

# **PROPOSAL**

## **GAME PROJECT**



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<b>Game Title</b>	Defend The Keep
<b>Platform</b>	Windows
<b>Genre</b>	Tower Defense, Roguelike
<b>Gameplay Reference</b>	<ul style="list-style-type: none"> <li>• PvZ</li> <li>• Autochess / TFT</li> </ul>
<b>Number of playable level</b>	1 level; Infinite waves until player's death
<b>In App Purchases</b>	No
<b>Multiplayer</b>	No
<b>Description</b>	Tower defense game with roguelike game mechanics
<b>Objective</b>	Highest level achieved
<b>Roles</b>	<ol style="list-style-type: none"> <li>1. Kenny (Producer)</li> <li>2. Raynald (Co-Programmer)</li> <li>3. Carissa (2d/3d Artist)</li> <li>4. Gilbert (Programmer)</li> <li>5. Danniswara (VFX Artist)</li> </ol>

## Game Concept

### Target User

Target user for this game is for everyone.

### Story

In The Ancient times, Ancient weapons are created to help mankind fight a great disaster. These Ancient Weapons that wield mystical power are very powerful in the right hand. Then, there is a person that is selfish and very greedy about wanting to rule the mankind world, they then awakened the monster to help them in the fight and take control of the Ancient Weapon in The Keep. So that they can conquer the world one and for all.

### Game Idea: Roguelike tower defense 3d

Players play the game just like normal tower defense games; mainly like PvZ, where players drag and drop “towers” to defend a certain objective. The main gimmick of the game is to get the tower, players get random towers from random spawned enemies. Art direction Medieval fantasy magical weapons vs monsters.

## Characters and Objects

Name	Stats	Attack
<b>Player</b>		
Staff	HP:75 Attack damage:80 Attack speed: 1 Area of attack:1	Attacks enemies from range.
Axe	HP:65 Attack damage:90 Attack speed: 1 Area of attack:1	Attacks enemies from range.
Sword	HP:115 Attack damage:100 Attack speed: 1 Area of attack: 3	Attacks enemies in a short range in front of them.
<b>Enemies</b>		
Marble Monster	HP:225 Attack damage: 200 Attack speed: 0.6 Area of attack: 2	Attacks enemies in front of them.
Rock Monster	HP:175 Attack damage:100 Attack speed: 1 Area of attack: 1	Attacks enemies in front of them.
Mimic (Box Monster)	HP:150 Attack damage:150 Attack speed: 1 Area of attack: 1	Attacks enemies in front of them.

## Gameplay

### Objective

Play through the game in order to have the highest level achieved.

### Game Mechanics:

1. Level 1, the player will be given some amount of ancient weapons to defend The Keep.
2. To play the game, the player selects a tile they want to build the tower in, and defends away.
3. The game will get progressively harder as the level increases.
4. The game ends when the player can't defend themselves.

## **Game Components:**

1. Mouse controls (click and choose)
2. Fixed camera level design
3. Spawn enemy with random types (at least 3 types)
4. Loot drop tower (10% chance for each type of tower) from enemy
5. Towers have a set amount. If the player does not have any in their inventory, The player cannot spawn a tower.
6. Decaying drops (5s)
7. Removable and Replaceable towers
8. Enemy destroy the weapons in one hit
9. Grids / Slots for placements
10. Waves (Endless; Static level)

## **Gameplay Reference**

Just like PvZ, the player has to defend a certain objective in order not to lose. With towers, the player will defend the objective, this “tower” is similar to plants in PvZ. The player has to defend the objective from the enemies and in PvZ, it's the zombies. The game also uses some roguelike mechanics; waves, endless, permadeath after being unable to defend the objective and etcetera.

## **Report on Game's Development**

The game's basic mechanics are in place meaning that mechanics such as placing and destroying towers, tower's grids, enemy spawns, and etcetera are working adequately with some bugs because of the atrocious code. There are also a few things that we implement that make the game random and unpredictable every time the player plays. The tower drop and the enemy spawn location and variant are all randomized to fulfill our roguelike aspect of the game.

Here are some of the bugs that the developer encountered in the game:

1. The enemy cannot be shot at because of the weird model geometry.
2. The Tower Spawn can spawn certain towers even though the other Tower Spawn cannot.
3. Tower shoots infinitely.

## **The Developers' Solution:**

1. The “Enemy cannot be shot at” problem was probably because of the weird geometry the model has. The Raycast for the shooting cannot identify the surface of the model. So instead of fixing the model, we just put a static mesh inside the model that the tower can shoot at. Thus the tower can shoot the weird model because of the static mesh inside the enemy.

2. So the game uses The Tower Spawn (The interactable grid) to place towers in the game. The problem was caused by The Remove widget being badly managed. Instead of setting the visibility of The Remove widget, the developer set it so that The Widget was set to remove from the parent. Thus resetting/failing The Tower Count that can be spawned.
3. The Tower shoots infinitely because the tower has an individual instance of how they dispose of the enemy count. So if a tower was shooting an enemy but the enemy was killed by another tower, The tower that shot the enemy first still had the enemy count thus it made them unable to stop shooting. To fix it, it would need total reprogramming, so the developers decided that there was not enough time to do so.

Overall the game is in a “playable” stage but it is very apparent that it needs a lot of polish. With that said the premise of making a game that is Roguelike Tower Defense is there on a basic level. Below are the developers’ progress:

### **Kenny, The Team Leader**

Kenny with the help of his team, together they completed most of the game mechanics project. Things like tower spawn, enemy spawn, and other basic mechanics, he created and his team helped him correct his mistakes in the code. He also helped the artist to keep track of what job they have to do and what kind of models they need to create.

### **Danniswara, The Technical Artist**

Dannis we're assigned to do the compositing of the 3d asset into the game tower and enemy model and also take some assets on the Epic Games marketplace that is compatible with the current engine. He was responsible for changing the box model into the 3d asset and compositing the landscape

### **Raynald, The Co-Coder**

Raynald and the team helped each other to complete the game mechanics. As the co-coder, he provided some help with the idea, helped with the game mechanics like game currency, and corrected some mistakes as guided by Kenny as a Team Leader and Gilbert as The Coder.

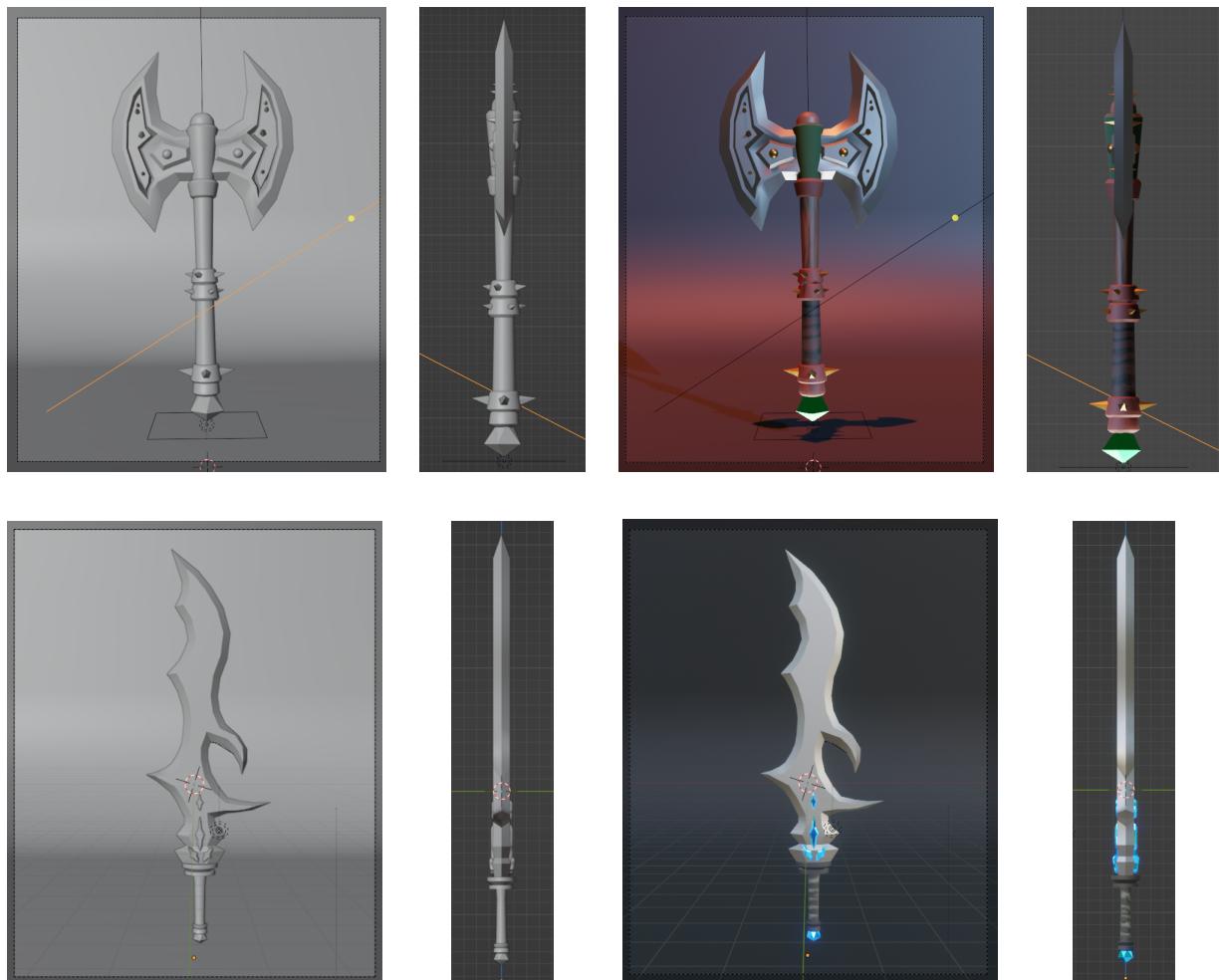
### **Gilbert, The Coder**

Gilbert's job was to make the code of the game together with Kenny. Gilbert also checks the codes to see if it's correct or not, he also checks other ways the code can be coded so it can be more efficient.

## Carissa, The Modeller

Carissa was the one who made the 3D model of the weapon. She made the sword and axe. She added texture and lighting for the objects so they would look more realistic when playing the game. And below are Carissa's own model in the game:

### Model



## Visual References



