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***Rebound* – Postmortem**

*Rebound* is a 2D side-scrolling platformer, that tells the story through the player-characters own narrated thoughts, as they struggle through the five stages of grief, which is the process that makes up how we learn to live with what we lost, in an artistic narrative fashion. The player must explore the mechanics as well as the levels using visualized sound waves to navigate their environments as opposed to traditional sight. The player will be able to traverse left and right as well as jump and stomp, all of which will produce sound waves. The player will avoid enemies and solve puzzles as both enemies and interactable objects will emit their own visualized sound. Once the player overcomes the challenge set before them, they will move onto the next stage.

During *Rebound*’s production I was a programmer for our team SolRa. I worked on developing the artificial intelligence for the non-player characters, created the sound wave particle effects and functionality, implemented the user-interface for both the main menu and pause menu, programmed scene transitions, designed scene loading functionality, and designed and implemented the post-processing effect for *Rebound*. Many parts of *Rebound*’s development went smoothly, however, there were still some parts that went poorly.

**What Went Right:**

1. **Unique Main Mechanic**

*Rebound* is based around the unique mechanic of visualizing the world through particle soundwaves. Our team was experimenting with ways to use Unity particle effects as a main mechanic, and we stumbled upon particles bouncing off walls. We then thought that it would be unique experience to traverse a 2D platformer via particle effects. This mechanic in the context of the story became the visualization of sound waves, and everything that made sound in the game produced a sound wave particle effect.

1. **Visual Style Determined Early On**

The main mechanic of the game determined the visual style of the game early on. Since the main mechanic used particles to visualize the world, the art for the game had to support that. Thus, the art for the game was all black, and the particles were colored, thus the particles would light up the world. The areas that were not the background had different shapes, but were also black, thus the player did not know what was what until the particles bounced off of it. Also, other game objects produced their own particle effects which helped illuminate the level, while also providing the player with a visual indicator for what the thing was.

1. **Lots of Polish**

SolRa was able to be feature complete about one milestone before schedule, thus we were able to spend a lot of time polishing our game. Our player movement, level design, and player feedback all significantly improved due to play testing feedback.

1. **Stayed Within Scope**

We were able to minimize feature creep by maintaining a tight control on scope. *Rebound* was a simple concept and it stayed that way as the team was well aware of the short development time frame of three months. SolRa decided that focusing on story would fill the void of extensive gameplay features. Also, our producer did a fantastic job of maintaining a schedule, to-do list, bug list, and continuous communication.

1. **Strong Teamwork**

Team SolRa was a three-man team that really meshed well together. This was due to two team members being friends, two team members being on a different team together, and all three living on the same floor in the dorms. Also, the team completed a team charter that discussed how the team would operate including weekly meetings that attributed to the success of *Rebound*.

**What Went Wrong:**

1. **Custom Level Generator**

A downside to this project was a code requirement which required our team to create a custom level generator instead of using the built-in functionality of Unity for example its tilemaps. The custom level generator limited our ability to work solely in Unity for level creation as it required a photoshop file of the level layout. This slowed down our workflow and made it difficult to edit and test levels quickly. It also made it difficult to reference anything that the level generator spawned because they were instances of the objects.

1. **Unique Player Movement**

The movement of the player is a key feature to a 2D platformer; however, our player’s movement was extremely controversial even amongst the team. Personally, I disliked how the player’s jump worked, I did voice my thoughts, however, the team member that created the mechanic refused to change it, stating that it was how he intended it to be, and that we and the players would have to deal with it. It was difficult to get players to understand the unique jump as their affordance from other games did not prepare them for this unique mechanic.

1. **Unsolvable Jump Bug**

Continuing with the controversial jump, it had a unsolvable bug that really hurt the player experience. The player would get a low-height jump when trying to jump normally, which was not the outcome that players expected and cause player frustration. Again, in a platformer game, player movement is the key thing that needs to work fluidly, and ours had problems.

1. **Focus on Narrative**

*Rebound* had a strong focus on narrative including a full script, subtitles, and voice acting. This focus on story could have been better spent on gameplayer features and bug fixing. Attempting a focus on story would have been fine, if the game functioned properly and was interesting enough via gameplay.

1. **Lack of Sound Design**

Also, the game had an extreme lack of focus on sound design. For a game based around sound wave visualization, there was so little time put into the sound effects, music, and voice acting in the game. The sound effects were not changed from there placeholders, and we did not implement all of the sound effects we wanted to. For the music, it was a single soundtrack, however we wanted to have more soundtracks to match the different stages of our story. Our voice acting was done by one of our team members, which was good because we had more control over of it, however, it could have been more professional in the acting along with the recording.

**Conclusion**

*Rebound* was an awesome project to work on as it exceeded our expectations as a team and provided new challenge that the team had not previously experienced. Somethings went off without a hitch like our main mechanic and visual style, however, other parts of our game were quite lacking and could be improved upon.