

Project Cataclysm

Team 31 - Sprint 3 Retrospective

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What went well?

General:

- We were able to complete a higher number of user stories this sprint because of our improvement in using the API's. We have also become more skilled in the use of the base Minecraft code so we are able to produce better code, quickly.
- Our team was able to use utilize more advanced outside dependencies through Gradle for this project, which aided in the creation of certain items and entities.

User-Stories:

User Story 3f, 3i, 3l, 3d, 3e, 3o

- As a player, I would like to be able poison my opponents with a gas-bomb.
- As a player, I would like to a create hills with an earth-bomb.
- As a player, I would like to be able to entrap my opponent with a black hole bomb.
- As a player, I would like to be able to cause floods with a water explosive.
- As a player, I would like to be able to plant trees and flowers with a nature explosive.
- As a player, I would like to be able to damage my opponents and/or the landscape with a cluster bomb

All of these user stories went smoothly, since they were based off of previous base code classes that could be easily extended. Because of this, we were able to focus on creating more interesting explosion effects for all of these user stories, as well as add additional features, such as sounds, particles, and biome specific-effects.

User Story 2e, 3f, 2g, 5f:

- As a player, I would like to be able to damage my opponent and/or the landscape with a bazooka.
- As a player, I would like to be able to damage my opponent with a gun that sprays bullets wildly.
- As a player, I would like to be able to push my opponent away with an almighty push spell.
- As a player, I would like to be able to teleport between two places using a gun capable of placing two portals.

User story 2f went well because it used pre-existing code for weapons, which made the implementation much simpler and smoother. User stories 2e, 2g, and 5f all went well because of how I chose to implement them. They use portions of already existing code in the base game and then I simply used the code base in a different way. Which made the item's functionality flow well with the base game.

User story 5e:

As a player, I would like to pull targets closer to me with a pull spell.

The spell functionality works properly and further development and new magic implementations can be expedited based on this previous.

User Story 4e:

As a player, I would like to be able to launch a missile at my opponent's current location (in game-coordinates).

As the last one of this sprint, implementing this user story went smoothly. Experience with GUIs made adding player markers easy, and previous work with packets made the implementation of client-server communication much quicker.

What did not go well?

General:

- We still had some problems with team members either showing up late to meetings or possibly not at all.
- We ended up doing a large portion of the project during the third week of this sprint, which was less than optimal.

User-Stories:

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The bazooka shoots regular explosive, which was the intended design. However, I think that choosing to do 4 user stories this sprint was a less than optimal choice because if I had only done 3 user stories I could have focused on making each Story more complex. This also goes for the portal gun. The portal gun was considerably more difficult to implement than I was expecting. Therefore, if I had only chosen 3 user stories, I could have spent more time making the portal gun and bazooka more complex in their functionality.

User Story 3p:

As a player, I would like to be able to disable and/or disarm explosives.

This user story ended up taking a particularly long time, since it relied a modification to the base explosive class, which many other classes rely on. This made it difficult to make changes, it was also a difficult-to-implement solution, but it ended up working properly.

User Story 4c:

As a player, I would like to be able to launch a missile from a launching-platform with a redstone signal.

This user story was deceptively difficult. Adding a check for redstone itself was easy itself, but allowing remote launching required remaking parts of the Launch Platform block to work as a Block Entity in order for data to be saved in it. This data had to be synced between the client and the server. Although inventories of Block Entities are synced automatically, target selection data must be synced manually using packets to communicate between the client and server, which was an unexpected hurdle.

User Story 4d:

As a player, I would like to be able to launch a missile from a launching-platform with remote control.

Again, this user story proved more difficult than expected. Using the Remote Control opens a GUI on the client, which must send information to the server to modify the world. This can also only be done by sending custom packets. The GUI aspect was much easier due to experience in the previous Sprint, but still provided challenges

Future Improvements

- Many of of members expressed that they worked on the easier tasks/user stories initially, which caused issues later when deadlines were approaching and more difficult problems needed to be solved. In the future, it may be better to work on more difficult problems first.
- In the future, we should include more superclasses and class inheritance, since a lot of our code is spread-out and convoluted, especially now, at the end of sprint 3.
- In the future, we should more precisely consider implementation details to get a better estimate of time needed