

A reflective report on research techniques utilised in the development of practical contributions toward a level design project

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Game idea overview

Titled 'bounty', this grimdark, mission-based 2D metroidvania game invites the player to step into the shoes of a Lycan mercenary. Working for the guild, the player is sent to linear dungeons, defeating enemies and completing puzzles with the goal of reaching the end and completing the task set by the guild.

Following the game's narrative, the player will discover what it means to be a Lycan in this world, and their fate at the hands of the guild. Making choices during some missions will change this fate; will they uncover the guild's secrets? Or will they play right into their hands.

Desired target audience

'Bounty' would invite players interested in grimdark fantasy narratives, players of similar titles like 'Blasphemous' and 'Darkest Dungeon'. Appealing to those wanting a gameplay experience aligned with the 'metroidvania' genre, players with experience in games like 'hollow knight' and 'Metroid: Fusion'.

This target audience has a wide age-range, as research by John Uke and Jessica Clement suggests action-adventure games, like those of the metroidvania genre that bounty is inspired by, have the most wide-range appeal across age groups [1][2]. Thus bounty targets those from ages 18 to 42.

Design and Theming Choices

Bounty's environments were designed to fit a 2.5D framework. What this means is that the gameplay was restricted to a 2D plane with a restricted camera, but the environment and the objects within were 3D and existed in 3D space. IGN and Metacritic make it clear that metroidvanias are a 2D genre [3][4], Bounty's 2.5D approach keeps the familiar gameplay restrictions while allowing for deeper, more interesting environments and camera tricks- Such as the parallax scrolling, achieved similarly to the game 'Shovel Knight'; layering the pieces of the background behind one another in 3D space to create the sensation of depth [5].



Fig 1. The separation of background layers in the game shovel knight to create a parallax effect

Another design choice was the use of a filter on top of the gameplay to give the game a seemingly lower resolution. A lot of popular metroidvanias are from the late 90s and early 2000s [4], with a majority released on weaker handheld hardware of the era, thus a lot of these formative metroidvanias were low resolution and sprite-based. Bounty replicating this low resolution look allowed it to wear its inspiration on its sleeve and attract those who are fans of the genre.

This lower resolution look would also aid the games narrative and aesthetic, as grimdark is defined by grimdark magazine as “a bleak story [...] told in a hostile setting” [6], the low saturation and low fidelity help to create an unfamiliar, hostile environment, as seen in modern indie horror titles to the same effect. [7]

Careful consideration needed to be taken in the development of assets and textures with this filter in mind, as it ran the risk of muddying details together and making distinction between foreground and background difficult.

Another feature designed for Bounty was a companion inspired by navi from Ocarina of time, and similarly to navi, this companion would provide a diegetic pointer to interactable objects, helping the player to identify interactable in the foreground without the need for immersion breaking button icons.

Self-directed learning and relevant research

A lot of research for my role in the design of the environment and asset creation came from analysis of levels from relevant and adjacent games. Utilising noclip.website [8], full environment geometry and textures from several action-adventure titles could be explored with a free-camera. Being able to see up-close, without the restriction of the games themselves, how environments and textures were assembled for real, complete products provided significant learning opportunities; Turning off textures to study how simple geometry can be uplifted by texture work and turning off vertex colours to study the importance of lighting, colour and contrast were especially informative when analysing these levels.



Fig 2. A level from The Legend of Zelda: Ocarina of Time as seen in noclip.website [8]

Another area of research and self-directed learning came from youtube tutorials; while seeing how the final results looked in a finished product was informative and may clue an observer into the process of developing

these levels, these tutorials were necessary to understand the intricate, individual steps required to reach the final result.

Specifically, a tutorial on creating blend-shape driven animations in maya was especially useful [9], as this skill is massively transferable, not just for environment deformations but for character and creature animation, meaning it will be applicable in multiple possible roles taken on in future projects.

Applied ludological concepts

In the development of 'Bounty', the game design principle of stress was highlighted in the way the player progressed through the initial dungeon design; starting in a tutorialised, low stress environment to allow the player to get comfortable with the controls. One or two small, minor enemies would stress the player to learn the controls for combat, but in a way that failure had minor consequences so the player had ample opportunity to try again, providing enough stress to move the player along but not so much as to immediately overwhelm the player.

The following areas would linearly increase in stress with more aggressive, stronger enemies in higher proportions, boss fights and puzzles, while providing breaks in-between sections with elevators, staircases and other transitional locales, providing areas of respite so the player doesn't get frustrated by constant stress.

While the design of the vertical slice was of a single linear level layout, the full game and its mission-based narrative would've followed a parallel level structure, with each parallel mission playing out as a linear dungeon level as seen in the vertical slice. This parallel structure allows for players to make choices about which linear level to take on next as it affects their route through the narrative and the direction said narrative takes, while keeping true to the linear layouts of metroidvania games.

Utilising the fairy companion, areas of environmental storytelling would've been highlighted and provided additional context from expository dialogue between the main character and this companion. As this game is narrative focused, environmental storytelling would be key in providing the player hints about the storyworld this plot takes place in, additional context for the role they play and the consequences of their missions, driving them to think about the mission choices they make and how they play into the narrative and world around them.

Research reflection and practice

My research as a member of this team, while informative in the creation of final assets, was miniscule in comparison to what should've taken place.

My research method was to seek out information on a need-to-know basis. An example; I was going to create a door that gets hit and bends inwards, I made the assumption bone-based animations and deformations would not be an effective technique for animating this, having heard of blendshapes before I found a tutorial on how to produce them and apply them to the final product. This was an awful method, as I was lucky the blendshapes produced the result I wanted, what would've happened had they hadn't? I would've wasted time implementing them, and would have to start the process again, searching for additional techniques I'd be completely unfamiliar with.

How I should've gone about this would've been to, early on in the production process, make note of what mechanics and animations need to be made, and research and experiment with several techniques separately to form an understanding of their use cases, such that no time would be wasted on experimentation on final products.

Another limiting research technique was watching only a single tutorial on an implementation and using just that method. Dedicating time early on to experimentation with several methods, following several different tutorials on different implementations of the same mechanic would've not only helped to deduce the most efficient method, but would've also helped to broaden my understanding of the mechanic and the implementation method, allowing me to potentially come up with my own solutions and further broaden my skillset and understanding for future projects.

Another lacking area was exploratory research, while moodboards were created early on, hardly any concrete exploration of individual assets, levels and characters were done. On future projects, I will implement the need for several on paper design passes to be done and discussed with other, relevant team members before an asset is greenlight for production into the level, that goes for characters, assets, mechanics and the layout of the level itself.

Furthermore, playtesting was an area of research this team massively overlooked; early level block-outs needed to be given more detail and slowly fleshed out as playtests are conducted, iteratively improving on the level in parallel with asset creation, allowing weaknesses in the design to be found and ironed out well before complete assets enter the level. Unfortunately, this idea was not implemented for this project, but I will advocate for it in any future projects.

I feel the game not being playable on a gameplay level by the end of the blockout stage was a problem. As assets started to be finalised, without a gameplay framework to design off of, nothing felt cohesive and there was confusion around what was or wasn't necessary. This massively slowed down production, as we were creating assets for a level without a real game to inhabit it. In future I would see to it that the basic gameplay actions are implemented and usable in a basic test environment well before assets are produced, this technical environment would be developed alongside the blockout of the level, meaning mechanics can be tested in and out of the blockout as needed without hindering production.

A final area of underutilised research was in sharing versions and assets. Working as a team means being able to access the single game project easily and without disruption to the work of the other members. Very little research was done on how to do this effectively, which should've been another topic tackled very early on into the production, and setup well before the first instance of the project is even created.

Conclusion

In conclusion, while I feel this team felt very strongly about the idea, and were exceptionally productive in the ideation phase, a failure to conduct any research early on into the actual practical production of this project, to develop a base framework to effectively work from, significantly handicapped this project's development, and as it continued onward the results of these glaring missteps only got worse and worse.

However, it has been a significant learning experience, and I know in future what to prioritise and advocate for as a productive member of a team in order to create the framework for an effective, collaborative and productive team.

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