Team 8 – Project Inception

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GitHub Repository (Ver. 01)**:**

- https://github.com/hvdelrosario/CSE-3311-Team-8-Platformer-Game-/tree/main

Project Summary

Our project is a 2D pixel platformer designed to deliver an engaging gameplay experience through multiple levels each increasing in difficulty and incorporating appropriate visuals, mechanics, and music. This game will emphasize engaging platforming challenges, progressively difficult enemies, a heart-based health system, and a variety powerups offered throughout the game levels. By gradually increasing the difficulty though the levels, we seek to maintain player engagement and create a rewarding and fun experience.

Competitors

This project/game will exist within a competitive space including other developers creating pixel platformers and the gaming industry as a whole. In this market, there are many popular comparable projects available within the current indie sphere, such as Hollow Knight on the Nintendo Switch. There are also more nostalgic platformer titles such as Run, a flash game found on Cool Math Games which utilizes a unique gravity system. However, we aim to distinguish our project by the stylized atmosphere, music, and diverse set of powerups. Additionally, this game will have a monetary advantage by being free compared to many other popular titles. There will also be a more lenient difficulty curve compared to something like Celeste, which is known for its brutal difficulty.

Customers and Users

The target audience for this project includes casual and experienced gamers who are interested in a captivating and distinct platforming experience or those who enjoy the style of a pixel game environment. In addition to the general gaming audience, this game is

intended to appeal to known online peers and friends seeking enjoyable and competitive challenges. These peers and friends can be contacted regularly in the need for additional feedback during development.

Features

Our game will include traditional platforming mechanics supported by a heart-based health system that will increase proportionately to the levels/difficulty, and a variety of powerups. Movement mechanics such as jumping, double jumping, dashing, sprinting, and coyote time will be integrated to ensure smooth and engaging control. Levels will increase in difficulty as the game progresses offering enemies of varying strength, size, and potential boss encounters. Powerups will expand the gameplay by granting speed boosts, temporary invincibility, and projective based attacks. A save file system will allow players to track progress and continue at a future time. As we will likely have higher risks with team coordination and issues with Unity earlier on than later, we will get menus set up within the game using UI elements for basic functionality. As a player, I want to have an enjoyable and memorable experience with the game so that I can relieve some stress.

Risks and Mitigation

Team Coordination Issues - One of the biggest risks during this project will be scheduling conflicts, especially during the midterms and finals. These conflicts may prevent the team from meeting deadlines or completing required work. The risk exposure is estimated at 25 hours * 100% = 25 hours. To mitigate this the team will aim to complete most of the work before these periods. Doing this will reduce the time pressure and make sure we aren't delayed extensively.

Unity Engine Issues - Another risk is issues related to the Unity Engine, specifically repository merging problems and the learning curve associated with the tool since half the team is not familiar with Unity. The risk exposure is 30 hours * 50% = 15 hours. To mitigate this, the team will allocate additional time for possible merge conflicts and ensure open communication to support team members facing technical difficulties. This plan will minimize disruption from technical difficulties and help maintain a steady workflow.

Over-Ambitious Features - There is a risk that the team may attempt to implement more features than time allows, which would result in features that don't work and waste time. The risk exposure is 40 hours * 40% = 12 hours. To mitigate this the team will make sure to

communicate to ensure no team member spends too much time on a feature, and if assistance can be provided, or the feature will be cut. This will ensure the project scope remains realistic and time will be used effectively.

Missed bugs or Insufficient Testing - Testing failures can lead to the risk of releasing the game with unresolved bugs which would reduce the project's overall quality. The risk exposure is 10 hours * 100% = 10 hours. To reduce this risk, the game will rely on continuous testing by both the team and selected users.

Missed Requirements - Another risk is overlooking a specification requirement we set up, which could affect our grading. The risk exposure is 10 hours * 80% = 8 hours. To address this, the team will make sure to leave additional time at the end of each sprint/iteration to ensure the requirements are on track to being met.

Asset Shortages - With this game relying on assets one of the risks we face is the shortage of game assets. The risk exposure is 2 hours * 90% = 1.8 hours. To mitigate this, we will make sure to download additional free assets to have backup, and if those are not suitable custom assets will be created.

Citations

None.