**The Untitled Rogue-lite Game**

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**Summary**

*The Untitled Rogue-lite Game* is a top-down action rogue-lite game on mobile. The game will take players into a fantasy world to explore the map, collect loot, defeating enemies while dodging attacks.

With the intention to encourage exploration, *The Untitled Rogue-lite Game* wants to combine a typical roguelike action game with a slot-based inventory system and looting. Players will be challenged to choose what weapons, gears and items to carry with them in the next battle, and what to discard.

* Randomly generated levels and permanent death.
* Replacing virtual joystick with gyroscope & accelerometer for more intuitive movement control.
* A large variety of weapons to explore.
* Auto-aim mechanism for intuitive control.
* Dodge & roll to enable players with better control of the character.

*Minimal Viable Product*

* Combat system implemented
* Core loop completed
* One weapon
* 2 ~ 3 types of enemies

*Engine Feature Needed*

* Multiple touch input
* Gyroscope support
* Export project for Mobile
* Improved Pathfinding system (low priority)

**Story**

Setting

Narrative

**Gameplay**

Core Loop

BOSS?

YES

Player Enters a Level

NO

Exit to Next Level

Mechanics / System

i. Combat System

*ATTACK*

Attack will aim automatically. Player will only need to tap the phone screen to launch attack to the most-nearby enemy. All weapons have two attack mode: light attack and heavy attack. (reference: Soul Knight <https://www.youtube.com/watch?v=ExoeMjEq4Go&t=1s>)

Light Attack: Players tap on right side of the screen to perform light attack.

Heavy Attack: Player tap and hold on the right side of the screen to perform heavy attack. Heavy attack consumes Stamina.

*DODGE & ROLL*

Dodge and rolling will improve character’s mobility and grant IFrames (Invincibility Frames) at the startup and active animation, but not at the recovery animation. Dodge and rolling also consumes Stamina.

Players tap on the left side of the screen to perform dodge & roll.

*STAMINA*

Performing heavy attack and dodge & roll will consume Stamina. Considering Stamina as an action point. One Stamina bar will allow player to perform either one heavy attack or one dodge & roll.

Stamina will start to regenerate one second after player stop performing actions that consume Stamina. One Stamina bar will be filled after one second.

Max Stamina Bar can be upgraded from 3 bars to 6 bars max.

( reference: Curse of the Dead Gods <https://youtu.be/g2AfGcGvOfI?t=107> )

ii. Items

CONSUMABLE ITEM(Usable items)

**Potion**

Icon Sprite Name: icon\_catalyst\_main\_item5\_orange\_02

Stackability: Stackable, 2 item / inventory slot

Price: 30$

Description: consume to instantly regenerate 50 HP

**Catalyst Potion**

**** Icon Sprite Name: icon\_catalyst\_main\_item5\_blue\_01

Stackability: Not Stackable

Price: 35$

Description: consume to enter Berserk Mode for 10 seconds. (Under Berserk Mode players will dealt double the damage, but will also receive twice amount of damage)

**Speed Potion**

**** Icon Sprite Name: icon\_catalyst\_main\_item5\_blue\_01

Stackability: Not Stackable

Price: 35$

Description: consume to increases the movement speed of the Hero by 30% for 10 seconds.

**Bomb**

**** Icon Sprite Name: icon\_gear\_bomb\_01

Stackability: Stackable, 2 item / inventory slot

Price: 15$

Description: Place a bomb that will explode 2 seconds after placement from where the Hero is standing. Bomb explosion will deal 30 damage in a radius of 1.

iii. Slot Inventory System

Gear slots allow players to carry/equip/use items. Players swipe left/right to select the current active item.

If active item is a weapon, players tap/tap & hold to perform light attack/heavy attack.

If active item is a consumable item, players tap to use the item.

Click an item on the map to pick up. If inventory is full, replace the current active item with pickup item.

Inventory slots can be upgraded from 2 to 4 max slots.

SHOP

Characters will be able to spend their money in a shop, which has a similar layout as the reference picture has shown.

Character buys an item by simply click on the item to buy, and then item will appear in the inventory slot and money will be deduct accordingly. Character will not be able to purchase an item if the inventory slot is already full.



iv. Progression

GOLD

By slaying enemies, character will be able to receive certain amount of the gold. Gold can be used to purchase items that empower the character in a shop.

When player die, gold will be carried over when player respawn in the HUB (starting base), allowing players to use those gold to do upgrades.

However, when player start each run, all unspent gold will be confiscated by an NPC upon entering a dungeon, so player will start with 0 gold each run.

PERK

Every time players enter a portal that starts a dungeon or takes them to the next level of a dungeon, players will be able to pick one of the three randomly picked perks.

Perks do not take up an inventory slot and stay with the character until the character dies.

**Swift Hands**

Icon Sprite Name: guild\_badge\_icon20

Description: Increases character attack speed by 30% but also character will 30% more damage

**Old Cutomer**

Icon Sprite Name: guild\_badge\_icon11

Description: 50% discount on all products in shop!!!

**Helm of Valor**

Icon Sprite Name: guild\_badge\_icon12

Description: Helm of Valor will block 1 incoming attack for the character every 10 seconds.

**Alchemist**

Icon Sprite Name: icon\_goblinchef\_skill\_secret\_ingredient

Description: Increase all potion effectiveness by 50%. (Potions with duration with increase the duration by 50%, other potions will increase its affect value by 50%)

**Poison Orb**

Icon Sprite Name: elemental\_trial\_nature\_sideIcon

Description: Grants player the ability to add one layer of POISON effect on target unit when hit by light attack. (unit under poisoned effect will lose 1 HP / sec for each layer of poison applied on it. If unit is already under poison effect, add another layer of poison, and reset poison status duration countdown. Default poison status duration is 4 seconds)

**Adrenaline Rush**

Icon Sprite Name: icon\_reinforce\_skill\_spearthrow

Description: Killing enemies will instantly regenerate 1 stamina, cooldown 1 second.

**Killer Instinct**

Icon Sprite Name: icon\_chosen\_skill\_smite

Description: When falls below 30% HP, all attack damage increased by 50%

**Deflection**

Icon Sprite Name: icon\_skill\_dragoon\_whirlwind

Description: When takes damage, deflection 20% of that damage to surrounding enemies.

**Redemption**

Icon Sprite Name: icon\_skill\_charm

Description: When kills an enemy during the invulnerability-state heal 5% of the max HP.

**Forceful Landing**

Icon Sprite Name: icon\_icemage\_skill\_supernova

Description: Jump/leap ability will stun the surrounding enemies for 0.5 seconds upon landing.

**Aggressive Landing**

Icon Sprite Name: icon\_blastrune\_skill\_blastforce

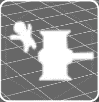
Description: Jump/leap ability will deal 5 damage to the surrounding enemies upon landing.

**Toughness**

Icon Sprite Name: icon\_skill\_vigor

Description: The stamina cost of heavy attack decreases by 1

**Knock Back**

Icon Sprite Name: icon\_dwarfsmith\_skill\_hammercrash

Description: Light attack will now knock light enemies (not heavy enemies or BOSS) back.

**Meat Shield**

Icon Sprite Name: icon\_avalanchesurfer\_skill\_earthward

Description: Sacrifice 50 Max HP, but each of your stamina bar can block 5 damage. (Stamina will be consumed after taking damage and regenerated after. If player took 15 damages, three stamina bars will be consumed, if player took 12 damages, also three stamina bars will be consumed. Taking damage will also reset the stamina regeneration delay.)

MERCHANT SHOP

Players will be able to use gold to purchase items either in the starting HUB, or in the Merchant Room during one of the runs.

Merchant shop in the starting HUB will offer two randomly selected items which can be purchased by gold, and one high level item which can be purchased by watching Ads.

TAVERN

Players can use GOLD to hire more playable character in TAVERN.

Players will also be able to upgrade characters using gold in TAVERN.

Dwarf

*Survival*

Robust

Icon Sprite Name: icon\_catalyst\_main\_item3\_blue\_01,02,03

Description: I. Increase Dwarf Smith’s max health by 25

II. Increase Dwarf Smith’s max health by 50

III. Increase Dwarf Smith’s max health by 75

Invulnerability

Icon Sprite Name: icon\_catalyst\_main\_item1\_blue\_01,02,03,04

Description: I. Increase the amount of time Dwarf Smith does not take additional damage after being hit by 0.1

II. Increase the amount of time Dwarf Smith does not take additional damage after being hit by 0.2

III. Increase the amount of time Dwarf Smith does not take additional damage after being hit by 0.3

IV. Increase the amount of time Dwarf Smith does not take additional damage after being hit by 0.5

Surefooted

Icon Sprite Name: icon\_catalyst\_main\_item4\_blue\_02,03,04

Description: I. Decrease the duration of any movement impairing effects (stunned, slow-down, etc.) by 10%

II. Decrease the duration of any movement impairing effects by 20%

III. Decrease the duration of any movement impairing effects by 30%

Arsenal

Icon Sprite Name: icon\_enhance\_frosttower\_shatter

Description: Able to pick a Perk at the beginning of a run.

Preplan

Icon Sprite Name: icon\_enhance\_iceman\_yodel\_taunt

Description: Level exit room will be revealed on your mini map

*Tactic*

Quick Recovery

Icon Sprite Name: icon\_catalyst\_main\_item3\_green\_01,02,03

Description: I. Decrease Dwarf Smith’s stamina regeneration cooldown by 15%

II. Decrease Dwarf Smith’s stamina regeneration cooldown by 30%

III. Decrease Dwarf Smith’s stamina regeneration cooldown by 50%

Endurance

Icon Sprite Name: icon\_catalyst\_main\_item1\_green\_02,03,04

Description: I. Increase Dwarf Smith’s stamina by 1

II. Increase Dwarf Smith’s stamina by 2

III. Increase Dwarf Smith’s stamina by 3

Bunny Hop

Icon Sprite Name: icon\_enhance\_druidtower\_wilds\_shape

Description: Increase Dwarf Smith’s jump distance by 20%

Improved Slam

Icon Sprite Name: icon\_catalyst\_main\_item4\_green\_02,03,04

Description: I. Increase Dwarf Smith’s heavy attack impact radius by 10%

II. Increase Dwarf Smith’s heavy attack impact radius by 20%

III. Increase Dwarf Smith’s heavy attack impact radius by 30%

Extra Space

Icon Sprite Name: icon\_ingame\_towerslot\_druidtower

Description: Increase Inventory Slot by 1

*Arms*

War Machine

Icon Sprite Name: icon\_catalyst\_main\_item3\_orange\_01,02,03

Description: I. Increase Dwarf Smith’s light attack damage by 2

II. Increase Dwarf Smith’s light attack damage by 4

III. Increase Dwarf Smith’s light attack damage by 6

Strength

Icon Sprite Name: icon\_catalyst\_main\_item1\_orange\_02,03,04

Description: I. Increase Dwarf Smith’s heavy attack damage by 1

II. Increase Dwarf Smith’s heavy attack damage by 2

III. Increase Dwarf Smith’s heavy attack damage by 3

Cruelty

Icon Sprite Name: icon\_enhance\_dragoonbarracks\_crush

Description: Dwarf Smith will have 10% chance to critically strike (double-current-damage) enemies using light attack

Lucky Strike

Icon Sprite Name: icon\_catalyst\_main\_item4\_orange\_02,03,04

Description: I. Increase Dwarf Smith’s critical strike chance by 2%

II. Increase Dwarf Smith’s critical strike chance by 4%

III. Increase Dwarf Smith’s critical strike chance by 6%

Heavy Blow

Icon Sprite Name: icon\_enhance\_cannontower\_concussiveblast

Description: Dwarf Smith’s heavy attack now can stun BOSS enemy

SKILL TREE

WAR MACHINE I (NAME)

Description: Increase Dwarf Smith’s light attack damage by 2

Cost: xxx







Details on the selected skill

Click Hexagon to select a skill to upgrade







Cancel and exit the Skill Tree UI

Spend money to unlock selected skill

**CANCEL**

**UNLOCK**

Enemies

**Goblin**

Attack Mode: Melee

Max Health: 25

Move Speed: 2

Damage Dealt: 15

Search Range: 5

Reset Radius: 2

Gold Drop: 3 ~ 5

Location: Goblin Forest

Move towards and follow the player once player moved in the search range.

Attack when move close enough to the player. Cannot move while attacking.

**Hobgoblin (Heavy)**

Attack Mode: Melee

Max Health: 55

Move Speed: 1

Damage Dealt: 30

Search Range: 5

Reset Radius: 2

Gold Drop: 5 ~ 8

Location: Goblin Forest

Move towards and follow the player once player moved in the search range.

Attack when move close enough to the player.

**Goblin Chief**

Attack Mode: Ranged

Max Health: 25

Move Speed: 1

Damage Dealt: 15

Search Range: 6

Reset Radius: 3

Gold Drop: 3 ~ 5

Location: Goblin Forest

Move towards the player if player is out of attack range; move away from the player if player is closer than the attack range.

Attack by firing one projectile three times consecutively (one volley of shots). Attack will have 5 seconds cooldown.

Cannot move while attacking. Move towards or away from the player after finish one volley of shots.

**Goblin Sapper**

Attack Mode: Ability

Max Health:12

Move Speed: 1.5

Damage Dealt: 0

Search Range: 5

Reset Radius: 2

Gold Drop: 0

Location: Goblin Forest

Move towards and follow the player once player moved in the search range.

**Goblin Siege Tower (Heavy)**

Attack Mode: Ability

Max Health: 50

Move Speed: 0.5

Damage Dealt: 30

Search Range: 5

Reset Radius: 2

Gold Drop: 10 ~ 12

Location: Goblin Forest

move away from the player if player is closer than the attack range.

Once in attack range, initialize a single Rocket with radius of 1 aiming at player. (Similar to the Rocket Barrage of the BOSS, but with only a single rocket)

When Rocket land upon impact create 30 damages (subject to change) and a same size radius of fire on the ground for 5 seconds (subject to change) dealing 3 damage per second (subject to change) to units standing on top of it.

Upon death, spawn a Goblin at the position of death.

**Ooze**

Attack Mode: Melee

Max Health: 5

Move Speed: 1.5

Damage Dealt: 0

Search Range: 5

Reset Radius: 2

Gold Drop: 1

Location: Goblin Forest

Move towards and follow the player once player moved in the search range.

When it attacks with player character, slow player character’s movement down by 40% for 4 seconds.

**BOSS Goblin Miner**

Attack Mode: Melee/Ranged

Max Health: 300

Move Speed: 1

Search Range: 5

Reset Radius: 2

Gold Drop: 50 ~ 60

Location: Goblin Forest

BOSS will move randomly on the map and stop to cast attack abilities.

Attack Pattern

1. Rocket Barrage

Using boss\_goblin\_miner\_ground’s “attack” animation to launch 4 ~ 5 rockets into the sky, falling near the players one by one, dealt an area damage of 30 in a radius of 1.

BOSS will be casting this ability for 3 seconds before rockets start falling. BOSS cannot move during the casting.

2. Leap Attack

Similar to player character’s dodging ability, BOSS will jump towards the last position of the player when BOSS start leaping.

Upon landing, the BOSS will impact in a radius of 1.5 centered around the BOSS, dealing 50 damage.

3. Drill Missile

Using boss\_goblin\_miner\_ground’s “action1” animation to launch Drill Missile (model boss\_goblin\_minder\_drill\_missile) in a cone shape towards the last position of the player when finishing casting ability. Drill Missile will last 3 seconds deal 25 per seconds while players standing in that range.

BOSS will be casting this ability for 1.5 seconds before shooting. BOSS will auto aim and rotate towards the player while standing still during the casting.

4. Summon Goblins

Using boss\_goblin\_miner\_ground’s “action 2” animation to summon 3 Goblins (same as the Goblin enemy)

BOSS will cast this ability instantly.

**Level Design**

We are closely following how has *Binding of Isaac* procedurally generated its level with both hand-crafted templates and randomly generated layout.

Each Dungeon is made of THREE levels, with difficulty increases as players progress. At the end of the third level, in other words, at the end of the Dungeon, one BOSS will be spawn in the EXIT ROOM on the third level.

Each room template will be categorized by its functionality and the orientation of its exit(s). Each room template will store the data regarding its functionalities and exit orientations.

Functionality:

1. Common Room: rooms that will spawn enemies, the most common room type.

2. Secret Room: rooms that will only have one exit and a Perk Box. Upon picking up the Perk Box, player will be able to choose one Perk out of three. Afterwards, special waves of enemies will spawn in the room.

3. Merchant Room: rooms that allow player to buy items.

Each room will have, at most, 4 exits. Exits will appear on either / both TOP, BOTTOM, LEFT, RIGHT side of the room. (For example, CR\_TBR\_00 represent the Common Room #00 which has exits on TOP, BOTTOM and RIGHT)

The room generation follow the guide below:

1. Randomly select a Common Room and place down as the starting room. (starting room will spawn Trap Door / Level Exit and spawn no enemies.)

2. Depending on the random room template selected as the starting room, algorithm randomly picks an existing exit orientation to place the next room. (For example, if the starting room is a CR\_TBR, the next room will be placed either to the TOP, BOTTOM, or RIGHT of the starting room)

3. Once the algorithm determines the next room’s spawn point, first check whether there is already an existing room on that spawn point. If yes, jump to that room and start from STEP 2 again.

If no, check the 4-side of the spawning point, whether there is an existing room, or existing exit pointing towards the room spawn point.

4. Check whether the positions of the existing rooms around the spawn point match the exits pointing towards the spawn point. (For example, if there is an existing room to the left of the spawn point, there should also be an existing exit on the left of the spawn point, pointing towards the spawning point.)

If yes, randomly select a room template that at least has the exit orientations that match the existing exits point towards it. (For example, see the image to the right, if “S” is the room spawn point, the algorithm should randomly pick among room templates that have at least a LEFT exit and a BOTTOM exit, meaning it can pick a template who has exits orientations of either BL (BOTTOM, LEFT), or TBL, or BLR, or TBLR.)

If existing rooms and existing exits around the spawn point do not match up (consider the situation shown in the image on the right, there is a room existing to the left of the spawn point but no exit pointing towards the spawn point), locate the room without an exit pointing towards the spawn point, change that room into one that contains an exit point towards the spawn point (in this case, change the TB room to the left of the spawn point into a TBR room template).

After making sure all existing rooms around the spawn point has an exit pointing towards the spawn point, place a room template that at least has the exit orientations that match the existing exits point towards it.

5. After placed down another room, repeat STEP 2 until the shortest to reach one of the rooms from the starting room is exactly 4 rooms away. (See image to the right) Then mark that room as the Exit room and connect all the open exits with secret rooms.

6. After the basic room layout is completed, randomly choose a Secret Room, and turn it into the Merchant Room with the correct exit orientation.

7. If player is at Dungeon Level 3, change the Exit Room into a Boss Room with the correct exit orientation. (Boss Room will only spawn BOSS, and the trap door. Trap door will be closed initially, and will be opened up after player defeating the BOSS)

Mob Spawning

Each room template will have its own specific Enemy Spawn Point.

Then depending on the current level of the dungeon the player is in, the room will select a difficulty level first, then randomly select a set of enemies to spawn. (reminder: each dungeon will contain the maximum of three levels)

After selecting a set of enemies to spawn, spawning the enemies in that set randomly on the Enemy Spawn Point specifically to that room template, till all enemies in the sets are spawned. (Each spawn point only spawn one enemy)

*(enemy sets in different are noted in the Mod -> RoomMod -> Trigger.lua*