

# Game Design Document

## Game in a nutshell

**Genre:** Survival / Horror / Rogue-lite

**Engine:** Unreal Engine 5.2

In Magic Mineral, the player is on a quest to find the ultimate magic crystal hidden deep in the dark caves. You view the game from a 3D top-down perspective. You have to navigate through mazes in the dark armed only with a flickering torch that illuminates only a limited area around you. In this Rogue-lite thriller, mysterious enemies lurk in the shadows, waiting for the first chance to strike and kill you. The intricate level design not only includes enemies and environmental obstacles but also lets you choose your paths strategically and collect special abilities along the way. **The game aims to keep you on the edge all the time and create an immersive experience that you desire in any game.**

## The Game World (narrative + setting)

### Game World and Setting:

Once upon a time, Luminara Valley was a thriving and prosperous town, fueled by the power of magical Luminara Crystals. These precious crystals were not only a source of energy but also a symbol of hope and happiness for the townspeople. The valley's inhabitants lived in harmony with the magic of the crystals, using their power to enhance their lives and the beauty of their town.

However, the townsfolk became increasingly reliant on the Luminara Crystals, using their magic for trivial tasks and draining the crystals of their energy. The vibrant crystals were fading and the valley started to drown into darkness. The only hope remains deep in the magical mountain caves, rumoured to be the resting place of the enigmatic Green Gem. These caves pulse with an otherworldly energy, where dwell mysterious creatures, lurking in the shadows, ready to challenge anyone who dares to enter.

## Character (motivation + goals)

### Player Character - Leo of Luminara Valley:

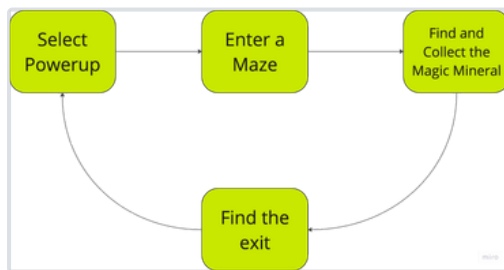
Amid this crisis, an unlikely hero emerged, ready to save the town by venturing into the caves. Leo, an ordinary townsman, whose boundless optimism matches his determination to rescue his beloved town from eternal darkness, regardless of the cost. He made the daring choice to enter the caves, despite warnings from those close to him about the mysterious and unforgiving creatures.

As Leo ventures deeper into the caves, his unyielding positivity becomes a beacon of hope in the face of eerie illusions and lurking horrors. Through his journey, players will uncover the secrets of Luminara Valley and bear witness to Leo's extraordinary transformation from an ice cream seller to a true hero.

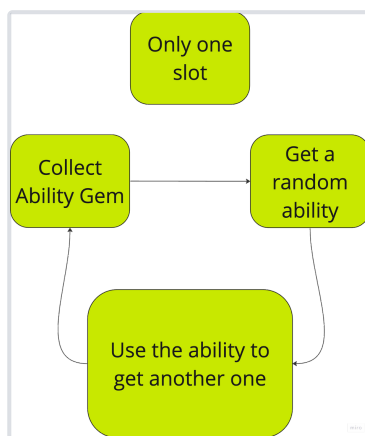
## Core Mechanics (rogue-lite)

1. Keyboard + Mouse / Gamepad controls for movements
2. Move through a maze like cave in each level where there is a special gem(key) at the heart of the cave
3. Collect Special gem(key) at the heart of the level to unlock next level
4. Choose a set of ability at the beginning of the level from a list which the player will get randomly
5. Unlock abilities by collecting ability gem.
6. Abilities on right click - one ability at a time
7. No health, one hit - death
8. Limited vision - you light your surroundings with a torch, in a circular area
9. Torch life is limited - have to recharge with illumination gem

# Game Loops



Core Game Loop



Ability



Torch Recharging



Avoiding Enemies

## Art

**Artstyle:** Pixel Art

**Resolution:** 32x32 px

**Environment:** Made with tilesets

## Animation:

### SpriteAnimation

- Player Idle Animation
- Player Move Animation
- Player Run (Fast Move) Animation
- Player Move (Slow) animation (For Sticky Floor)
- Player Death Animation

- Sleeping Giant Idle + Movement + Attack
- Stalker Appearance + movement + Attack
- Spitter Idle + Spitting
- Piranha Movement + Attack

#### **Particle Effects:**

- Radiator
- Poison Geyser
- Crystal Glow
- Magic Compass Particles
- Stun Spell

#### **Shaders:**

Possible need to use shaders in the following elements

- Player Invisibility
- Player Bubble (Ability)
- Player Torch Glow
- Radiation Glow
- Poison Geyser Glow
- Crystal Glow

#### **Obstacles**

##### **Deadly obstacles:**

1. Triggered spikes
2. Poison geysers

##### **Terrain obstacles:**

1. Sticky floor
2. One Way Passage
3. Water
4. Big Rocks

#### **Resources (Torch life)**

##### **Torch life**

- Communicated visually
- Replenished with illumination gems

##### **Current ability**

- Player can see the current ability slot Available/Empty

#### **Levels (level-based progression, not generated)**

The levels will be designed to create unique and interesting enemy encounters. The levels will be manually designed, not procedurally generated. The key elements that will be designed are,

- Layout

- Entrance
- Exit
- Gem/Key placement
- Enemy Encounters
- Ability pickup placement

## Abilities

1. **Stun:** Momentarily stuns the enemies
2. **Invisibility:** Momentarily invisible
3. **Speed boost:** Boost the player away from the enemy
4. **Shield:** Survives one attack
5. **Magic Vision:** Gives the layout of the whole maze momentarily.
6. **Magic Compass:** Gives the desired direction
7. **Safe Bubble:** Momentarily repels enemies
8. **Torch Full Recharge:** Recharge the torch fully

## Collectibles (key mineral, light minerals)

1. **Illumination Gems:** Recharges the torch
2. **Ability Gems:** Unlock a special ability randomly
3. **Progression Gems / keys:** Unlock the next level

## Enemies

1. **Sleeping Giant** - slow enemy that follows you around
2. **Stalker** - fast enemy that follows you around. It's underground, when it sees you - it jumps at you, but then has to recover from it
3. **Radiator** - affects an area where it slows you down
4. **Piranhas** - in the water
5. **Spitters** - spit poison darts at you (With anticipation so that the player can avoid the darts)

## UI

### Game Screen:

As light as possible. Most of the things will be visually communicated.

1. Special ability icon at the bottom corner with related frames around the screen.
2. For compass there will be a ray that shows direction

### FlowChart:

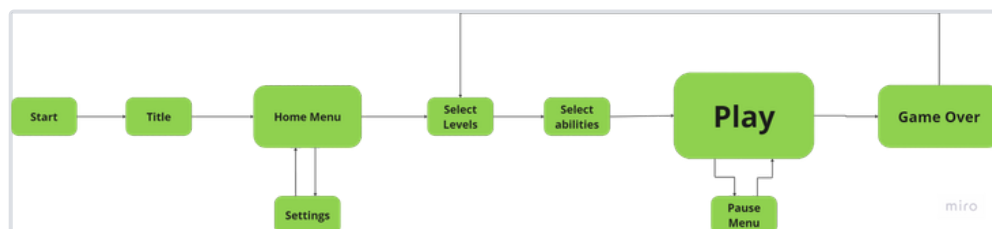


Fig: UI Flow Chart

## Sound and Music

**Ambience:** The ambience sound of the overall game will be the most important to establish the horror and thriller feeling to the player.

These are the sounds that can be included

- Cave Ambience background
- Walking steps and echoes
- Spooky monster callings
- Water drops falling

### **Game Sounds:**

- Ability pickup sounds
- Torch Recharge sound

**Music:** Music will be subtle but recognizable.

- Each enemy attack will have a unique music so that there are a subtle anticipation of what's coming. It will fade away when the player avoids the enemy.
- There will be one background music loop that will be played during pause menu and other UI pages