

# The Breadsticks

## Steel Heel Jam

### Post Mortem

### Devs

Nick Baker - Artist & Lead

Brian Kiss - Sound

Sam Lambermont - Programming

Joshua Quinones - Programming

### Project Description

Stay in the ring! Deal the beat down on your opponents! And flex in the spotlight! This is Steel Heel Jam! A top down, up to 8 player, local multiplayer wrestler battle royale. Players will lose Approval while outside the ring, and when taking damage from opponents. Players can use elbow drops, suplex grabs, and attacks with different weapons (as well as throwing them) to create combos and knock opponents outside the shrinking ring. Spotlights will shine throughout the match, and players must flex in the spotlight to fill their meter and earn a buff that lasts the rest of the match. Earn enough buffs, and you'll get the "Heel Fire" buff, where an area of flames knocks away anyone around you. Players are KO'd if they lose all of their Approval while outside of the ring. Last wrestler standing wins!



Customize your character with a variety of hair styles, colors, and skin tones.



P1

REMATCH

EXIT TO MENU

P2

## Project Goals

- Create a fun, chaotic multiplayer game everyone could play
  - We achieved this through tons of playtesting with diverse groups (ourselves, other devs, family members, friends) and by developing systems that are inherently simple, and are visually explained through animation and sound, so many players immediately pick up on the gameplay hook
- Create a unique art style that was also readable and meshed with the gameplay
  - We achieved this by writing tons of custom shaders, and scripting for said shaders. The Black and White outline effect naturally inspired the black and white flames of the Heel Fire, which let us leave many colors to use for the players so they stood out from one another
- Have a fully designed stage and variety of weapons
  - We achieved this by dividing up the work efficiently. Nick worked on designing the stage, Sam and Brian worked on designing weapons, and Josh worked on implementing the combat system. We designed this system to facilitate making a variety of weapons all based around the same code, so it was very scalable.
- Programming and designing a state system for players to facilitate the number of states and complexities of our player controller
  - The players need to do a lot of things. Attacks, grabs, combos, suplexes, throw weapons, flexing, being knocked around and stunned, blocking, and advanced movement techniques like dodge rolling off ledges for a speed boost. We achieved this by using graphing software (Lucid Chart) to lay out how our project would be structured, and by building crucial systems early on like the state system, movement physics, and our App Initialization/Bootloader system that was critical for a multiplayer game like this.
- Stay organized throughout the entire project timeline
  - We achieved this by agreeing upon naming conventions, and basic design principles early on, basically within our first meeting. We stuck to these naming conventions throughout the whole project, which made everyone understand each others' work better.
- Have complete game audio, including music, sound effects, and an announcer.
  - We achieved this through Unity's audio system and custom scripts. Brian worked on creating music and sound effects for the game, and worked on multiple audio managers allowing the audio to be played correctly when needed. Nick also reached out to a voice actor so we could have an announcer and set up the audio menu.

## Resources Needed

- Unity 2021.3.6f1
  - Most convenient version of Unity since this is what the lab computers had installed.
- Blender / Paint.net
  - These softwares are free to use so were acquired as such.
- Gamepad controllers
  - Rented some out from Magic Spell Studios.
- Voice Acting
  - Networked with voice actor Kieran Newell and paid him for lines.
- Audacity
  - Free to use audio software for sfx and voice over clips.
- Ableton
  - Digital audio workspace used to create game music and some sfx.
  - Out of pocket investment.
- Lucid Chart
  - Also free, used the website app

## Brainstorming

Initial concept - 'Tag based' wrestling game, heavily inspired by Rumbleverse. Being 'it' would cause you to be the Heel, giving the player buffs and nerfs, with the Heel being chased by a missile that on hit would explode dealing lots of damage.

After determining the initial idea did not have the impact in gameplay we wanted, it was changed to the current permanent spotlight, powerup, and heel fire system.

## Ideas that did not make it into the game:

- Teams mode
- Bouncing off the ring
- Extra maps to play on (wrestling ring with working ropes)
- Co-op horde mode

## Successes, Pitfalls, and Overcoming Obstacles

Proposed and Updated timelines visible in our [Design Document](#).

- The game was shaping up to be fun from the very start. We were all excited about the ideas, but we knew to keep the scope in mind. A fully playable version took a little longer than expected to finish, and some stressful moments had to be undergone to get everything in for Playtest 1. But since that playtest, whenever we got together to play, we always wanted to play “just 1 more round”.
- Tasks involving the menus and pause screen were not started until much later than initially expected. We succeeded in getting back-end systems for the multiplayer done early, but actual visual menus were done a bit late. This left things like the unique animations for each player model to be pushed into a stretch goal.
- On week 8 we needed to go back to brainstorming to redesign the Heel mechanic (Spotlight). This was a critical “make or break” area of the project. Our main mechanic was just not as impactful as we thought it would be, which could be hugely problematic to not only the timeline of the project, but the overall balancing and design of all our systems. Through the use of rigorous documentation of our new ideas, we were able to settle on a new idea that we knew would be fun and leagues better than our original idea.
- Items were done weeks ahead of schedule, but the balance then took multiple weeks. This also extended to other parts of the combat, such as air attacks and suplexes. Air attacks were especially tough. In this kind of combat system, there are tons of variables that can have adverse effects you don’t initially think of. Balancing is something that can infinitely be tweaked until the end of time, but I think we nailed a solid balance between all the weapons and moves, and between luck and skill of players.

## What Went Well

Overall we feel that this team worked together very well. We had a wide spread of talent between design, programming, art, and audio that enabled us to create a polished end product. Our consistent meeting schedule in the lab after each class facilitated frequent communication so that everyone was usually on the same page with the project. We also kept up with communication on discord so that questions and concerns could be addressed quickly when needed.

Playtests during the semester gave good feedback on what our game was doing right, and what needed to change. We were able to quickly pivot on ideas that weren’t fun or easily understood by the players. They also helped us find rare/specific bugs that we would not have noticed otherwise.

The pace of our work compared to our initial timeline stayed fairly consistent, and though some deadlines needed to change, we were flexible throughout the whole project.

The use of branches in GitHub prevented any major merge conflicts.

## **What Didn't Go Well**

Trello was a little underutilized for a majority of the semester. Many smaller tasks were discussed and completed before ever being put on the board. Other tasks were put on the board with unreasonable deadlines, or deadlines that were not met. And most tasks were not specific enough when it came to the card's details. We could have improved this by taking time during one of the weekly meetings to sort the board out, adding cards and descriptions.

## **What's Next**

Next we would like to try to get the game published on either Steam or Itch.IO. We may look into the possibility of adding online play functionality to the game. It would certainly be a difficult feature to add, but we feel that it would really take the game to the next level. Other features that we may add are bot support, more maps to play, more player outfits, more buffs, and also general game options such as graphics and accessibility settings. Monetization has been discussed with the group, and we feel that while it is an option, most likely (to reduce headache) the game will be free.

## **Team's Workflow Summary**

Every bit of this project meshed with one another. Everyone on the team would be in the same discussion about the combat system and its gameplay design, so that Nick understood what art needed to be made, Josh and Sam understood what to program and how to organize, and Brian understood what audio was needed. Whenever a question was brought up, we were quick to answer/explain it with diagrams and thorough communication. We had branches for Combat, Visuals, Menus, Audio, etc so our work literally never clashed or conflicted. Very Frequent testing was absolutely necessary, and we did that both on our own ends, and whenever we met up in the labs after class (and sometimes during class too!).

## **Team Thoughts**

### **Nick Baker:**

I had the honor of working with a really great team on this project. Everyone was generally on board with the ideas for this project, and we always found a way to overcome obstacles with good communication (such as figuring out how to best redesign the Heel mechanic). I try to push myself with every project I do, and I think compared to other projects, I pushed myself the most with this one. And despite that, it was not really the most stressful project I have worked

on. There were many times I was on my own, specifically for much of the art stuff like shaders, and scripting materials and animations. But the difference between this project and others really is the team. I was able to rely upon them all the time, they held up their own end of the project, and we had fun throughout the whole project. You could say, barring some bumpiness here and there, we were smooth sailing.

Critiquing myself a bit, I sometimes lacked in the documentation department. This is usually because I move so fast to complete objectives, I neglect to comment my code or make a Trello card in advance (sometimes I would make the cards directly in the completed column!) But when I did document and communicate, I think I did very well. I am sometimes verbose, but it's for the specificity of things, and we as a team seemed to really understand each others' communication. And when I did make Trello cards in advance, I created huge, very clear check lists for myself (and others) to follow. So I am proud of that.

I am also proud of my new art techniques that I have learned. I now feel uber confident in working with custom shaders and materials, and the facial expression system I made for the game really adds a lot. I also had never tried adding this much customization for players, and this extends to all the different weapons the players can hold and all the different animations (almost like 30-50 of them I think) the player can be in. I think it turned out really well, and it's a testament to the rest of the team that I was able to kind of go ham on silly art stuff, while the rest of the project was also blooming in quality.

#### **Brian Kiss:**

I've worked on audio in the last 2 projects I've done, and I've learned a lot during both. I think the audio on this project turned out incredible; There were many good suggestions from other team members about what to include, and what things might sound like. Just like the previous project though, I still would have liked to program more. I feel like I've been getting a bit rusty with the game development side of things, and in the future I'm sure I'll need to build these skills back up.

I think having a music inspiration channel in the discord helped me greatly with what kind of music the team expected. I also used it a lot to gain feedback on specific music clips before continuing to make them. I used the Trello decently for sound effects and audio programming, but for music tracks, I couldn't think of a better way to divide them up.

Since I couldn't work on audio easily during our weekly meetings, we ended up talking about a lot of design during them, including audio, which I think worked out very well. It also allowed me to keep giving design ideas and programming solutions.

What would be really cool for a more complete game in terms of sound design would be:

- Different music for multiple levels.
- 'Jukebox' feature in menus to play any track.

- Winner music/sfx hit.
- Sfx to go along with loading screens.
- Player grunts/voices.

**Sam Lambermont:**

This has been by far the best team I have worked on a project with at RIT. I am overall very pleased with how we worked together and how far the project has come this semester. This is the first time I have been on a team that really had all the skills between design, programming, art, and audio needed to really create a well polished game. This is definitely a project I can say I am very proud to have worked on. I would be interested in continuing to work on this project after the semester ends. Specifically I think it would be really cool if we managed to get online functionality working.

As far as thoughts on my work on this project, overall I think I did a pretty good job but there are definitely areas I could have improved. Probably my biggest struggle with this semester in general was overloading my schedule. I was on 5 project teams total this semester, which is far more than I have ever been on at one time in the past. Because of this I often found it difficult to manage my time between the different teams. I think I could have been a bit more organized in how I divided my time up between teams. Also with this project specifically, I could have been a lot better at keeping up with trello. I would often not update cards in real time as I got things done, do something without making cards for it, or my cards would lack some important detail such as deadline or explanation. This is definitely something that I will try to improve on in the future.

Overall great work on the project team. I am proud of what we have accomplished and excited to see where it might go next.

**Joshua Quinones:**

I think that this has been the most coordinated and passionate team I have worked with during my time at RIT. Working as a gameplay programmer, I was able to hone my skills working on core gameplay mechanics. I think that this also served to help refine my mathematical skills in programming.

The team tended to split into two groups for broad implementations. I ended up usually working in parallel to Nick, while Sam and Brian would do the same. As the project progressed, this trend would weaken, but it still existed nonetheless. I think that this form of development allowed us to prepare and finish major features much faster than working alone or all together.

Certain portions of the project were made a bit more complicated than they should have been, but I think that it was relatively helpful for honing my abilities. I think that the structure of our project gave the same challenge as working with a large, organized group. Speaking of which,

our commitment to organization made the project very clean and easy to develop throughout the entire semester.

There were a few implementations that I disagreed with, but I committed myself to them regardless, and they turned out well. This also is similar to how things are in larger development groups, so I welcome the experience. Aside from that, I have absolutely no issues with how development went along. I am a bit disappointed in my habits for contributions, such as occasionally being late on implementations. However, I am proud of my work on this project.

I am interested in occasionally contributing extra work to this project after this course is over. Extra game modes, or online functionality seem to strike my interest at the moment.

## Lessons Learned

There were many times where deadlines were not met due to unreasonable deadlines as mentioned in our *What Went Wrong* section. We believe that our team could benefit from directly discussing timelines and deciding on appropriate due dates for tasks. If a task is large, we should be setting due dates for individual sections of that task. Checklists in Trello definitely helped with this, but utilizing it more in the future would be best.

We handled disagreements very well, which was largely in part to working in person with one another. This gave us the opportunity to visually display our ideas. As a result, our project proceeded much faster and cohesively when working together in person. Therefore, we also believe that setting aside time for project members to work together in person is crucial for a project's success.

There are many lessons in the technical department that we have learned too. After making our whole player state system and combat system, we have realized some improvements that could be done to make them all easier to work with. But what we did make was still very organized and understood by everyone in the team. In the future of either this project or other projects, we will continue to design and implement smarter, more efficient systems utilizing what we've learned here.