Sprint 5 Reflection

Brogrammers

MWF 10:20

In this sprint, our group was able to implement a large amount of functionality in a short period of time. We had a call on one of the first two days to discuss priorities for finishing up the project over the next two weeks. Due to a lack of commitment by certain members on the last sprint, we took a huge hit on functionality in Sprint 4, primarily on HUD elements and Game States. For this sprint, we decided that we would first prioritize finishing any key features of the actual Legend of Zelda game and fixing bugs that Steven mentioned in our feedback, then focus on a list of additional features and implement as many as we could with the time that was left. We put these additional features in a separate column on our Trello board called "Stretch Goals" and were able to get to some of them. However, our list included many ideas to select from while we realistically knew that we would probably only implement 3-5 of them and not all of them. At the end of the Sprint, the extra features we were able to implement include the Bullet Hell level, the Survival Level (surviving waves), Gamepad Controls, Custom Sounds, and Link sprinting ability.

Like most previous sprints, this sprint showed a large imbalance when it came to commitment. This again made it difficult to implement everything that was required. However, multiple team members took on a large amount of additional responsibilities in order to get a working game by the end of the sprint.

To track accountability on our Trello board, our group used the same system as last time, tracking cards as Green, Yellow, Orange, and Red based on the time they took and their complexity (Green being the easiest and quickest jobs while Red describes the more complex and time consuming tasks). The breakdown of the cards that were finished per member can be seen below.

	Green	Yellow	Orange	Red
Austin	1	4	1	0
Ben	5	2	2	0
Dan	1	6	2	1
Huang	1	0	1	0
Suraj	6	8	2	0
Xueyang	2	1	0	0

While this is a valid metric, it could also be slightly skewed by the fact that new or updated cards created after the assignment were added and colored by the card creators. To provide more information as well as document what we were able to get done for this sprint, we will attempt to list the main features implemented or bugs solved by each member below. Some features will show up under multiple members if they were worked on together or at different stages.

Austin:

- Link Triforce State after picking up Triforce Item
- Ranged Sword Exploding Animation
- Range Sword Movement Update (instead of only goin a certain distance it goes until colliding with a border wall or enemy)
- Enemy Cloud Animation before enemy shows up
- Bug Fix: “Pixel Distortion” caused by level scrolling animation
- Bug Fix: Items no longer have strange movement when a room transition is made right after launching them (i.e. Boomerang animation stops when Link walks through a door instead of flying in from another direction after Link moves rooms)

Ben:

- Bullet hell level
- Black bar animation after Link grabs Triforce piece
- Made it so that running into Old Man could damage Link
- Bomb item functionality
- Bombed door mapping and functionality
- Improved dungeon song looping (used to be a longer pause before when the song ended and restarted)
- Added secret sound when room 13 movable block is moved (room with bow)
- Bug Fix: Link’s position on map no longer buggy after teleporting
- Bug Fix: Aquamentus fireballs no longer lingering after it is defeated
- Bug Fix: Goriya boomerang no longer lingering after it is defeated

Dan:

- General pause state (screen freezes)
- Reset inventory screen/HUD elements when game is restarted after death or after win
- Item addition in inventory screen after Link picks up
- Item selection in inventory screen
- Item mapping using inventory screen (switching items mapped to X key)
- Yellow map implemented in inventory screen
- Gamepad controls across game
- Recorded custom game sounds
- Bug fixes: miscellaneous inconsistencies with game state transitions
- Bug fixes: miscellaneous inconsistencies with HUD Screen and Inventory

Huang:

- Added black screens for intro and game over (after link death) states
- Added a command to restart game from first room

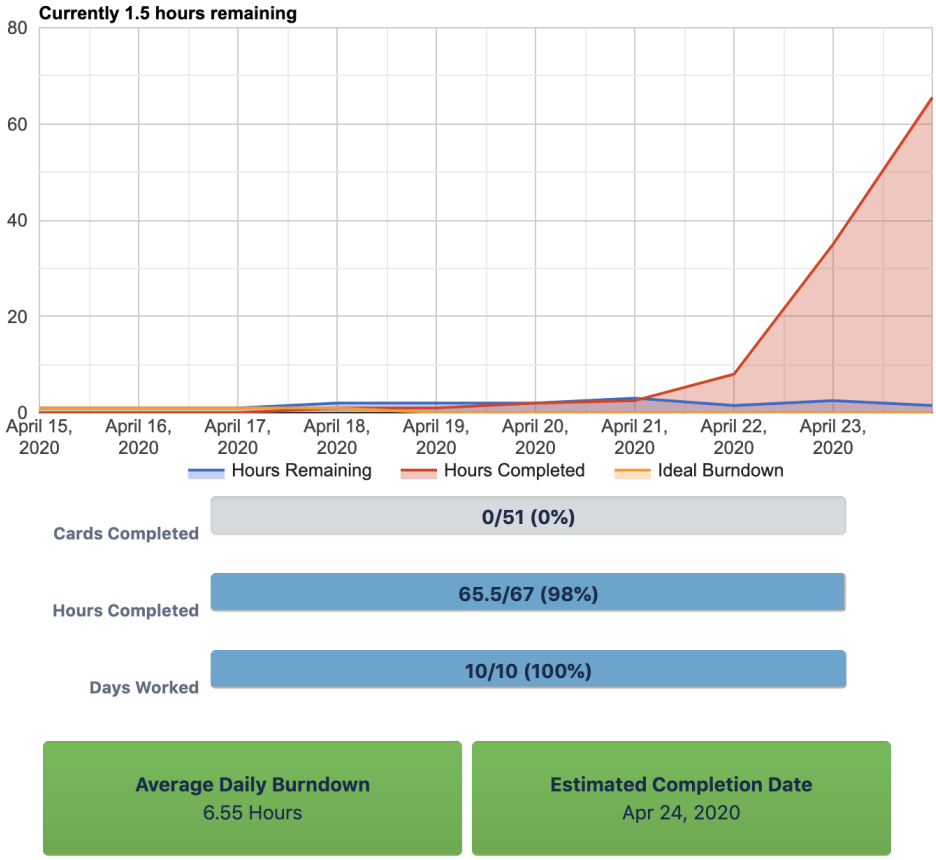
Suraj:

- Implemented Survival Level where Link must fight through waves of random enemies
- Reset inventory screen/HUD elements when game is restarted after death or after win
- Link sprinting using Shift key
- Two Gels come out of a Zol when a Zol is killed
- Bow weapon implemented
- Added animation to intro game state (previously just a black screen)
- Worked on current "Continue" option on Game Over Screen decided on by group (continues from current room with level states saved)
- Limited Link to use one weapon at a time instead of allowing to spam (applies to all weapons except sword); fixed previous audio glitch that happened when another weapon was spammed after boomerang
- Worked on game state transitions and sounds
- Updated SoundHandler to include custom sounds and created command to toggle sound mode
- Bug fix: Link's position on map no longer buggy after teleporting (stopped game from freezing after Link attempted to teleport into a block in certain rooms)
- Bug fix: Fixed weapon audio glitch when Link changes rooms
- Bug fix: Stop Link from being able to damage a flame like it's an enemy and push it back
- Bug fix: Rupee pickup working normally
- Bug fix: Fixed door to old man room not populating in certain cases
- Bug fix: Movable block does not lose collision after being moved

Xueyang:

- Added options to game over screen: continue, restart, exit
- Added commands to implement restart and exit
- Worked on "Continue" state that would keep Link's items and reset all rooms, group eventually decided on keeping Link in current room and having room states maintained

With all these features implemented, the ReadMe is updated with more information about updated controls for the game. Additionally, the burndown chart for our sprint can be seen below.



Again, the Cards Completed feature doesn't seem to update but we completed around 40 cards. A bunch of these extra cards were simply extra ideas for sprint 5 (we weren't planning on implementing all of them but just added cards to our Trello board). We were able to implement most missing features from Sprint 4 and fix most if not all of Steven's mentioned bugs. Additionally, we were able to implement the additional features that were mentioned previously.

At the end of the project, the game ended up being fully functional. Although a few features are missing or different, for the most part the group was able to implement all the major features of the game while adding some new custom features. If we could start the project over, one thing that would be crucial would be emphasizing communication and accountability from the first sprint to set a good precedent. This semester included some special circumstances as well. This taught us how difficult it can be to implement a project this large without constant collaboration and communication. These are things to keep in mind during future projects and jobs.