



Tempo Tear

Project Report

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Kaz Susilo, Kanchan Shrestha, Vansh Panwar

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Executive Summary

The development of “Tempo Tear” is going well. We have completed the base level implementations of our core mechanics and the first level. We originally were planning to discard the slashing mechanic if it proved too difficult to add, but we were able to get it working. The scoring and enemy spawn system also works, so our game’s design is close to completion. However, our current struggles lie with fine-tuning the game. Slashing was a difficult mechanic to implement, so it’s riddled with bugs we still need to address. Slashing still works for most zombies, but the few that it fails to work with break the flow of gameplay, and thus we need to fix it as soon as possible. Another thing we need to fine-tune is the timing of zombie spawns. Zombies do spawn but some spawn too close to each other, so rebalancing will need to be done based on playtesting. The last thing is we need to provide a better user experience within our game. This includes things such as having sound effects when the user successfully hits a zombie on beat, or a number that indicates how many points they got, or different colors for different slashes so the user can instantly know what to use, and many more. These are essentially smaller changes that together are impactful by improving the user’s quality of life when playing. Through our playtesting, we found out we also need to work on the difficulty of the game, improve the feel of combat, adjust some visuals, and introduce a simple tutorial for users. A few testers found the game a bit too unbalanced in terms of getting max points while surviving, and they also thought some UI aspects could be improved on. Otherwise, the testers generally enjoyed the challenge and feel of the game. As for what’s left of the game’s development, we will work on fine-tuning the mechanics we already implemented while finishing up level 2 and 3, and maybe adjusting the scoring system.

Game Design

“Tempo Tear” is a rhythm-based hack-n-slash where the players take control of a samurai and strike down their enemies in tune to the beat of his music. The player, while in tune to the rhythm, must defeat enemies by using their mouse to slash according to specific patterns. Essentially, the player mimics their in-game sword strikes through the mouse to bring down their foes. If played correctly, the player will make their character beat their enemies in style.

The game is intended for any audience and any platform due to its very accessible gameplay. Gameplay consists of several microloops of gameplay, wherein the player is constantly surrounded by enemies and must attack to survive, while the macro loop gameplay consists of obtaining the maximum number of points by attacking on beat.

The player can only defeat enemies by attacking them in the specified pattern. They can take three hits before dying, and getting hit resets your score multiplier. Players aim to score as much as they can while surviving. Hitting enemies in tune to the rhythm can get you different scores depending on how on-beat you were. “Good” timing gives you 50, “Great” is 100, and “Excellent” is 300. Scoring “Excellents” while keeping a high multiplier will net the player significant scoring numbers.

For the game to be fully playable, it must include an enemy spawning system that will create enemies ensuring the player can hit them in rhythm to a song, a mouse slashing system, and a scoring system. The enemy spawning system will randomly create the level's enemy type on either side of the player, and must be properly tuned so that the player will not feel overwhelmed. They must be able to play with a focus on the music while still facing a struggle in surviving. A mouse slashing system must also be fully implemented because that is one of our core mechanics. It is a big aspect of the game's combat, and will include important elements of the gameplay such as tying how zombies die to players' slice types. A scoring system is also a big part of the game because getting high-scores is a big goal for the player. Not having fully realized scoring mechanics will lead to combat feeling less satisfying and also stale combat. Players will ignore hitting on rhythm if the scores are too similar for hitting on-beat vs missing, which is what we will need to avoid.

Optional features that we want to still consider include having different types of slashes. This could include things such as a specific enemy type having one possible slash pattern, but is difficult to do. For example, a "midget" zombie that is very fast on-screen will have a "Z" shape slash pattern the player must quickly input to defeat them. Another type of slash pattern could be related to "special powers". For instance, if the player wanted to activate a power-up, they could draw something like an "infinity" symbol and, for example, freeze all enemies on screen for three seconds. Another optional feature are "mini-boss fights", where instead of players defeating enemies in one-slice, they engage in a duel with a mini-boss type enemy. After hitting a certain number of slices in a row, they defeat the mini-boss and get a large number of points as a reward. The game basically becomes a tango.



Player swinging at a zombie

Deployment Status

I. Features Completed

Being in the fourth out of five sprint cycles, our game is expected to have a lot of features completed, and we do! For starters, our main menu system is fully complete. Players are able to navigate through the various options and change settings such as graphics resolution, quality, master volume, and more. Moving onto enemies, we have both level one and two enemies completed. The individual enemy scripts have been created that take into account their health, slash patterns, attack, and death animations. We also have a general enemy script which takes care of the spawning of each enemy as well as the movement speed the enemies approach the player at. Regarding the player, we have the character and slash recognition completed. The character has an individual script that takes care of their health, attack, hit, and death animations. We also have a slashing script that is able to determine whether the user did a horizontal slash, vertical slash, diagonal left slash, diagonal right slash, or no slash at all. Taking into account the rhythm aspect, we have the music and done for levels one and two. We have created an array of time-stamps that is considered to be on beat, which directly correlates to our scoring system.

II. Features Unfinished

With roughly three weeks remaining in development, there are still a few features that remain to be completed. To start, we have yet to implement a level select menu. Though we have levels one and two that are playable, the play button from the main menu simply loads level one instead of a choice between all the levels. Next, we do not have indicators that tell the user when the next beat is. In the current state, unless the players have already heard the songs before, there is no indication of the timings to hit the enemies, and instead, simply receive a base score of whether or not they successfully attacked. Speaking of enemies, we also do not have the level three enemies completed. Though very similar to enemies one and two, we still need to create an individualized script that deals with its specific health, slash patterns, attack, hit, and death animations. Another feature yet to be completed is a death and win screen. This would simply occur if the player loses or wins the level respectively. Lastly, we have to create the timings for the third level in order for our scoring system to determine what is on and off beat.

III. Significant Barriers

Throughout our development of the game, we experienced a significant barrier regarding the slashing implementation. Translating the players mouse motions into a specific slash pattern posed to be quite challenging. Though it took us longer than originally planned, we were able to figure out the slashing implementation. However, not only did it slightly set us back from our original plan, one bug we noticed is that after creating two identical slash patterns in quick succession, the second slash pattern is not registered. Though we plan to fix this issue, one possible fall back solution is to have the enemies never have two identical slash patterns in a row. That would ignore our issue and not require us to spend any more time than we already have.

Play-Testing Report

Method:

The method we used for play-testing our game was a mixture of one-on-one testing and open discussion. Play-testers were asked questions after the play test for quantitative feedback and were monitored while they played the game via screen sharing. There was also a tiny open discussion after the questions for each tester. Three individuals were tested:

1. Tester 1 - 19 y/o, female, experienced player with novice skill set for most games.
2. Tester 2 - 20 y/o, male, experienced player with advanced skill set for most games.
3. Tester 3 - 16 y/o, male, novice player with not much prior experience with games.

Results:

The following questions were asked to each tester, and they were required to give an answer from a scale of -3 to 3:

- 3 Strongly Disagree
- 2 Disagree
- 1 Slightly Disagree
- 0 Unsure
- 1 Slightly Agree
- 2 Agree
- 3 Strongly Agree

Questions:

1. I felt I was good at playing this game
2. I wanted to explore how the game evolved
3. I felt a sense of mastery playing this game
4. I felt free to play the game in my own way
5. I felt like I had choices regarding how I wanted to play this game
6. I was immersed in the game
7. I was fully focused on the game
8. I could easily assess how I was performing in the game
9. I enjoyed the way the game was styled
10. I like the look and feel of the game
11. The game was challenging
12. It was easy to know how to perform actions in the game
13. The controls of the game were well explained
14. The game was easy to control
15. The goals of the game were clear to me
16. The game was entertaining
17. I liked playing the game

Results of the questionnaire:

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17
Tester 1	0	3	-3	2	-2	1	3	-3	3	3	3	-2	-1	3	3	2	2
Tester 2	2	3	2	2	-3	3	3	-3	3	1	2	-1	-1	3	3	3	3
Tester 3	1	2	1	2	-2	2	3	-2	3	3	1	-1	-1	3	3	1	1

Notes for each testers open discussion after questionnaire:

- Tester 1 - Game is challenging because trying to not die and slash on beat for max points is hard to do at the same time. Aesthetics were pleasing and the music was enjoyable. Score font is "borderline unreadable". Instructions for the game should be explained in the actual game. Suggested a tutorial mode. Game is overall fun and addicting but could use finishing touches to aid novice players.
- Tester 2 - Game was fun and challenging and kept the player coming back to set a higher score. Likes the aesthetics of the game but slashing is not smooth and is a bit choppy in terms of locking onto an enemy. Also found the score font unreadable and suggested the addition of a tutorial to explain controls and objectives. Would like a character selection option. Would like the harder levels to have more complex slash patterns.
- Tester 3 - Game was enjoyable for the first couple run throughs but found it hard to master timing and slashing to set higher scores. Would prefer a different goal for the game to keep on coming back to it rather than just sheer mechanical mastery and setting better scores. Thoroughly enjoyed the music and aesthetic build of the game from the menu to the actual game screen. Score font unreadable. Would also like a simpler and subtler method of showing the required slash patterns for the enemies.



The UI for our scoring system

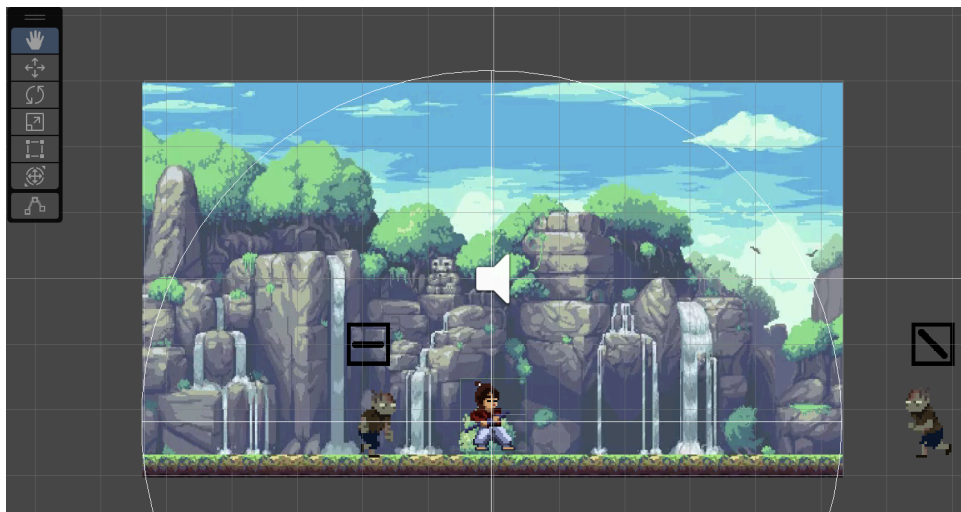


The main menu for the game

Analysis:

After the open discussion with the testers and taking a look at the results from the questionnaire, the following are the critical points we can take away:

- The game is enjoyable and fun with the perfect mix of challenges. Players who like games of this nature where the objective is to set a high score, they'll enjoy our game. The aesthetics are well done and the music selection is good as well.
- The UI needs a couple changes. Nearly everyone who has seen the game said that the font for the score is unreadable. Also, the slash patterns displayed above the enemy needs to be modified and made subtler.
- Need a tutorial mode or a tutorial explanation to explain the mechanics of the game to the player within the game. Something as simple as a pop up will do.
- Maybe add a rewarding aspect to the game like purchasable character skins via in game currency.



Picture of how zombies spawn in

Milestone To Completion

I. Cycle 4 (Weeks 9 - 10)

In this cycle, which is the cycle we are currently in, we plan to finish level three. To start, we first implement the level three enemies, creating the specified script which deals with their specific health, slash patterns, attack, hit, and death animations. Next, we create the beat timings to align with the level's music and serve as a tool for our scoring system. Then, we plan on creating the beat indicators to be universally used in each level. That way, we can transition from a base-line score per enemy to a more rhythm focused scoring system. Finally, after finishing all three levels, we design a level select menu for the user to choose which level to play instead of forcing them to only play level one.

II. Cycle 5 (Weeks 11 - 12)

In the last cycle, our main objective is preparation for the final show with minor tweaks to the game itself. For instance, the game requires small details of a death screen if the player loses the level, and a win screen if the player successfully beats the level. After that, it's a simple matter of touch-up aspects such as if a slash pattern is centered with the corresponding enemy, or fine-tuning aspects if we think the beats are slightly off. Once we are happy with the game, our attention is solely on preparation for the final showing.