. We think it is a fun online version of the game that can be played by almost anyone!

#### What went well in the project?

Many aspects of the project went well, including using the SCRUM process, meeting as a team regularly, working together well, and getting the game to function.

#### What could be improved?

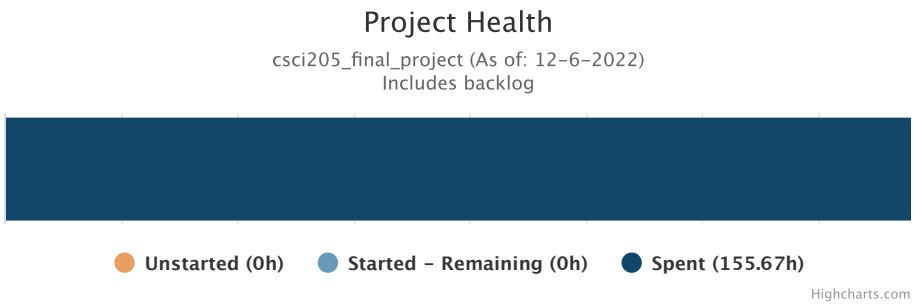
Our communication when we were not together could have improved. We could have also dedicated more time to the planning of the project so that we would not run into many conflicts later on, especially in connecting the front end to the back end.

#### What would you change if you did the project again?

If we were to do this project again, we would think of a better way to design the game board so it was not so hard to access the individual pieces. We would also dedicate more time to researching resources we could have used to help aid us in designing and implementing elements of the project.

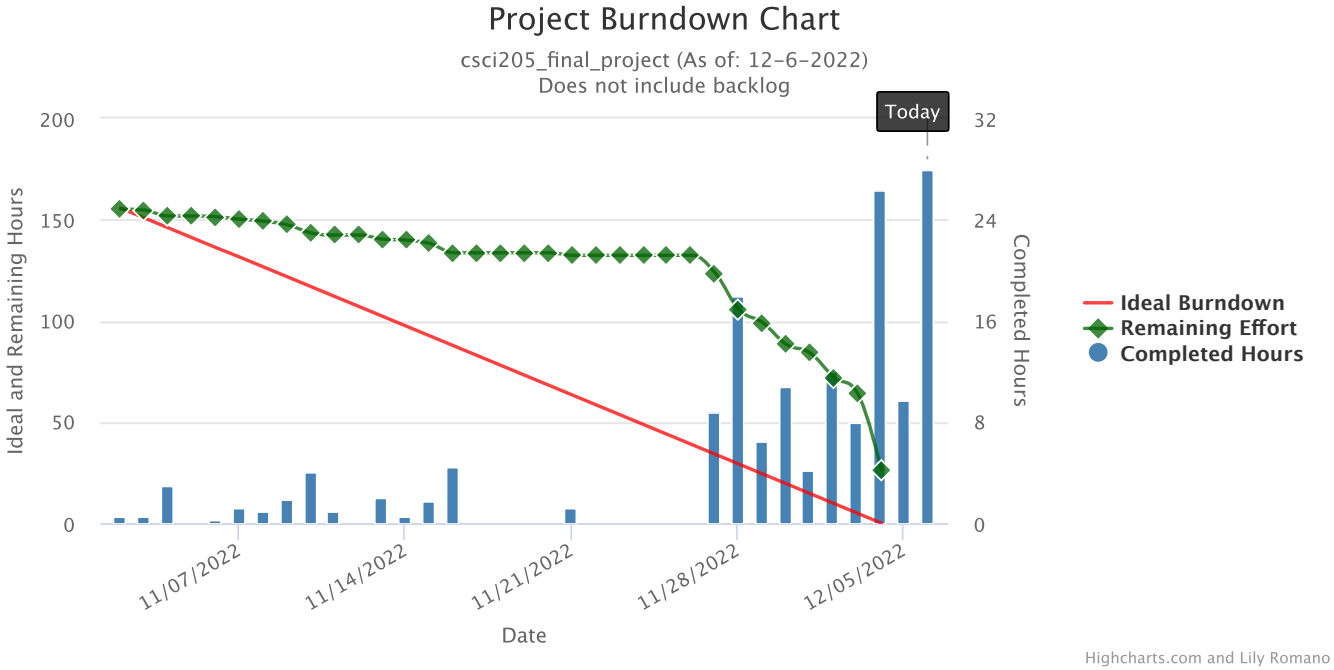
# Charts

## Health Bar



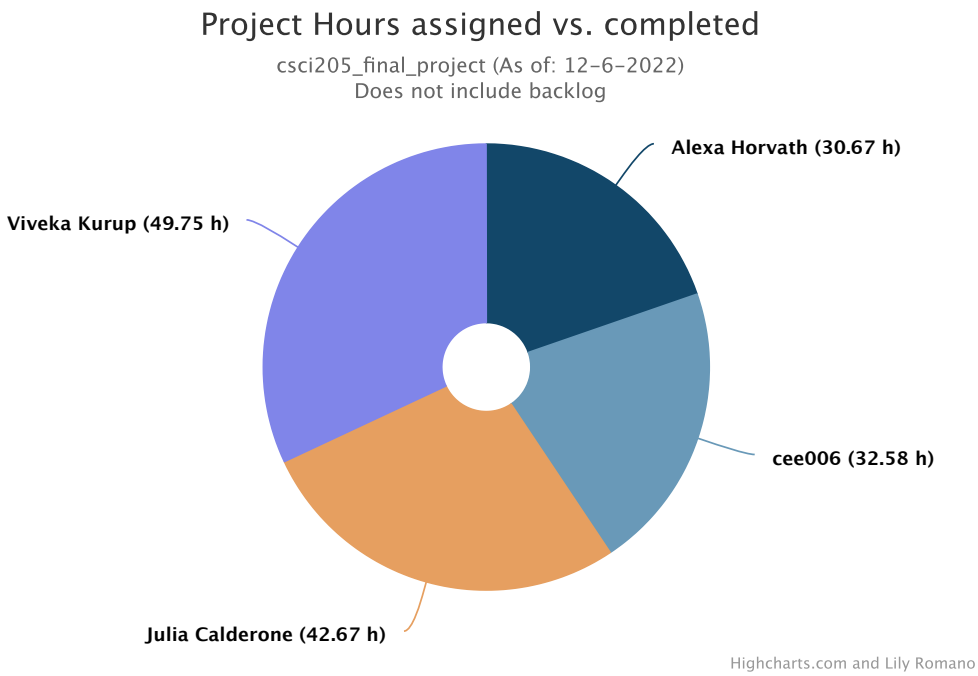

Looking at the chart above, we are satisfied with the work we have completed on this project. We were happy to see that we were able to get all of our planned work done in a timely manner. We also do not have any unstarted tasks, which means we got to everything we were planning on needing to do to complete the project. Over the course of four weeks, I think the amount of hours spent on the project demonstrates the hard work we have done.

## Burndown Chart



After looking at the burndown chart, we realize we could have devoted a lot more time to the project at the start. The chart depicts that most of our hours came from the last sprint, as the deadline for the project approached. While we were able to get our tasks done, we might have had less stress and conflict if we were to spend more hours during the first three-fourths of the project. This would even out chart and make it more symmetrical. However, I think we would still find ourselves spending lots of hours at the end of the project as many tasks are being finalized.

## Assignee Chart




The chart reflects that everyone completed all the tasks that they were assigned. Viveka and Julia have closer hours as they were mainly focused on the front end of the project while Claire and Alexa worked on the back end. Connecting these parts together also took a lot of time, which needed all hands on deck.

| Name | User Stories | Bugs | Tech. Tasks | Design Tasks | Spikes | Doc. |
|---|---|---|---|---|---|---|
| Alexa Horvath | 0.5 | 8 | 11.25 | 5.42 | 0 | 5.5 |
| cee006 | 0 | 8 | 14.25 | 3.33 | 0 | 7 |
| Julia Calderone | 0 | 0 | 19.5 | 21.17 | 0 | 2 |
| Viveka Kurup | 0 | 0 | 35 | 14.5 | 0 | 0.25 |

# Sprints

## Sprint 1

**Dates:**
11-2-2022 to 11-9-2022

**Review:**

**What went well in the sprint?**
We completed all of our tasks in a timely and efficient manner. The team was able to communicate and work well together. We started off our first sprint well and have a general idea of how the scrum process works. We are also feeling pretty comfortable about the design of our game and are ready to start implementation soon.

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**What could be improved?**
We could do a better job on updating AIE code in terms of updating time spent and logging activities. We could also meet up more frequently rather than doing some of our tasks independently.

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**Are you on track? What is your plan if not?**
We are on track to start implementation soon.

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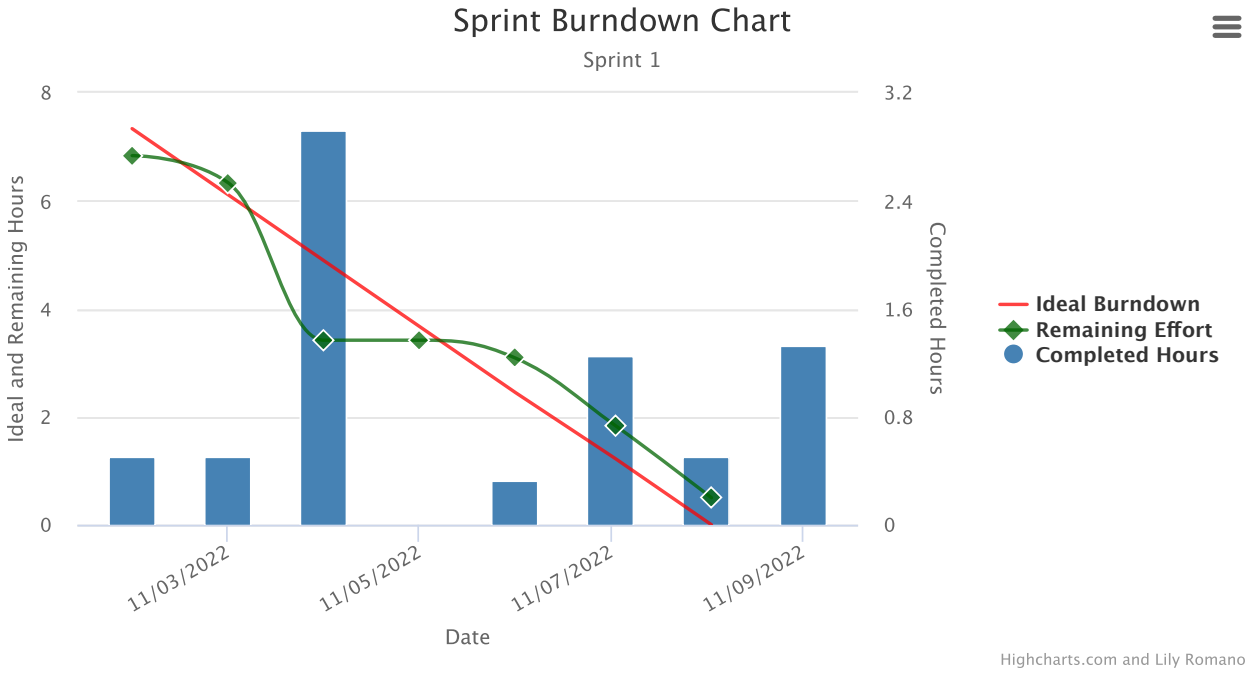
**What will you improve on in the next sprint?**
We will meet up more often to start implementation and come up with more game design.




## Sprint 2

**Dates:**
11-9-2022 to 11-16-2022

**Goal:**

Start implementation and create a mock up of the game design. We would like to have a working user interface that has some functionality of the game.

**Review:**

**What went well in the sprint?**

We updated the game screen so that it can change screens. Also the base classes were created which created a strong foundation for the main.

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**What could be improved?**

Pushing and merging branches more often as well communicating what we are working on with one another. We could also plan more meeting times.

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

We are relatively on track with our project and feel like we are caught up with our goals.

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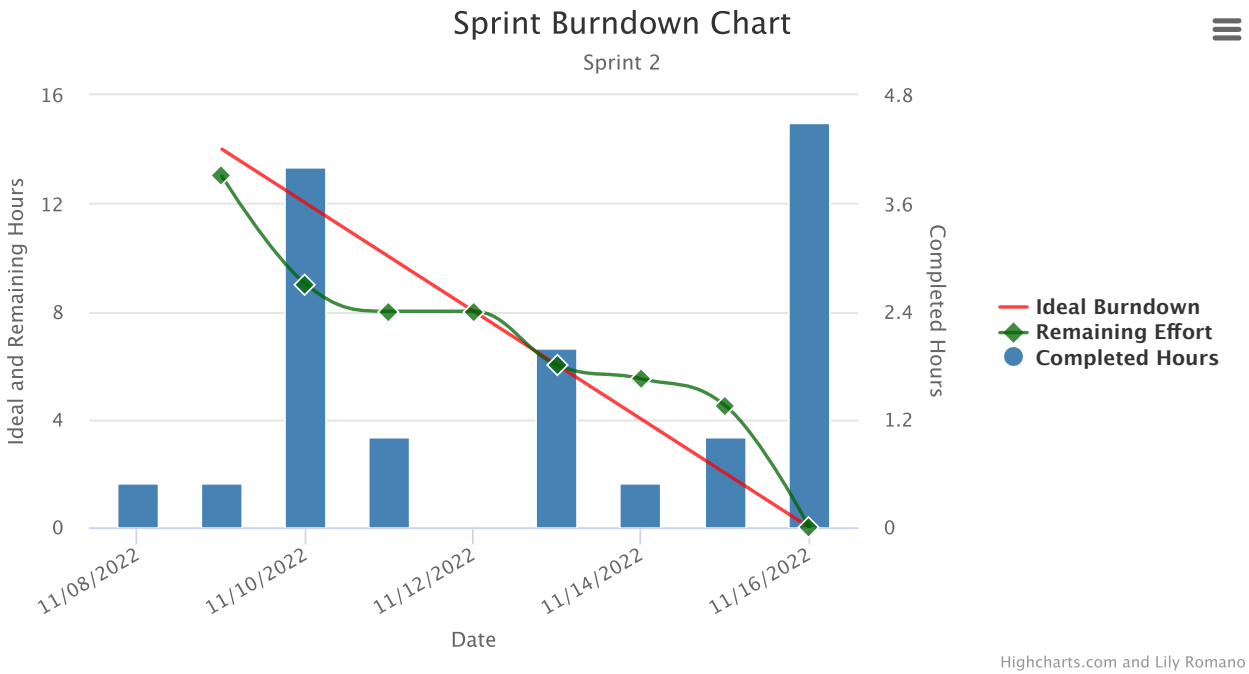
**What will you improve on in the next sprint?**

In the next sprint, we will try to spend more time working on the project together rather than separately. We will also push our code more often when we make small pieces of progress rather than pushing major chunks of code all at once. This will help when it comes to seeing what others are doing and using parts of their code.




## Sprint 3

**Dates:**

11-16-2022 to 11-28-2022

**Goal:**

Our goal for this sprint is to get as close to a playable game as possible. We will worry about the details and graphics more in the next sprint.

**Review:**

**What went well in the sprint?**

We would say that Git conflicts were handled very well in this sprint. We also created a more efficient mockup of the game board.

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**What could be improved?**

We think we could improve communication between everyone on what exactly everyone was individually working on.

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

I think we are on track to finish the project on time, we believe we do however have a lot of work left for the next sprint but we believe we can get it done with.

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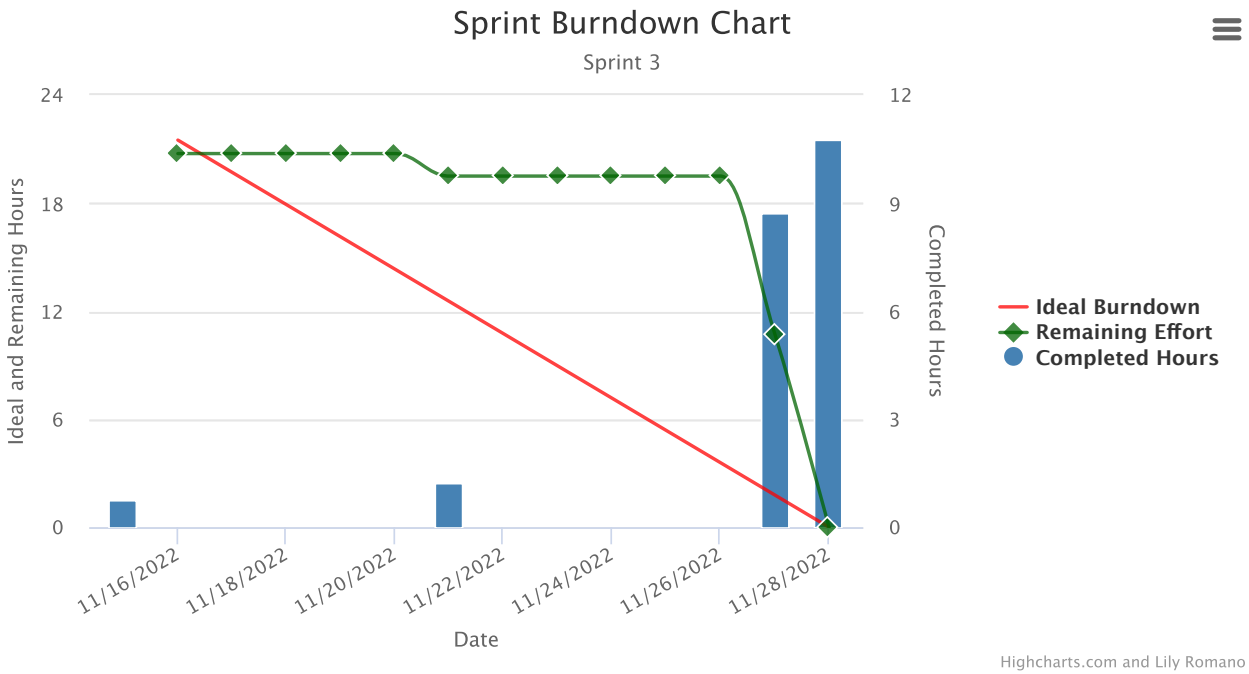
**What will you improve on in the next sprint?**

We will work more on communicating and working more efficiently throughout the week rather than in sporadic bursts.




# Sprint 4

**Dates:**

11-28-2022 to 12-5-2022

**Goal:**

To finish up the overall functionality of the game and to get the game running and working.

**Review:**

**What went well in the sprint?**

We dedicated a lot more time to complete our tasks this sprint and were much more focused during our meetings. We communicated well when we were not together and were able to connect the front end to the back end. Handling merge conflicts also went very well.

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**What could be improved?**

Our estimation of time to be spent on certain aspects of the project could have been improved as we ran into many challenges. We could have also thought more about the structure of the project more in the beginning of our planning, to make connecting the front and back end more smooth.

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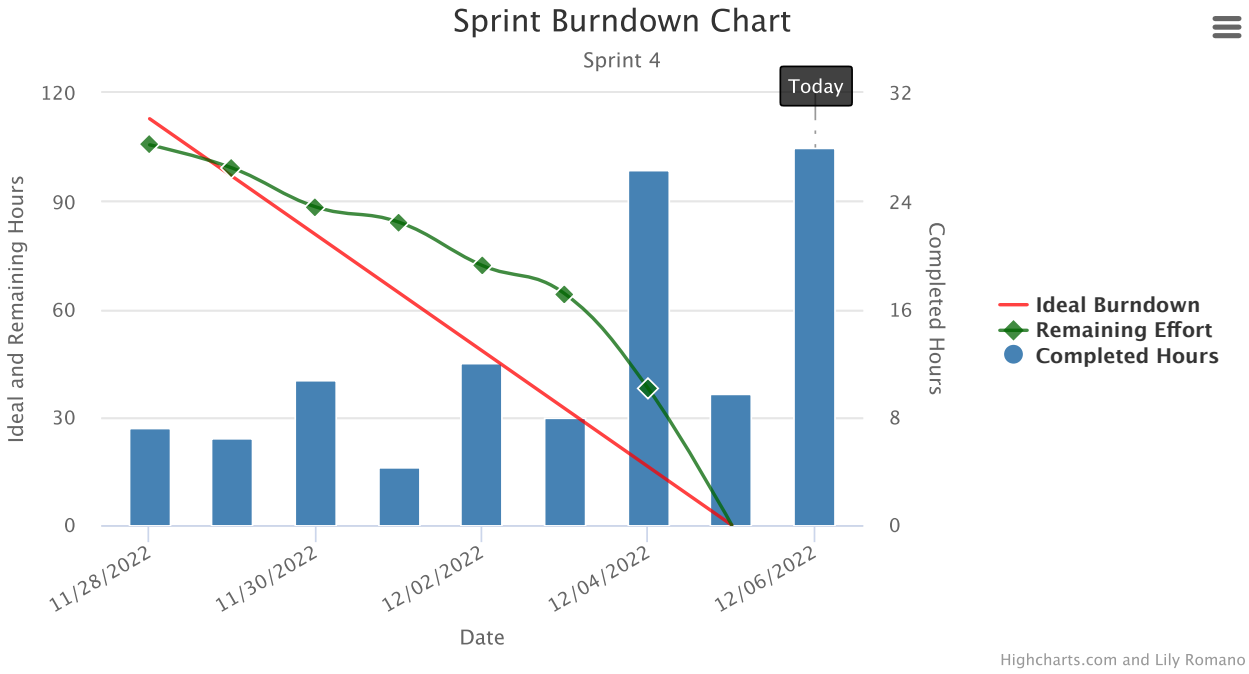
**If you were to continue the project, what would you improve on in the next sprint?**

If we were to continue the project, we would try to make it a multiplayer game. This was our original plan but we ran out of time to implement this feature, but would like to make it a possibility.




# Personas

## Marijana Leclercq

### Quote

"I need an easy to play multiplayer game to distract my children and keep them entertained"

### Narrative

Marijana is a 34 year old single mother of 2 young children (4 and 7): Timothy and Jessabel. She needs an easy distraction for her kids while she completes housework and cooks meals. She wants a kid friendly game for all ages and genders, so that she can enjoy playing as well.

## Astrid Mortensen

### Quote

"I love creating a streaming platform to introduce

gaming to newer

## Benjamin Williamson

### Quote

"I love playing board games and wish there were more accessible online!"

### Narrative

Benjamin is an eleven year old who really enjoys playing games of all kinds. He just got a new computer and wants more fun games.

generations."

## Narrative

Astrid is a 16 year old online gamer. Her platform is to entertain and educated primarily kids and preteens with appropriate and fun video games. She often plays with her best friend Rick, so they are looking for new multiplayer games. Although she has a younger audience, she prefers less childish looking games.

# Table of Work

Search:

Showing 1 to 38 of 38 entries

| Title | Type | Est. | Spent |
|---|---|---|---|
| Closed (38) | | 155 h, 40 m | 155 h, 40 m |
| Sprint 1 (8) | | 7 h, 20 m | 7 h, 20 m |
| Child User Story | User Story | 10 m | 10 m |
| CRC card development | Design Need | 1 h, 35 m | 1 h, 35 m |
| create list of classes | Design Need | 1 h, 30 m | 1 h, 30 m |
| Graphic Library Research | Documentation | 15 m | 15 m |
| Initial UML diagram | Design Need | 2 h | 2 h |
| Mother User Story | User Story | 10 m | 10 m |
| Play Candyland | Design Need | 1 h, 30 m | 1 h, 30 m |
| Twitch Streamer User Story | User Story | 10 m | 10 m |
| Sprint 2 (6) | | 14 h | 14 h |
| Card class and tests | Technical Task | 1 h, 30 m | 1 h, 30 m |
| Coming up with potential methods and attributes | Design Need | 2 h | 2 h |

| Title | Type | Est. | Spent |
|---|---|---|---|
| Create an initial user interface | Design Need | 7 h | 7 h |
| Create CardDeck class and tests | Technical Task | 1 h, 30 m | 1 h, 30 m |
| GameBoard class | Technical Task | 1 h | 1 h |
| Spaces class | Technical Task | 1 h | 1 h |
| Sprint 3 (10) | | 21 h, 30 m | 21 h, 30 m |
| Candyland class | Technical Task | 2 h | 2 h |
| create the game board interface | Design Need | 1 d | 1 d |
| Find images for game pieces and icons | Design Need | 2 h | 2 h |
| Gingerbread Pawn JUnit Test Class | Technical Task | 1 h | 1 h |
| GingerbreadPawn class | Technical Task | 1 h, 45 m | 1 h, 45 m |
| Mock Up of Game Screen | Design Need | 1 h | 1 h |
| Player class | Technical Task | 1 h, 45 m | 1 h, 45 m |
| Space class tests | Technical Task | 1 h | 1 h |
| Update classes as needed | Design Need | 1 h, 30 m | 1 h, 30 m |
| Update GameBoard class | Technical Task | 1 h, 30 m | 1 h, 30 m |
| Sprint 4 (14) | | 112 h, 50 m | 112 h, 50 m |
| Candyland JUnit Test Class | Technical Task | 5 h | 5 h |
| Comments and Javadoc | Documentation | 2 h | 2 h |
| Connecting Front and Back end | Technical Task | 4 d | 4 d |
| Create JavaFX Application classes | Technical Task | 3 d, 3 h, 30 m | 3 d, 3 h, 30 m |
| Design Manual | Documentation | 4 h | 4 h |
| Design Welcome Screen | Design Need | 20 m | 20 m |
| GameBoard JUnit Test Class | Technical Task | 30 m | 30 m |
| Instructions Window/Button | Design Need | 3 h | 3 h |
| move method failure | Bug | 2 d | 2 d |
| Player JUnit Test Class | Technical Task | 1 h | 1 h |
| Read Me File | Design Need | 2 h | 2 h |

| Title | Type | Est. | Spent |
|---|---|---|---|
| Updated Game Board | Design Need | 1 d, 3 h | 1 d, 3 h |
| UserManual | Documentation | 5 h, 30 m | 5 h, 30 m |
| Work/Modify on Final UML | Documentation | 3 h | 3 h |

## Daily Scrum

11/02/2022 During class time, the team got the base idea of recreating a digital Candy Land approved by Professor King. Our evening meeting consisted of writing the formal project proposal, evaluating each team member's strengths and weakness, and filling out the user personas and stories. Alexa set up the team's GitLab and added all required members, and she began onboarding on AIECODE.

11/03/2022
Each member tried accesssing the AIECODE dashboard. Julia created a long list of all the work that needs to be done for the project, and Claire added all tasks into AIECODE. The user stories and personas were finalized.

11/04/2022 We recapped the work from our previous meetings and analyzed our progress. Viveka began constructing the UML Class diagram. Claire and Julia are reveiwing the rules of Candy Land and are pulling out possible classes, functions, and JavaFX elements. Alexa began writing CRC cards. We also meet with our "client", Sam, and discussed our current project status and the work we should be completing over the weekend. Looking forward, we will be developing the hierarchy of the classes we think we need to create the game.

11/06/2022 Claire worked on CRC cards

11/07/2022 Viveka, Claire, and Julia looked over the CRC cards and continued to make them for the remaining classes. We started thinking about the different relationships between our classes but did not assign any relationships yet. We plan on all playing the game together tomorrow to get a better understanding of the rules of the game, pull out any other classes/methods, look for special features, and think about a fun twist we can put on the game. Look over the work that can be done for the rest of the sprint and we plan to complete the sprint review on Wednesday.

11/08/2022 Viveka and Julia played Candyland to get a sense of any information we were missing from our design. Viveka constructed a document of possible methods we would need to create for the game.

11/09/2022 We updated all of our time spent on tasks to reflect the work we did if we did. We completed sprint review 1 and plan to meet tonight to start the creation of our classes.

11/10/2022 Julia and Viveka worked on the starting the project and by using Scene Builder, we created the initial background/introduction screen.

11/11/2022 We modified the background/introduction screen and resolved minor merge conflicts.

11/13/2022 Claire and Alexa created the Card and CardDeck classes and JUnit tests. In the Card class, we created getter methods for the color and number of spaces on the cards, as well as the constructor. In the CardDeck class, we created a method to generate a new deck of cards to use for gameplay and a method that picks a random card from the deck.

11/14/2022 Viveka and Julia worked on getting the interface to move to a new screen when the user presses play. Once this works, we will work on constructing the game board. Alexa and Claire worked on fixing the JUnit Tests and fixing a bug within them. Alexa began constructing the Space class, but it waiting for Card branch to continue.

11/15/2022 Claire merged the cards branch into main, which contained the Card and CardDeck classes. Julia and Viveka worked on getting scenes to transition from one to the the next when users click controllers, like buttons. Julia also found a gif that would act if it were to transport the user playing the game into candyland and directs them to the game board. Viveka and Julia plan to keep working on the intital interface and move the user to the game board when the play button is clicked. They also plan on working on the player classes and designing cards.

11/16/2022 Claire and Alexa created the spaces branch to work on spaces and the gameboard. We created a Space class and Gameboard class and finished both. We merged and pushed the spaces branch. Viveka and Julia finally figured out how to switch scenes, especially switch to a new scene when the gameboard is clicked. We were able to get a fun gif to play that transports the user to candy land when the play button is clicked. We completed the sprint review together and established our goals for the next sprint, which is largely focused on creating a playable version of the game. We also met with out client, Sam, and discussed our progress and demonstrated the working parts of the game.

11/17/2022 Julia and Viveka started to design the deck of cards and find icons for the picture cards. We were able to get the background for the initial interface to fit the full screen and are trying to make the same happen with the gif after the play button is clicked. Julia and Viveka also found screenshots of possible candy special cards and made a folder with all of the pictures.

11/21/2022 Claire worked on the Player and GingerbreadPawn classes. I created a method to represent a player taking a turn in the game, which involves picking a card and moving their pawn. I created two methods in the Gingerbread Pawn class to represent the pawn's movement, which depends on what kind of card the player

picked. One method is used to move the pawn to a character space and the other is used to move the pawn to a normal colored space.

11/25/2022 Viveka created a mock-up of the game board.

11/27/2022 Viveka and Julia worked on the game board and making the user be able to click where their pawn goes on the board. They also worked on adding special pictures to the game pieces. Claire and Alexa created JUnit tests for the Space class. We also finished the Player and Gingerbread Pawn classes and JUnit tests. We created the CandyLand class to drive gameplay.

11/28/2022 Claire and Alexa worked on finishing JUnit tests for GingerbreadPawn, Player, and Gameboard. Julia and Viveka continued to make updated to the game board and intital user interface. Team completed the sprint review.

11/29/2022 Viveka started designing cards for the game and methods to generate cards from a deck. These methods used methods from the Card and Deck classes Claire and Alexa created. Claire and Alexa continued to work on JUnit tests for the CandyLand class.

11/30/2022 Claire and Alexa continued working on the CandyLand class and JUnit tests to fix an infinite loop we found in the program. We also created and worked on the User Manual and Design manual documents. Claire also worked on updating the UML diagram to accurately represent the classes we have created and their relationships.

12/2/2022 Claire and Alexa worked on fixing the rainbow space error. We also updated the spaces in the gameboard to reflect the actual gameboard created by Julia and Viveka. Julia and Viveka were able to get the pawns to move to spaces on the board when they are clicked.

12/3/2022 Claire and Alexa updated the game board and worked on fixing an error with moving the pawn. Claire and Alexa completed the backend code.

12/4/2022 Claire finalized the UML diagrams and worked on the design manual. Alexa completed the writing portion of the User Manual. Julia and Viveka worked on connecting the front end to the back of the game. Specifically, they focused on getting the user to select the correct space on the board. Julia made a pop-up window appear when the user does not select the correct space based on the card they drew. This action also sets the user back to their initial space at the start of their turn. The user's turn is not done until they click the correct space. Alexa touched up elements of the game board and assisted with connecting the front and back end.

12/5/2022 During the class period, we pushed many updates which led to merge conflicts. These conflicts were able to be resolved with the help of Professor King and TA Sam. We learned a lot about resolving merge conflicts and handling commits after using the Code-with-me feature of IntelliJ.

Claire finished the design manual. Julia and Viveka worked on getting the user's clicking the space they think they should be at to the card and correct index they should actually be at. Julia, Viveka, and Claire also worked on implementing the player class by connecting it was the pawns and pieces. Julia created a pop-up for user's to view instructions before the game is played. Julia also made Javadoc comments for all the classes and code chunks that needed it.

12/6/2022 Julia created an instructions button and screen so users can view how the game should be played. Julia and Viveka worked on integrating multiple players and pawns into the game. Viveka and Julia finalized aspects of the game. The final project review was completed and all final changed were pushed.