Light The Way

Ronald Ison

CGDD 4203

11/16/2019 First Version

Table of Contents

Game Overview

Summary

Light The Way is a third person 3d action game where the player fights their way through procedural generated dungeons and find collect new items as the go. Each dungeon is difficult to navigate through without finding crystals. These crystals will light nearby areas and make it easier to navigate. Finding the crystals will also make the exit sequence easier depending on how many crystals you find. At the end of each dungeon, before moving on to the next, the player must go through an exit sequence. The exit sequence will either be a boss or a large group of enemies that the player must defeat. If the player attempts to do the exit sequence without finding crystals, the sequence will be more challenging.

Setting

The game is set a world and time period where people still go delving into dungeons. It's a mix of modern era and medieval times.

Aesthetics

Medieval and Flashy. Bright colors, contrasting with dark dungeons. It's a sort of mismatch that I think will help show the setting. There will be a lot of particle effects optimized for mobile devices to help produce extra flash. I also plan to take advantage of Unity's shader graph to make some cool shader effects.

Target Audience

Target audience is teen to young adults. May inadvertently appeal more to the female audience because of the female character model but my intention is for it to appeal to both genders. Fans of games such as Diablo, Path of Exile, and Gauntlet should have fun with this game. The game has fantasy violent but no showings of blood or gore.

Target Platform

Android 6.0+, I don't have a Mac or Xcode to be able to build to iOS devices so for now the target platform will just be Android. One of the graphics api that I am using is only supported on Android 6.0 and up so 6.0 will be the minimum Android OS supported.

Gameplay and Mechanics

Game Elements

This game features a procedural level generator, character progression, and different weapon types. There's a preset of room layouts that I use during the level generation and a random range of iterations that decides how many rooms are going to be created. Each room layout has variations to include different interactable scenarios for players. These could be a shop, portals that lead to bonus areas, or a light crystal. Destroying a light crystal lights up nearby rooms so the player can see what these rooms contain. An exit room is also generated during the level generation and this is where players can start an exit sequence. This sequence will pit the player against difficult enemies and once they are dealt with the player can proceed to the next level. For each destroyed light crystal the exit sequence will become easier to clear. A player can try and find the exit room and leave without destroying any crystals, but it is generally advised to find and destroy as many crystals as you can. Character progression as well as enemy progression is tied to how fast you clear a level so leaving as soon as possible does have it's benefits. If you make it through an area quickly, you gain more experience and the enemies won't level up as fast. Benefits from leveling up are predetermined and will increase health, mana, and damage output.

Mechanics

8 Directional Attack – Player can move, turn and attack in 8 directions in a twin stick fashion.
Vouchers – Vouchers are the only way to obtain weapons or items from shops, they are randomly earned from defeating enemies or found in bonus areas.

Shop – Player can choose weapons or items to obtain at shops

Time Progression – As time goes on, the player earns xp. However, the player can only earn a limited amount of xp in each level. Once the player reaches the maximum xp for that level, they must move to the next level before they can continue earning xp. If a player clears a level before getting to the maximum xp, they immediately level up to that maximum and gain bonus xp based on how fast they cleared the level. Enemies also level up as time goes on but they do not have a xp maximum. An example: A player is on level one, the maximum xp cap is 500 or a character level of 5. After 6 minutes the player has hit the xp cap and after 10 minutes they finally finish the level. The player is now at a character level of 5 but the enemies have advanced to level 7.

Bonus Areas– Area may contain enemies but are not required to. The purpose of these areas are to give the player a free item of some kind.

Light Crystals – There are four on each level, destroying them will light nearby rooms and reveal collectables. For each light crystal destroyed, the exit sequences become 10% easier (10% less enemies spawned or 10% less boss health) up to 40%

Portals – Portals transport the player to different areas. Could be a dead end, bonus area, shop or secret

Mirrors – Mirrors are a special type of portal that can be found randomly in room layouts, mirrors will transport the player to a bonus area where they must quickly defeat a large horde of enemies. Failing will respawn the player where they first found the mirror and will take away 25% of their hp. Defeating

all the enemies will give the player a strong weapon or item. Once the mirror has been entered once, the player can no longer reenter.

Sound Design

I want the attacks to sound powerful and have an echo. I feel the echo is important for sound design. Just feel like echoes would sound good. I would like to have some voice acted parts but I have to see if I could find people. I'd have to ask some friends and see when they're available then there's the part about putting it into the game. I want there to be quips from shop keepers and the player to have a few voice lines. I've found some music from some free sources that sounds like music that's in other dungeon crawler games and I'll likely use that. I don't have much experience making music myself and not sure if anyone else has time to make music for me. Plus I can't afford to pay someone.

Mobile Considerations

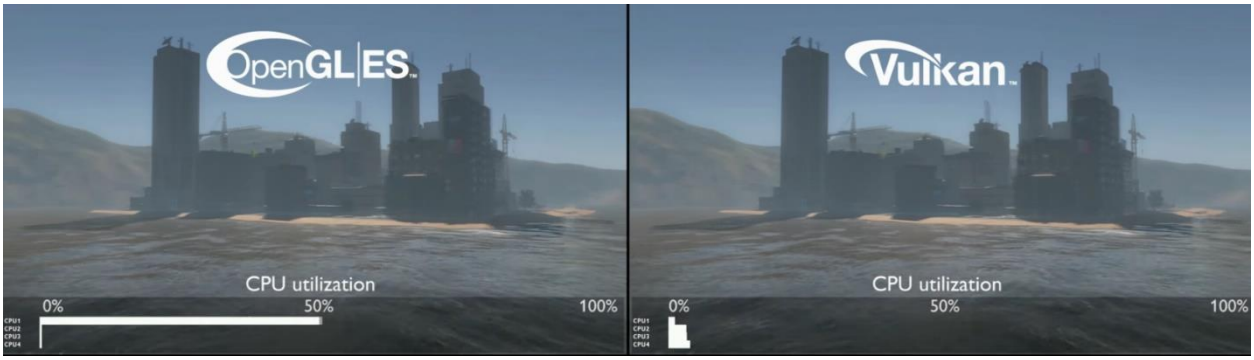
UI Space / Screen Size

Because of the type of game that this is the UI always needs to be available for the player to see . The player needs to see their health, mana, ammo count if they're using a ranged weapon, experience bar, item slots to quickly use items and an icon for accessing their backpack. From testing, I've decided that the best solution for this game is for it to be required to play in landscape mode. All the hud will be at the bottom of the screen and the player will be a little off center because they will be slightly upwards on the screen. This is because the player also needs to be able to use their fingers to move the player around with the joysticks. This is to make it harder for the player to block their view with their own hands. As development continues this will be revised if needed.

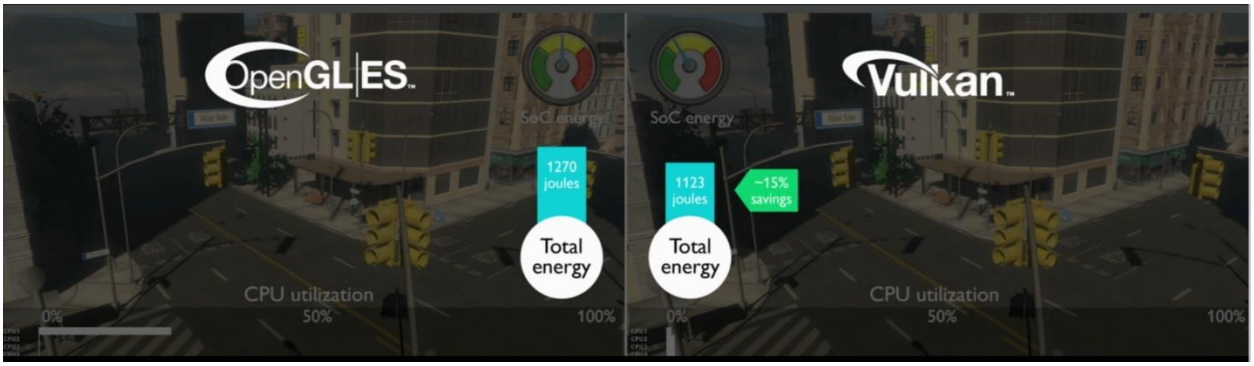
Battery Life

This game will be rendering 3d objects and have bright and complex effects. It'll use more power than a 2d game and will have a stronger effect on battery life. This is why I'm using the Vulkan api instead of Open GL. Vulkan be able to accomplish the same things that Open Gl can do while utilizing less CPU power.

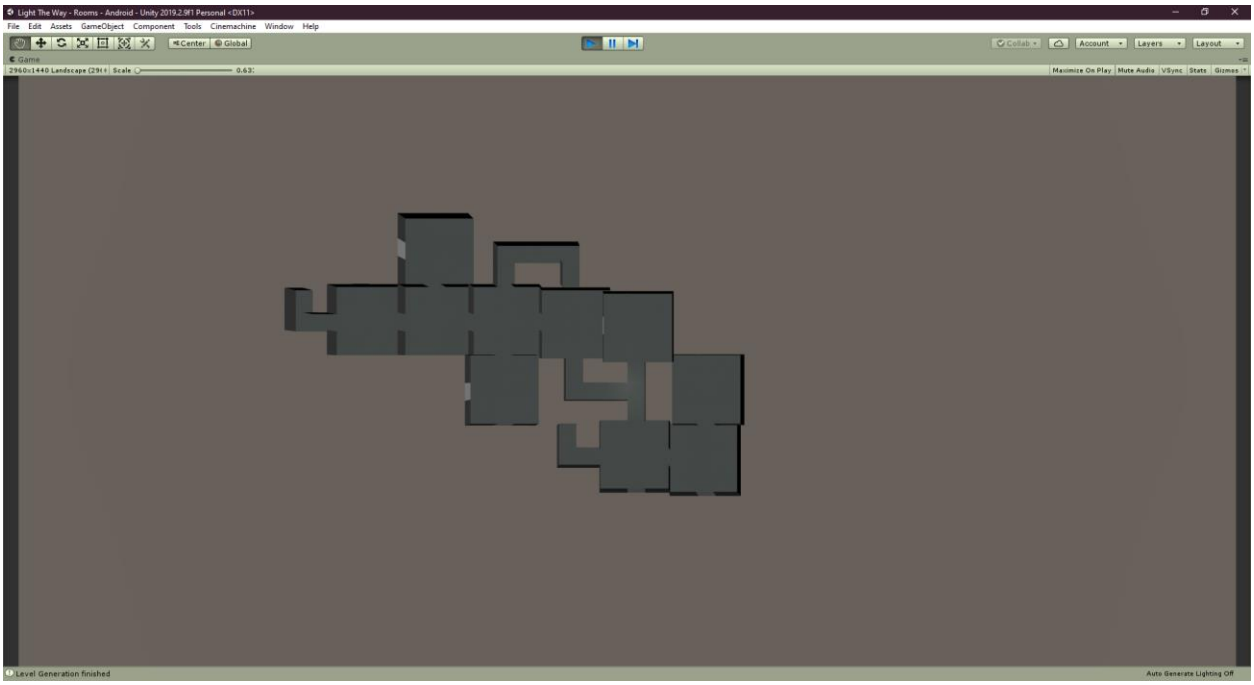
Additional Information



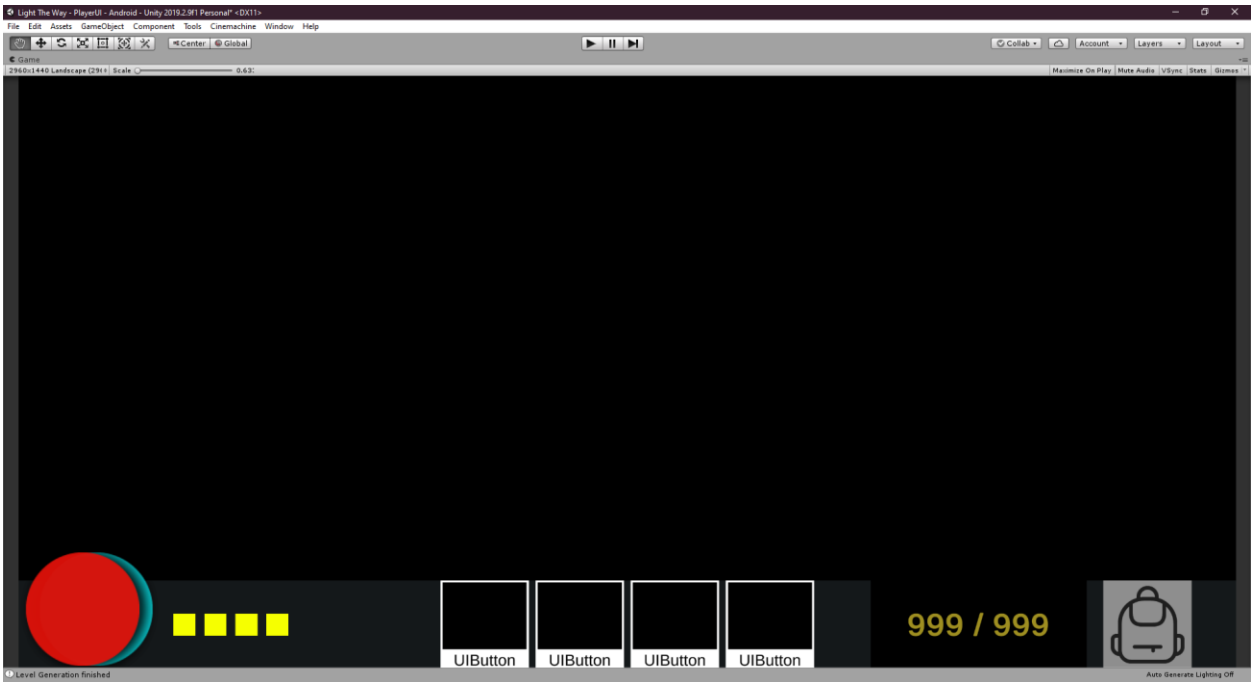
Above: Comparison of OpenGL ES CPU utilization vs Vulkan CPU utilization
Below: Comparison of energy consumption



https://community.arm.com/developer/tools-software/graphics/b/blog/posts/initial-comparison-of-vulkan-api-vs-opengl-es-api-on-arm



Early version of procedurally generated levels.



Early look at the Player UI. Doesn't include joystick layout. Hotbar currently functions with items