

Project Cataclysm

Team 31 - Sprint 2 Retrospective

Jackson Bounds, Jackson Douglas, Ryan Chang, Eric Li

What went well?

General:

- We all were more confident using Fabric modding toolchain, this allowed us to work on more complex items/blocks with relative ease, also, our base code objects have allowed for much quicker development of user stories of this sprint
- Our planning document for sprint 2 was much cleaner and easier to read, we also made sure to itemise in order for grading, which made our presentation significantly more straightforward and understandable

User-Stories:

User Story 3b, 3c, 3h, 3g:

As a player, I would like to be able to summon lightning with a lightning explosive.

As a player, I would like to be able to slow my opponent & spread snow/ice with an ice explosive.

As a player, I would like to be able to throw my opponent & blocks into the sky with an air explosive.

As a player, I would like to be able blind my opponents with a light-bomb.

These user stories are similar and all went relatively well. Because of the base object code from the previous sprint, the ExplosiveObject class made it very simple to implement the base template code for these blocks. All that was needed is to create new explosion effects.

User Story 3m, 5d:

As a player, I would like to be able to entrap my opponent with a web spell.

As a player, I would like to blink to a location using magic.

Each spell's functionality works properly and further development and new magic implementations can be expedited based on these previous items.

User Story 2a, 2h, 3m:

As a player, I would like to be able to damage my opponent from a short-distance with a shotgun.

As a player, I would like to be able to propel myself in any direction with a recoil gun.

As a player, I would like to drown/entrap my opponent with a water cage spell.

Each of the user stories were very interesting to implement and while they took some time, they went well! The shotgun and water cage spell ended up going really well because of the ability to reuse some code from items in Sprint 1.

User story 6d, 4a, 4b:

As a player, I would like to be able to place down a larger shield that is capable of blocking all weapons.

As a player, I would like to be able to launch missiles from a launching-platform with attached explosives from the mod.

As a player, I would like to be able to launch missiles from a launching-platform at specific coordinates.

These user stories went well. Because of the modelling experience from Sprint 1, creating more complex models and textures was possible in a shorter time frame. There was also no need to use mixins, as all required functionality was supplied by the base Minecraft and Fabric APIs.

What did not go well?

General:

- There are still on-going issues of people showing up to meeting late, or not showing up at all
- Some of the code that has been implemented is very difficult to read

User-Stories:

User Story 3b, 3c, 3h:

As a player, I would like to be able to summon lightning with a lightning explosive.

As a player, I would like to be able to slow my opponent & spread snow/ice with an ice explosive.

As a player, I would like to be able to throw my opponent & blocks into the sky with an air explosive.

The code for all of the corresponding explosion classes were very complicated and ugly. It was based off of the base-game TNT explosion object, and probably should be cleaned up in the future. A large portion of the code-base is too complicated to be understood properly, although the collection of blocks/entities that are affected proved to be quite useful.

User Story 2a, 2h, 3m:

As a player, I would like to be able to damage my opponent from a short-distance with a shotgun.

As a player, I would like to be able to propel myself in any direction with a recoil gun.

As a player, I would like to drown/entrap my opponent with a water cage spell.

The recoil gun ended up being much more complicated and required a decent amount of vector math to calculate where the player needed to end up. With this in-mind, I think that I should have started this user story earlier.

User story 4a, 4b:

As a player, I would like to be able to launch missiles from a launching-platform with attached explosives from the mod.

As a player, I would like to be able to launch missiles from a launching-platform at specific coordinates.

The launch platform and missiles were difficult and time consuming to implement. Designing and implementing the Control Panel GUI was a learning experience, but from this knowledge future GUIs should be easier to create. The Missile entity renderer was also difficult to implement, requiring vector math to make the models render properly, especially when rotated. Even so, sometimes the model can still look/act a little janky.

Future Improvements

- Since many of changes implemented have been relatively complicated, we will ensure that we will add more comments to our code for readability
- The wands are still split into different objects for different spells. In the future, it may be a good idea to combine all of the spells into a single wand, which can swap spells with a certain hotkey
- Refactoring needs to be done for many major classes from the items/blocks