

Project Loot RPG

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Project Loot RPG is a casual mobile game built with rpg elements for brief game sessions and loot collection in mind. You travel through dungeons to collect and upgrade loot to become more powerful.

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1. Story

Project Loot RPG does not have a story, it is a casual game, but if we had to describe a story it would be:

- 1.1. Kill stuff**
- 1.2. Loot stuff**
- 1.3. Upgrade stuff**
- 1.4. Use the upgraded looted stuff to kill more stuff**

2. User Experience & Gameplay

2.1. User Actions

Users are capable of a multitude of actions, the major actions include exploring dungeons, gathering loot such as weapons and hats, and crafting new equipment with materials found in dungeons. The game mostly revolves around loot, the collection of it and management of loot (such as upgrading it, selling it, or breaking it down to create more loot).

2.2. Exploring Dungeons

Dungeons are randomly created areas which house dangerous enemies the user must defeat to obtain loot. When an enemy is destroyed in combat inside a dungeon their equipment is dropped. This dropped equipment is then given to the user at the end of the dungeon (when they successfully complete it).

Dungeons are randomly created linear paths. Dungeons are composed of rooms, each is an independent section of the dungeon containing an event or in some cases nothing at all. Each dungeon has three movement options: left, right, forward. If the player chooses one of these they will progress onto the next room of the dungeon. Each dungeon's length is random between two constraints specific to it, thus certain dungeons may be larger than others. In addition to length, the creatures are also randomly generated (See section 2.4 for more information) but are pulled from a list of spawnable creatures. Dungeons also have two tilesets, the tileset which is used is changed each time a player changes rooms within the dungeon. In addition to creatures spawning it is also possible for loot to spawn in the form of chests. If the player opens the chest they are reward the loot within.

Properties of a dungeon include:

- Chance of a left turn
- Chance of a right turn
- Chance of being able to move forward.
- Chance of a monster spawning at a given dungeon room
- Minimum & maximum number of rooms
- List of creatures that can spawn throughout the dungeon
- Chance of a chest/loot appearing
- List of loot that can spawn throughout the dungeon
- 2 Tilesets
- Overlayed color of the tilesets

2.3. Loot

Loot includes weapons, materials, and hats. All loot is obtained if the enemy itself has the loot, thus weapons and hats are normally obtained through enemies in dungeons. In some cases dungeons can have chests or loot rooms where weapons, hats, or materials can be obtained. Both weapons and hats are randomly generated based on a settings file which includes the constraints of the random numbers used in their creation. Loot that is obtained is displayed through a button, this button is color coded like so:

1. The more red loot is the worse its rarity is.
2. Loot which appears light blue is uncommon, deeper blues represent a more rare item, further rarity is represented in order by purple, pink, orange, black.
3. If the button's outline is red, then the weapon or hat is worse than the weapon or hat equipped. Likewise, if the outline is green then the weapon or hat is better than the equipped one.

2.4. Creatures

Creatures are randomly generated enemies that can only be found within a dungeon. Creatures can drop loot in addition to a weapon. Creatures will only drop loot and weapons they themselves have, but dropping it is guaranteed. The loot a creature holds such as its hat or weapon is randomly selected from a list of Weapon Settings, which are used to randomly generate a specific weapon (See section 2.5 for more information on Weapon Settings). The stats of a creature are randomly generated between two constraints, a minimum and maximum number. Properties that are randomly generated in this way include:

- Weapon size
- Actual creature size
- SPECIALD Stats
- Melee damage

2.5. Weapons

The weapons of the creature are also randomly generated in a similar way. A weapon will have its name, stats, and damage randomly generated. A weapon's rarity however is determined by the rarity of the numbers randomly generated to create the weapon and the material. Therefor the rarity of a weapon is directly tied to how uncommon it is to generate. All materials have a rarity modifier which is added onto the weapon's rarity.

Weapon Settings are the object which holds the data used to generate a weapon at any time. Weapon Settings are never seen by the player, instead this is a convenient tool used by the software to make weapons. Weapon Settings hold stats such as:

- Possible blade, trim, handle materials.
- Minimum and maximum stats
- Minimum and maximum damage and critical chance.

2.6. Crafting with Materials

Materials can be used to craft new weapons at the smithy. The smithy is a shop in the main town which offers the ability to enhance and create weaponry. By replacing materials on a weapon its attributes, rarity, and stats can be enhanced.

2.7. Combat

Combat is the most important part of the game. Combat is where players engage in a fight against a creature within a dungeon. When the player kills the creature the player is rewarded with loot (See section 2.3). Combat is fairly simple, it works by separating the player and enemy into two different scenes both displayed at the same time. The player scene takes the bottom half of the screen while the enemy scene takes the upper half. Both the player and enemy has a bar which fills up depending of their agility. Once the bar fills the owner of the bar may attack, once they do the bar resets and must be filled again.

When the player's bar fills, a small menu will appear over the player's scene. This menu will contain all the options the player has, including the attack options they are capable of.

2.8. Losing/Death

In this game, death is not meant to slow the players to a halt, instead it is a method to direct players. Players who die in a dungeon are returned to the overview and lose all progress, materials, weapons, and any other loot found in the dungeon. In addition the equipment the player was using might be randomly damaged. Damaged equipment can be fixed at the smithy. To the players this should signal that the dungeon is too difficult with their equipment.

2.9. Gameplay Loop

The gameplay loop contains the core gameplay elements that the player will be using over and over. In this game the gameplay loop includes exploring a dungeon, defeating enemies, gathering loot, returning the city to manage the loot, then repeat.

3. Key Features

This is an overview of key features within the game:

3.1. S.P.E.C.I.A.L.D.

- 3.1.1. Not a rip off of Fallout
- 3.1.2. SPECIALD is a set of stats that affects damage with certain weapons, increases player health, and affects the random number generator in the player's favor.
 - 3.1.2.1. Strength increases damage with hammers, axes, and other similar heavy weapons.
 - 3.1.2.2. Perception increases damage with bows, crossbows, and other ranged weapons.
 - 3.1.2.3. Endurance increases the player's health.
 - 3.1.2.4. Charisma decreases the cost of items at the merchant maybe. (?)
 - 3.1.2.5. Intelligence increases the potency of magic, increasing damage of offensive spells, improving health gain from healing spells, and other similar improved effects. Intelligence also affects the amount of manad a player can bring into a dungeon.
 - 3.1.2.6. Agility increases damage with short swords, daggers, and other similar fast weapons.
 - 3.1.2.7. Luck improves the chance of looting higher rarity items from enemies. Weapon stats are rolled before entering combat, which may make enemies harder as a trade off.
 - 3.1.2.8. Dexterity increases damage for scythes, long swords, and other similar technical or exotic weapons.
- 3.1.3. All SPECIALD stats are tied to equipment. The player will have a base statline of 0 for all 8 stats.

3.2. Weapons

Weapons are essential in this game as they are required to continue on into dangerous dungeons. Weapons enhance the player's abilities by raising stats and giving the player a damage value. There are 16 weapon types which include: Sword, Dagger, Hammer, Club, Halberd, Claymore, Hatchet, Staff, Scythe, Sickle, Spear, Naginata, Mace, Waraxe (Large two-handed axes), Shield, and Other. The other category is any weapon that does not fit within the previous 15 categories.

- 3.2.1. Weapon stats and visuals based on material and rarity

- 3.2.2. Weapons can be forged at the Smithy or dropped as loot from defeated enemies.
 - 3.2.2.1. Enemies who wield weapons are guaranteed to drop them.
 - 3.2.2.2. Enemy weapon stats are affected by luck, making enemies stronger while improving the quality of the dropped weapon.
- 3.2.3. The rarity of forged weapons may be affected by the player's Luck stat.

3.3. Hats

- 3.3.1. Hats have a randomized armor value, reducing incoming damage, and randomized bonus SPECIALD stats.
- 3.3.2. Hats can be purchased at the market and dropped from enemies as randomized loot.

3.4. Smithing

- 3.4.1. The smithy can be used to upgrade/enhance weapon stats, forge weapons, and breakdown weapons and hats into materials.
- 3.4.2. Forged weapons may have stat increases based on the player's luck skill and the rarity of the materials used to create the weapon.
- 3.4.3. The smith can repair damaged equipment from players losing in a dungeon.

3.5. Adventuring/Dungeon Crawling

- 3.5.1. Players depart on adventures from the trail leading out from the center of the town.
- 3.5.2. Dungeons are randomly generated sets of paths on a square grid with a defined starting tile and an ending tile. Dungeons never branch out and always hold a linear path, this is done because of prior prototypes which did not feel as fun.
 - 3.5.2.1. Enemies will be placed on random tiles throughout the dungeon during generation. Killing an enemy will reward random loot including weapons, materials, and money based on what the enemy itself had equipped or in its inventory.
 - 3.5.2.2. The end tile of dungeons always has a boss enemy, which is a strong enemy that has a better chance of dropping higher rarity weapons, material, and large sums of money. These boss enemies are expected to be at least twice as strong as the weakest enemy in the dungeon.

3.6. Magic & Manad

- 3.6.1. The player can break down loot into Manad, which serves as the player's source of magic abilities.

- 3.6.1.1. The amount of Manad gained from breaking down loot is determined by the rarity of the item and to a lesser extent the stats (including damage for weapons) the item holds.
- 3.6.1.2. Manad creation is done at the player's home from the inventory management screen.
- 3.6.2. The player can purchase and upgrade spells by visiting the Wizard's Tower.
- 3.6.3. Spells cost Manad to cast and will become uncastable if the player doesn't have the required amount of Manad.
- 3.6.4. The player may keep as many spells in their house as they wish, but may only equip two or three for an adventure.
- 3.6.5. The max amount of Manad a player can bring into a dungeon is determined by the Intelligence stat: The higher the player's Intelligence, the more the player can carry.
- 3.6.6. Staff type weapons augment the ability of the player to cast spells by allowing them to carry more Manad, reduce the cost of Manad, etc.

4. Demographics

4.1. Intended Audience

The audience will be anyone with a phone, though initially only Windows Phone will be supported during development. The audience must be capable of reading and thus an ideal audience would likely be aged 9+. Color-coded loot will help younger audiences understand the game. Furthermore the audience does not need to be a hardcore gamer, as the game itself is meant to be very casual.

4.2. Platform

Windows Phone will be immediately supported but all phones are expected to be supported through the use of Xamarin. There will be no initial support for desktop or other platforms.

4.3. Intended Length of Play

The game is intended to be played for 15-20 minutes as a small casual session, the player is expected to play three or four dungeons at 3-5 minutes a piece. The game is not built to be played for many hours in a row.

5. AI

The AI in this game will be very simple. Only the enemies or creatures in dungeons will have an AI. This AI will be strictly made for fighting the player in said dungeons. The player and AI will have a progress bar which fills based on the rate they are capable of attacking. When the bar fills they may execute an attack. The AI will pick an attack at semi-random using heuristics to gear its attacks to a more optimal solution. This will mean that the AI does not always use the perfect attack for any given situation, but is instead built to pick attacks more organically.

6. Materials

Materials are a modifier or attribute applied to weapons, materials affect the stats of a weapon. Each weapon is composed of three materials: a trim, a handle, and a blade. Materials alter the rarity of the objects they are attached to. Each material has a rarity modifier which gets added onto the weapon or hat it is a part of.

6.1. List of Materials

- Steel
- Oak Wood
- Yew Wood
- Birch Wood
- Grately Wood
- Cherry Wood
- Mahogany Wood
- Maple Wood
- Walnut Wood
- Pine Wood
- Ash Wood
- Bone
- Gray Stone
- Gold
- Leather
- Quartz
- Silver
- Copper
- Iron
- Black Steel
- Blue Steel
- Greater Steel
- Bronze
- Zincar
- Variel
- Ruby
- Sapphire
- Amethyst
- Garnet
- Pearl
- Topaz

- Emerald
- Onyx
- White Diamond
- Opal
- Amber
- Moonstone
- Jade
- Pyrite
- Cinnabar
- Obsidian

7. Assets

7.1. Art

Each enemy, weapon, and hat will have art attached to it. Certain enemies will reuse art with a color palette change. There is expected to be at least a half dozen hats, and about 100 weapons and each is expected to have a unique art. All sprites are to be in .png format. Weapons will utilize a specific color palette in order to programmatically switch out colors. In addition to the palette, weapons must also use a pure pink pixels in order to specify the pivot point the weapon is held onto.

7.2. Sound Effects

Each magic spell, and weapon type will have a unique sound effect. Sound effects will also be done for each UI interaction. Sound effects for weapons are played when the weapon strikes and deals damage to an enemy (creature, player).

7.3. Music

Music in the game will be limited to a menu theme in the main menu. The rest of the game will focus on sound effects.

8. Development Tools

8.1. Source Control

Source control for this game project will include Git with BitBucket. All files outside of the major frameworks (BFrame & Monogame) will be stored within the repository and each member of the team will check out a local copy and work on it, then merge at the end of each session or feature.

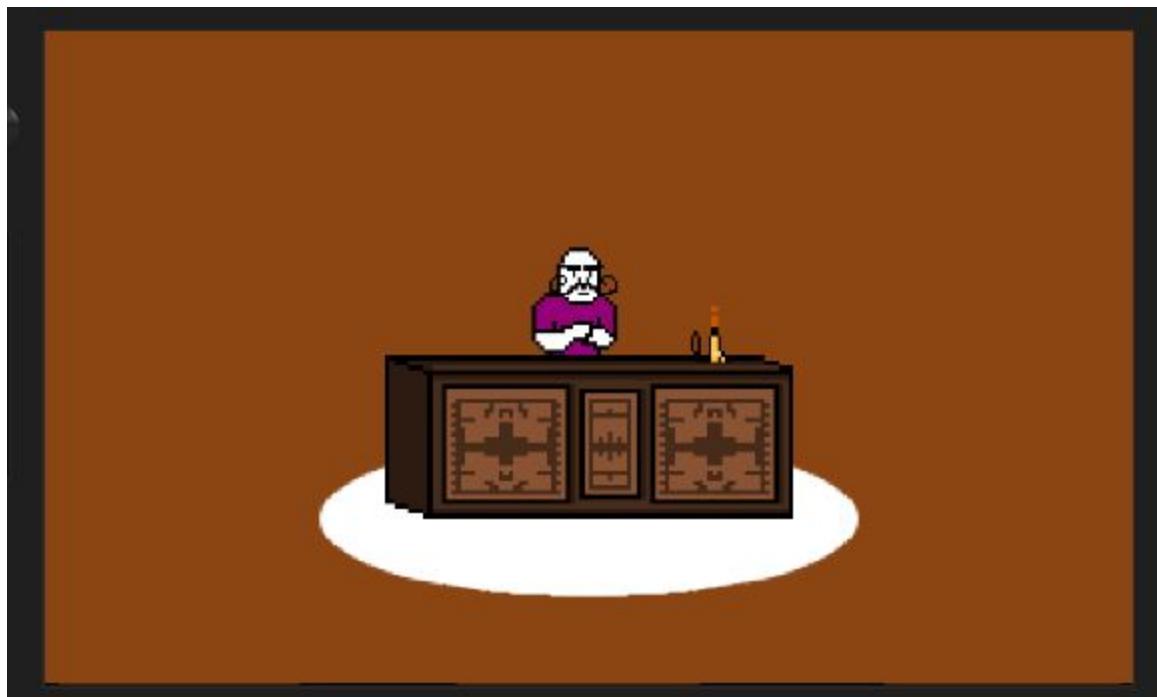
8.2. IDE & Other Tools

There is no IDE requirement, however team members will be urged to utilize Visual Studio since new versions have built in integration of Git for either BitBucket or GitHub. Any art assets will be created through the free program, Paint.NET. For any external editors (Such as a dungeon editor or creature editor) the team will use Windows Forms.

9. Screenshots & Concept Art

9.1. The Merchant:

This is where the player purchases weapons, hats, or various equipments.



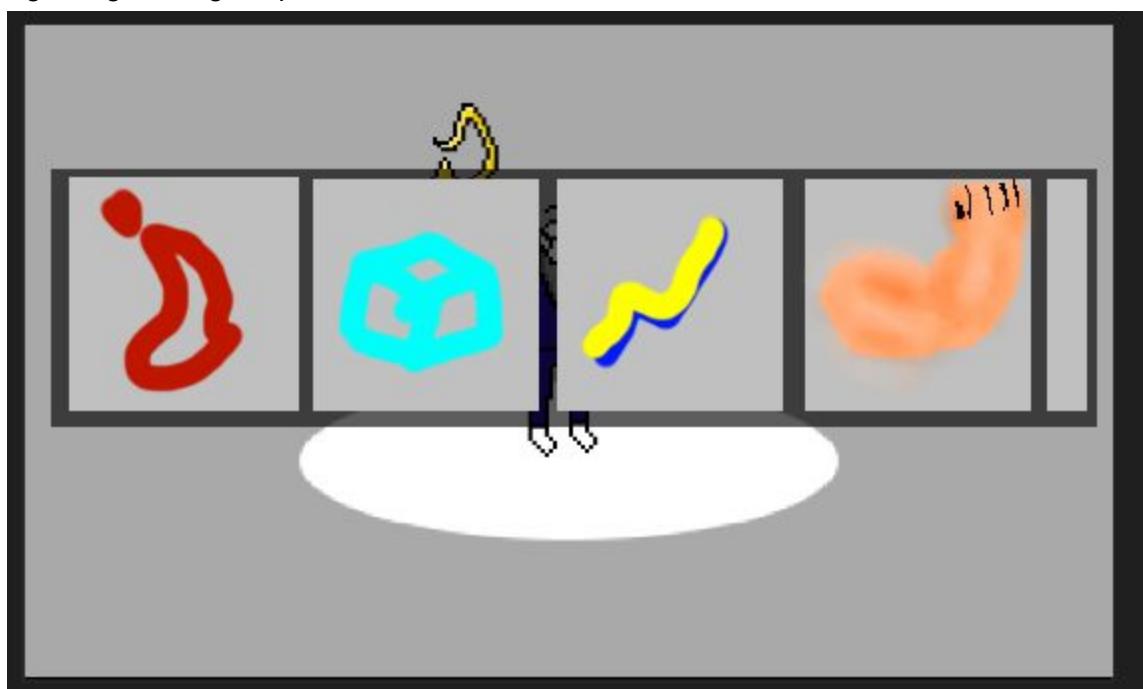
9.2. The City or Overview

The city overview is the hub of the game, the player returns to this location after each dungeon. The player can leave to a dungeon by pressing the center path. In order going clockwise from the top left is: Player's House, The Smithy, The Wizard Tower, and The Merchant's Shop.



9.3. The Wizard Tower

This is how the wizard shop is expected to function, with the spells available for purchase appearing to the player through a 'window'. From left to right is: Fire, Ice, Lightning, Strength Up.



10. Schedule & Timeline

Below is a Gantt Chart for an estimated timeline of the project:

