

IEEE GameSIG Intercollegiate Game Showcase 2018

Game Overview: RGB Date: _4/9/2018

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| One-Sentence Description | A 3D Puzzle-Platformer where you control 3 different elemental characters and use their abilities to solve puzzles, befriend NPCs, and platform like there's no tomorrow in order to defeat the evil Lord Murke. |
| List of Team Members and Their Schools | William Corrin III Chapman University williamdewaynecorrin@gmail.com (425)-457-3755 SOLO TEAM |
| School Level | X College/University ___ High School |
| Target Platform and Audience | PC / Xbox / Nintendo Switch All ages – but definitely 90's kids / younger kids |
| One-Paragraph Summary of Gameplay and Objectives | The gameplay involves transitioning to and from the 3 heroes simultaneously and using their abilities, transformations, and powers to solve puzzles, cross gaps, befriend creatures, and defeat enemies. Travel across the 5 different Overworlds, beating each of their 3+ levels and collecting Color Cubes from them, in order to unlock the proceeding Overworld, eventually reaching the evil Lord Murke to defeat him and get rid of the darkness he has created. |
| Key Features | <ul style="list-style-type: none">• Control 3 different unique elemental characters• Utilize the elements both from each character and from the environment to solve puzzles and defeat enemies• 5 different unique Overworlds – Grasslands, Mountains, The Castle, The Caverns, and Frostlands• Each Overworld has at least 3 Levels to complete, and multiple collectables and characters to interact with in the Overworld• Finely tuned and precise character controller, including wall jumping, ledge grabbing, and sliding, programmed with a custom character controller (over 3000 lines of code) using only Unity's Rigidbody component and Unity's Physics library• Unlockable skins and abilities for each character• Each character has a unique transformation• Over 30 NPC's to interact with• Collect Color Cubes to progress through each World, and collect Coins to buy skins / abilities• Multiple different Camera controls (also over 3000 lines of code)• In-game cinematic cutscenes using only Unity• Every line of code, and the vast majority of all content (music, sounds, models, animations, textures, sprites) created by a single individual |

Thumbnails of Game Art



Software Libraries and Packages Used

- Unity 5
- Visual Studio 2017
- 3DS Max
- Mixcraft 8 (similar to GarageBand)

Third-Party and Ready Made Asset Credits

See table on next page.

Faculty Member Name & Contact Information

Christopher Boyd Chapman University cboyd@chapman.edu

YouTube Link

<https://www.youtube.com/watch?v=cDK6hxx40IU>

Misc. Notes

This project was created by a single person, starting in the summer of 2017.

See list below for assets not created by me, however the majority of all assets were created by me!

I'm also a Senior, looking for job oportunities! :)

Submitted by: [William Corrin III \(425\)-457-3755](#) williamdewaynecorrin@gmail.com

List of game assets not entirely made by the team. Includes ready-made rigs, templates, images, models, textures, music, sound effects, and voice acting.

| Name or brief description | Source (ideally both URL and creator's name) | If modified by team, explain how. |
|---|---|---|
| Brick Texture (seen at 3:11, 3:56 in trailer) | Alex Lusth https://assetstore.unity.com/packages/2d/textures-materials/hand-painted-textures-31347 Note: specific texture seems to have been taken down... But almost positive this guy was the artist! | Changed the Hue / Saturation |
| Lord Murke Rig / Animations (NOT THE MODEL + TEXTURING , I made those) | Mixamo https://www.mixamo.com/ | Played + tampered with root motion settings for cutscenes |
| Kenny Free Nature Pack (some of the trees + rocks [seen in the background at 1:33, 3:05 in trailer]) | Kenny https://opengameart.org/content/nature-pack-extended | Changed the Hue / Saturation |
| Unity Standard Assets Environment Package (normal maps seen both on the rock at 1:51, and the grass at 1:21 in trailer) | Unity Comes with Unity (Assets->Import Package->Environment) | |
| Knight + King NPC Rig + Animations (NOT THE MODELS + TEXTURING, I made the those) | Mixamo https://www.mixamo.com/ | |
| Piano Model (not bench, only piano) (seen at 0:14 in trailer) | Miroslav Uhlir https://assetstore.unity.com/packages/3d/props/interior/piano-154 | |
| Palm Tree Model (seen briefly at 4:27) | Beffio – Game Template (assets only) https://assetstore.unity.com/packages/3d/characters/game-template-13438 | |
| Wooden Platform Model (used to create King's Chair [seen at 1:51]) | Beffio – Game Template (assets only) https://assetstore.unity.com/packages/3d/characters/game-template-13438 | |
| Unity Stained Glass Texture + Normal Map (seen at 2:16) | Unity Comes with Unity (Assets->Import Package->Effects) | |

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| Ryro + Gearthling + Baqueueous - DANCING ANIMATIONS ONLY (rigs + all other animations created by me in the Unity editor / 3DS Max) (dancing can be seen from 4:46 - 4:52 in trailer) | Mixamo https://www.mixamo.com/ | |
| Xbox Controller Button Graphics | GDquest https://opengameart.org/content/xbox-360-controller-buttons | |

When you send your submission, please answer the following:

What were the top technical challenges that you encountered in the project?

Programming both the custom Camera Controller and the custom Player Controller was very difficult. Getting the player to slide along objects, correctly grab ledges, and initiate wall sliding was certainly a difficult task. Specifically, getting the camera to collide with objects was also a very hard task, especially because I had to decide which objects should just turn Transparent, and which objects the camera should actually collide with.

The player controller was horrific at first, as I was using raycasting to detect the ground. This worked at first, but I soon discovered the characters would think they were falling through the air when they stepped between two platforms, since the raycast wasn't detecting collision, but the capsule collider was. Because of this, I switched to using a CapsuleCast, which is more complicated, but really got the job done, and offered an elegant solution to a difficult problem.

How did the design evolve during development? What changed, and what didn't?

The initial idea that I had for the game was for it to be real-time multiplayer. However, I knew that given only one person and about 10 months, there was no way I was going to be able to make this into a multiplayer project. The biggest design change was then figuring out a smooth way to switch between characters, and having 3 playable characters be fun instead of annoying.

I didn't want the player to have to complete every task with every character, since it is repetitive. So that is where the "Pocket" comes in. The other two characters can go inside your pocket, and they are then magically following you around. This way, you can control only one character while the other two characters are following, and you don't have to complete any specific task twice in a row.

The Panel mechanic (as seen in the video) allows for flexible puzzle design, since if you need all three players to stay on their panels for an event to occur, you are then forced to play with certain characters, and you can't always use and abuse the Pocket mechanic.