Hey, welcome to the hilarious Boberman dev document.

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So at the moment I kind of see it as a cross between 20 minutes till dawn (top-down shooter, item-based progression), Risk of Rain (level progression, item-based progression, items stack indefinitely), and Pizza Tower (the time limit, that once expires, summons a super dangerous enemy that can easily kill you).

# To-do list

## Functionality

* Look at just improving (not reworking them, cos I don’t think they need complete redoing) the HP and movement scripts.
  + The HP script just because I think it’s kinda messy.
  + **Movement kinda similar, but I think we should add an extra parameter for, if the enemy has a new bool set true (i.e. canDodge or sth), it has a small chance to dodge when detecting a player-team attack in a certain radius. Probably dodge either in the opposite direction to the projectile, or 90 degrees away from it.**
    - Actually okay so since I was gonna do a lil state machine for AI, I think it’s as good a time as any to look into that. Every 2 seconds, the state machine checks the distance from the target to determine the state to be in. Ranged enemies have the state machine as follows:
      * Moving towards target until they are ‘close enough’. For ranged enemies this is just in some radius, probably 2 or so units away.
      * When close enough, the enemy tries running perpendicularly to the vector between its target and itself, checking if they’re still close enough then changing direction every 2 seconds.
    - Melee-based enemies simply always move towards their target.
* Make a new type of item pedestal (a different object cos it will work differently) for weapons/abilities.
* Might actually be good to redo the director slightly, to instead of spawning x number of enemies, make it so there are ‘enemy wave types’, kinda like how rooms are selected from a list of possible ones, I can individually design the combination of enemies that can spawn. This could be useful, as it allows me to have enemies that have more complicated attacks, while running less of a risk of spawning a combination of enemies that is impossible to deal with.
* Start doin a couple of weapon models.
* Switch tags and shit for checking if stuff can collide to just layers + team. Layers should be hitBullet, hitLiving, and hitAll (obv they also all collide with walls and such).
* Rework items to be scriptableObject pilled.
  + There are SO’s for the params of the item:
    - Name
    - Rarity
    - Description
    - Item script (the script that is outlined just below)
  + Make a base class for items that has the following:
    - RollOnHits
    - ApplyStat
    - AddInstances (increases instances by 1)
    - RemoveInstances (reduces instances, if instances = 0 removes script)
      * Both the previous two also do any necessary things for specific items. Like HP ups will require HP to be increased on AddInstances, or reduced on RemoveInstances.
    - OnHurtEffects
    - OnDeathEffects
    - MultiplyDamage (is actually a return float)
  + Make new itemHolder, which keeps a list of ItemSOInst. It has a few lists (OnHits, OnHurts, OnKills, DamageMults, any others), To apply an item, it calls the AddItemScript method on the relevant ItemSOInst. This method does a few funnies:
    - If the object does not have an instance of this item script, it adds the script.
    - Have a bool array in ItemSOInst that tracks the item triggers that are relevant to each item. This way, when on-hits are to be triggered, the ItemHolder iterates through every script in the on-hit list and calls the method. Note, for attacks, scripts don’t get applied, unless they directly effect the attack’s motion, like homing and such, cos on-hits and on-kills just exist on the owner.
  + Should probably make the itemPedestals just use the weapon pedestal, and whether an item or ability will be selected is just determined by whatever spawns the pedestal.
* For the director/level generation system:
  + I think it makes most sense to introduce a new scriptableObject type, called AreaParams or sth. This manages:
    - Parameters used with level generation, i.e. num of rooms, size of corridors, likelihood to spawn new walkers, etc.
    - Setting the list of enemies that can spawn
* Improving the filing system. Would make sense to have:
  + Master-related stuff
    - Any generation, director stuff, etc., goes in here.
  + UI
    - All UI shit, including the main UI, UI that follows players and enemies, etc.
  + Abilities
    - Any abilities that are not like enemy-specific, so all the weapons and secondary abilities go here.
    - Also in here are objects that any attacks spawn, like explosions, bullets, etc.
  + Enemies
    - Everything enemies use that is unique to them, including any enemy-specific abilities.
  + Player
    - Any player-specific things.
    - Also contains item pedestals and the like.
  + Levels
    - All level assets, rooms, and the room parameter things as outlined above.

## Longer-term

* ETG’s liquid/fluid system is really cool, perhaps look at ripping that off. Look at marching squares. Only thing I don’t really like about it is that new fluids replace older fluids
  + Okie I think that for Boberman this wouldn’t really work super well, just due to the higher complexity with things like proc coefficients, owners, etc.

## Random others

* For some reason items can sometimes have the wrong description.
* Give baseball bat + sawshot combo a cool Fallout 4 bat-esque visual.
* Add another UI feature, that when you first discover a POI, if it’s offscreen (and not yet used, if it’s like a one-time use thing or just a pickup) there’s an arrow on the edge of the screen pointing to it.
* Make it so Healing and HPDamageDie actually set the UI to do it’s HP draining/healing effects rather than having ifs for both. (Maybe not, would just be slightly more optimised prolly)
* Implement active items.

Systems/whatever to rework because I did them when I was stupid:

* Ahh… I think we gotta redo attack now lol
  + So keep the basis of the attack script, but rather than having a bunch of cases for different attacks (i.e. melee, wacky angles etc.) it instead does a sendmessage called something like “UsePrimary” that has a bunch of arguments like currentAngle and shit.
  + The actual using of attacks will be dealt with in unique scripts, kinda like what lazer already has. So there’ll be one for normal shooting (+ add another case to this one for grenade launcher since it’s very similar), one for melee, and then a bunch for the weird edge case projectiles/shot patterns that are real wack. These scripts are either added manually for enemies or in weaponType.
  + This way, interesting things like having multiple weapons at once could be implemented, and we can have a bunch of weird attack types without clogging attack with a bunch of shit.

Nevermind all that, I don’t think attack needs redoing, just needs to be a bit refreshed to make it cleaner and possibly more optimised.

Maybe it deserves to be redone though. Just for a laugh, of course.

It is redone. It is better now. To a huge degree.

Probably not as optimised as it could be though. Who cares for now.

Cool new attack version haha lol

So. Yeah. Redoing probably the biggest and most important player-centric script in the fucking game.

**MIGHT be better/possible to do all the following with SO’s. If we can manage that that will be insanely good, that would make it so we don’t need to have a billion scripts if an enemy has a wide range of attacks. Also if we do this then we can utilise the really nice thing with SO’s of them having the same parameters.**

So EVERY way of ‘attacking’ has its own unique script (i.e. shooting bullets, firing lazer, doing a funny melee moment, as well as all secondary ability-based attacks, like for example a Sawmarang shot in RoR2) that handles spawning the attack and whatever other parameters need to be handled for the specific method of attacking. The attack script simply keeps track of each of these scripts attached to the player and calls the UseWeapon method on a script when the corresponding attack is used. The attack script has the following arrays:

* A reference to the corresponding script (or SO if we go down that road)
* Ability cooldown timer
* Current number of charges of abilities

And strictly for enemies:

* Range of ability – Nope, instead just reference the ‘range’ parameter from the SO.
* Ability priority – again, reference this from the SO.

And then a switch statement for actually doing the ability, controlled by an int abilityChosen.

So each fixedupdate it decreases each ability’s cooldown timer.

Every second, the script runs through the cooldown timer, charges, and ranges of abilities. If cooldown < 0, charge > 0, range > distance between it and target, its entry in isAbilityAvailable is true, else it’s false. Then, it does another for loop iterating through the isAbilityAvailable, and sets abilityChosen to the index of the highest priority available ability.

**If we go down the SO route, the following parameters will be had for everything:**

* **Ability delay time – only enemies use this, and it is used to dictate how long after using this ability that another ability can be used. Important for really chaotic attacks and stuff – i.e. if there’s a very hard to dodge attack, it would be kinda shit if the enemy spawned that attack then immediately started throwing out other attacks, so this is important.**
* **Cooldown time**
* **Max number of charges of ability.**
* **Attack prefab, like ya know, the bullet, lazer object, whatever the hell.**
* **Attack range (mainly for melee n shit)**
* **Weight (stronger attacks have higher weight to use. Doing a weighted random since just making higher priority attacks always occur in preference to lower priority attacks can make the boss a little less predictable. Still, for particularly characteristic moves that bosses have, for example, the weight should be set super duper high so it’s nigh on guaranteed).**

The UseAttack method has a lot of arguments, just anything that all abilities could need to function properly:

* Direction to use ability in
* Target (I guess this could be important for abilities that home and the like)
* Team (enemy or player. Just sets the collision layer/tags for any spawned objects)
* Damage
* Which object is using the ability

Also on the SO is a method, CheckUsability, which is called before an enemy gets to use an ability to check that the ability should be used. The usability method ensures that the ability is worth using, i.e. for melee weapons it checks that the target is actually within melee range, for lazers n shit it checks if the target isn’t behind an object, etc. if these criteria are fulfilled, the attack is okay to use.

I wonder if maybe instead of having one active item slot, and active items being items you activate every 30 seconds or so, you can have two item slots, and the items are much more frequently used. Kinda like the skills in Dead Cells in that implementation. It would make sense, in that case, for boss item drops to be these kinds of items (and would be easy to implement, since the attacks would already be coded for the bosses!). That would tie into the thing of there being lots of cool rare drops.

Maybe make it so the abilities don’t drop on round end, but must be found around the map or whatever (just a different way of finding them compared to items).

# Obstacles

Certain enemies should be able to fly over obstacles.

Typical obstacle types:

* Pits – invulnerable obstacle, can dodge over it but falling down deals damage. Enemies just pathfind around it.
* Item rock – drops an item when destroyed.
* Power rock – gives an all stats up when destroyed.
* XP rock – drops a number of XP orbs when destroyed.
* Supercharge rock – gives a firerate and damage up when standing near it.
* Regen rock – over time, replaces rocks that get destroyed within a radius and has a better chance of spawning alternate rock types.
* Other power rock – gives a damage and shot speed up when you stand in its radius.

# Areas

I think that one thing I should do is have the idea of every map having a few different ‘events’ that happen around halfway through the allowed duration on the map. This can be used to induce more of a sense of a rush, have the maps feel more dynamic, and so on. I think we can use these to emphasise the idea of the universe and time breaking down around the Boberman as he goes.

Each area has the general event of the enemies spawning in that environment changing. Hence, every environment has a list of enemies that can spawn, with one or two more being introduced around the halfway mark. It would possibly get a little old having huge changes to the level on every single level, so I think for the most part the earlygame areas should just have these enemy changes, keep it relatively subtle, but the lategame areas should have more pronounced map changes, like some doors opening up after some period or whatever.

Then, after the full time has elapsed, the spooky enemy spawns to come fuck you up.

* Snowy area. Has small ice lake areas that reduce your friction but break if an explosion happens on them, which should be lethal for player and enemies alike.
* Blood/bones wasteland area. Has these pustule growth things you can break that deal a strong DOT to anything in their area.
* Volcano. Dark rock/orange kinda vibe, enemies in this area should be immune to lava/fire. There are various lava fissues that occasionally spew fireballs (maybe whenever something goes over them?), setting fire to everything they touch. Define fire as a DOT that has a long duration, new procs refreshing the timer (but does not stack). Standing in the lava deals a lot of damage and procs fire. Also there are little lava streams near the edges of the map, with the edges of the map just being a big lava pool that you obviously can’t cross (cos then you’d be OOB). Lava should deal a lot of armour damage.
  + Maybe combine with this with a swampy vibe, could be funny.
* Energy forest. Lush reddish forest powered by electric blue soup. Some trees have eyes in em or sth, and shoot out blue lightning when they see you. This does the normal shock effect.
* Scrapyard. It’s a funney scrapyard, with weird scrap-themed enemies.
  + Lore: through some means (erm come up with the why for this, and make some other areas’ lore involve this!) the allens duplicated Earth during the Renaissance, but after realising there wasn’t too much to research they just abandoned and turned it into a trashyard where they throw all their shit when they’re done with it.
  + Boss: Trash master (Queen of Detritus) – made of random bits of reanimated scrap metal, car parts, corrugated iron, and any of that sorta stuff you’d find in a scrapyard. Can walk around, but very slowly.
    - Throws an arc of glass shards that deal lowish damage but inflict bleed.
    - Sinks into ground, disappearing for a couple of seconds, and bursts up where you were 1 second ago, sending a bunch of bits of scrap detritus flying around it as projectiles.
    - Takes control of any large obstacle around you (like a car or something) and flings it at you.
    - Spawns a few scrap minions (just random enemies from this map’s mob pool).
    - Absorbs any bullets you’re shooting for a couple of seconds, munches them up, and launches it out as a big ball of scrap that bounces around. Bounces three times, each time launching a small bit of scrap off, becoming smaller and deals less damage.
    - Makes a sword out of a glass shard, swings it in a kinda chaotic combo, and inflicting bleed on hit.
      * Boss item: every 20 seconds, spend 5 seconds sucking up all nearby projectiles, after this, next time you shoot, also shoot out the same bouncing projectile as the trash master. Damage and number of possible bounces increases with stacks. Note you can still shoot normally during the duration.
* Hell 2
  + A kinda darkish, musky, mostly dark orange-red and dark grey with accents of neon green (kinda inspired by one of the first floor Fiend Foilo bosses). Dusty. Holes hint at some neon green glowing liquid or sth beneath the level. Marcelageloos exist here (they kinda just exist standing around).
    - Drone: skull with horn(s) coming out of eye socket(s), no jaw, but a blue/red arm extending out of the bottom. If close enough to end up at minimum the same distance away from the player, dodges through the player to get behind them. Shoots a wide arc of projectiles (probably like 30 or so over about 180 degrees, but bullets slightly delayed from left to right, and start very slow but speed up.

## Alt areas

I think there should be alt areas, off the main path, that are slightly smaller, more difficult but have unique rewards, kinda like the prisoners quarters in Dead Cells. They should also have unique enemies.

* Factory. Enemies killed there drop scrap metal, which you can then place in one of a few hoppers around the map. If enough scrap is placed in a hopper, it produces an item. Enemies are unique robotic versions of normal enemies, that have a chance to “glitch” at low health (they can be a variety of things, like sporadically launching a bunch of bullets, becoming charmed, and so on).
* Rave – a big, sprawling nightclub. Alt area, all the enemies perform their actions on beat. Bullets you shoot on beat can also get a 50% damage buff or something. There should be a bar there, that at some point you can choose a beverage (or drug) from, this would be a good opportunity to implement the weird random item.
* A level that’s “like” the starting area, whatever that ends up being, but subtly hue shifted to give it an off feeling. All the enemies look like the enemies in the starting area, but it becomes clear when they attack you/hit you or something that they’re weird and corrupted.

# Enemies

* Summons a big vertical wall that moves across the screen can’t be dodged through. Gaps in the wall open and close on a timer (i.e. with consistent timing) and you have to get through via them. They only summon the walls once every 15 seconds or so but can do so repeatedly when they’re alive. If there are multiple on screen, only one can do the ability.
* Fires a lazer, but only does so in the cardinal (up/down/left/right) directions and when you could get hit by it.
* Fires curving lazer, kinda like what the Colossus final bosses from Towerclimb do, but maybe make it so they do a 360 spin with the lazer.
  + Can turn the spinning lazer into an item (every 10 seconds do the spin or sth, stacks make the spin repeat)
* Spawns a circle on your position and one second or so later, deals damage to that area.
* Runs towards you very quickly, and drains your HP whenever it’s close to you, but gives this HP back upon death.
* Enemy that doesn’t attack or deal damage (but still walks towards you). Anything (i.e. you AND enemies) get a fire rate and damage up when standing in a certain radius of it.
* Shoots a burst of 5 bullets like an SMG, with high spread.

## Themed enemies:

* Rust knight – spawns in the scrapyard. Armour made of scrap metal and shit. Have small physical resistance. Two variants:
  + Halberd – when close to you, pauses briefly, then lunges at you, does a little spin with the halberd at the end of the lunge.
  + Sword – does a quick 3x back and forth swing when it’s close to you.
* Rust goliath – tough enemy, spawns in scrapyard. Big, slow guy in armour, with a big fucking greatsword. Even when you’re not close (as long as he’s onscreen), he slams the sword down, doing an AOE and creating a shockwave that travels in the direction of the swing. The sword hit itself does 200 damage, the shockwave/AOE deal idk half of this.
* Rust mage – fires three slightly homing, low damage magic bolts at you that speed up over time. Occasionally uses gravity magic to launch a big ball of scrap at you, the ball explodes into little scrap projectiles where you were.
  + Wears a kind of dress-esque wizard robe.
    - Hat can be a traffic cone
    - Face is just one red light probably
    - One arm can be a suspension rod, maybe welded to whatever rod it is under a car.
    - Wand can be a couple of camshafts welded together, with the “crystal” on the top being made of shards of broken glass.
* Rust arbalest – occasionally fires a fast-moving bolt that applies the chungus knockback script. While they’re shooting, and for a small period after the fact, they can’t move. They try to run away from you.

## Bosses

* Multitooth tiger. Like a sabretooth (boberman’s natural enemy) but can switch between weapons. Weapons are sabres (wow), a gun, and some other weapon. After 2 attacks, it cycles to another weapon, does 2 attacks, etc. each weapon should have 3 or so different moves associated with it.

## Elite types

* Hmm. That’s a tough one. Hmmm. Picks up and throws other enemies at you.
* Can absorb your items temporarily, gives them back when it dies.
* Buffs up nearby enemies.
* Places sentry turrets as it moves.
* Telefrags you (replaces current telefrag enemy).
* Has 3 random items.
* Explodes on death, dealing damage to everything around it.
* Dodges around every 5 seconds, damaging players it passes through for half of its damage. Pretty much JUST to justify enemies being able to use dodge-based items.
* Gains an item every 10 seconds.

# Statuses

* Bleed (implemented): weaker DOT that stacks, with new stacks refreshing timer.
* Poison (implemented): DOT with which each stack has its own damage and timer. New stacks do not refresh timer.
* Electric link (implemented): non-stacking, enemies with this status take 10 damage when another enemy is hit.
* Slow (implemented): non-stacking slow, timer reset when new stacks applied.
* Electric shock: stacking, stuns enemies. A large number of stacks are applied when this is dealt, and the number of stacks decays over time. When the stacks hits 100, the enemy is instantly killed.
* Freeze: non-stacking, stuns enemies, new stacks refresh timer. While frozen, victims take 1.5x damage.
* Fire: non-stacking, new stacks refresh timer, powerful DOT.
* Hellfire: Deals 10% of your health per tick, ticks every half second. Non-stacking, new stacks refresh timer.
* Vunerable: stacking, gets removed after 5 seconds of a new stack not being added. Enemies take +20% more damage per stack.
* Charmed: Non-stackable, new stacks refresh timer. Enemy starts attacking their allies.
* Biohazard: multiple types of debuffs. On affliction, the victim takes either 50% or 100 (flat) of their current HP as damage (whichever is lowest), and one of the following is applied, victims can have any number of these at once, but individual ones of these effects don’t stack, if ya get what I mean. Every 4 seconds, that initial damage repeats, and a new affliction is added. Once all types have been applied, the victim is set to 1 HP (does not apply to bosses), all future damage taken is doubled, but all afflictions are removed. The damage from this status cannot kill you:
  + Leave very high damage creep on the floor that damages other entities on the same team as this. (yellow status)
  + Take 50% extra damage (red status)
  + Move 20% slower (blue status)
  + Cannot heal (green status)
  + Prevents you from using one of your secondary abilities. (cyan status)
  + Enables friendly fire with allies (pink status)

# Items

**Flowchart for adding new items:**

* Make item/all related objects/item sprite (obviously).
* Add a method (public void Undo()) within the item that undos any stat changes associated with the item. Needed for stuff like damage ups (including converter), better dodge, etc., and any item that adds a new thing to a delegate needs to have that addition removed.
* If item stacks by increasing instances value, add the following method:

void IncreaseInstances(string name)

{

if (name == this.GetType().ToString())

{

instances++;

}

}

* Add a new entry to the ITEMLIST enum.
* Add a new thing in the itemDescriptions script.
* BY THE WAY, for any items that trigger on-deaths, remember that there are the player’s item on deaths (call lastDamageSource.SendMessage("ApplyItemOnDeaths", gameObject);) but ALSO the enemy’s inherent on deaths (ApplyOwnOnDeaths()), so items that trigger on deaths should call both.
* Make sure to test the item with every weapon!

Possible item triggers:

* On hit
* On hurt (when self is hurt)
* On enemy death
* On level up
* On round start

## Passive items

* Gain (20 + 20 / instances) energy resist and bonus fire rate (half that of the fire rate up per stack).
* Gain (15 + 15 / instances) physical resist and bonus HP (probably +15 per stack).
* Gain 100 chemical resist (i.e. creep and the like), and bonus status effect buff (+100% more powerful, per stack).
* Gain 100 explosion resist, makes all explosions +100% larger per stack.
* Get 2 random gunners.
* Gunner that has infinite sight range (as long as there’s no obstruction blocking its view of an enemy, and the enemy is actually onscreen) and lowish fire rate. Fires a fast-moving shot with infinite range that pierces enemies and applies the knockback script. All familiars have higher bullet range and higher shot speed.
* Picking up XP damages every enemy for 5HP per stack.
* 50% chance to be gifted enough XP for the next level when you level. i.e. if you’re at level 3 and level up to level 4, there’s then a 25% chance you’re given enough XP to be taken up to level 5, and then there’s another 25% you’ll be taken up to level 6. Stacks increase the proc chance logarithmically (i.e. the chance increases by a decreasing rate). The proc can repeat up to 3 times off a ‘natural level up’ (+3 times per stack).
* 25% chance to freeze enemies on hit. Frozen enemies can’t move for 1.5 seconds and take 1.5x damage. Stacks increase duration and damage increase.
* 20% chance when an enemy dies to spawn a landmine. The mine deals 100 max damage (+50 per stack) and the range increases with stacks.
* Status effects (bleed, fire, freeze) are 33% weaker, but they have a 50% chance to spread to nearby enemies when effected enemies die. Stacks increase radius and chance to spread.
* Once per second, enemies in a certain radius around you experience your bullet effects (i.e. it rolls to proc bleed, fire, freeze and ATGs once per second, but does no damage.) Stacks increase radius and decrease cooldown timer.
* Shot speed, range, and movement speed up.
* Hitting an enemy in close range gives you 0.5 seconds of invincibility. Range increases with stacks.
* Temporarily increase firerate upon critting. Bonus increases with stacks.
* Crits spawn an XP orb. More orbs spawn with stacks.
* Crits heal 5 HP. Heals more with stacks.
* Increase natural crit chance by 10%. Stacks as you’d expect.
* Crits inflict a random status effect on enemies.
* Every frame you're not firing, get a temporary damage and firerate up. Stacks increase duration of effect.
* Increase firerate and range by 50% below 50 HP. Stacks increase bonus.
* Pain probability - Taking damage permanently increases proc coefficient of all sources by 0.05x of the damage you took. Increase increases by 0.05x per stack.
* Upon being taken to below 50 HP, enter a 3-second phase where you take half damage, and hitting an enemy within a close enough range heals you for 15 HP. Stacks increase the length of the period and damage reduction.
* Bigger bullets (also increases melee weapon size)
* Killing an enemy deals damage to all enemies in a radius. Radius increases with stacks.
* Chance upon killing an enemy to spawn an axe that flies around for a few seconds, homing in on and dealing damage to enemies. Stacks increase time it’s active.
* An extra life. Yay.
* Every lethal hit, don’t die, but reduce max HP by 30 and get set to 1 HP. After each trigger, halves the max length of iFrames and decreases proc coefficient. Stacks decrease the HP, iframe and proc coefficient reduction debuff (each one makes the effect 2/3 as significant).
* After taking lethal damage, you don’t die, but enter a ghostly state where you have 1HP. Return to your normal state after picking up an item. Only works one time per stack.
* If you have under 100 max HP, each kill gives you +1 max HP.
* After taking what would be a lethal hit, the next item you pick up gets applied 4 times per stack.
* Double your health but remove the first item you picked up.
* Locks your max HP to what it currently is. Fire rate increased by 3, shot speed increased by 3, and base damage increased by 10.
* Damage you take is divided by 4, but occurs 3 times over the course of the next few seconds.
* Every 5th shot leaves a trail of short-lasting wapant creep on the floor. Size of creep increases with stacks.
* 10% chance for bullets to leave a trail of bullets behind them. These bullets have high range, slow movespeed and random movement direction AND can collide with each other (but don’t die on hit). They deal 0.5x damage (+0.5x per stack) of your normal bullet damage and copy all bullet effects.
* Fire delay -8, bullets move in a zigzag pattern.
* Chance for bullets to deal heavy knockback to enemies. Enemies effected by this deal damage to enemies they hit based on how fast they’re moving. CHANGES BULLET TO A FIST
* After killing 5 enemies in a certain window of time, gain 1.5x movement speed and 2x damage for 5 seconds.
* After taking damage, deal damage to enemies to regain health (like Dead Cells rally). Speed at which rally decays decreases with stacks.
* Bullets get a random bullet effect. Will have to make tags for bullet effect items. Stacks give extra effects.
* An orbital that, upon getting hit, fires a missile at the responsible enemy.
* Obstacles have a 50% chance to drop a goody when they are destroyed. Goodies include heals (40% chance), XP (5 – 10 orbs, 40% chance), or an item (20% chance). Stacks shift the weight towards dropping items.
* Your bullets deal +4x damage to obstacles.
* When obstacles are destroyed, they shoot out 10 bullets that deal your damage stat and inhere your effects. Damage is multiplied with stacks.
* 20% chance for shooting a rock causes it to be activated; the next bullet you shoot that lands far enough away causes activated rocks to be launched towards the location, dealing 150 (+150 per stack) damage to enemies.
* Higher chance for special rocks to spawn.
* Obstacles have a 50% chance to regenerate into a special obstacle type upon being destroyed. Chance increases logarithmically.
* Your first hit (+ 1 extra hit per stack) on an enemy is a guaranteed crit. Crit damage multiplier -50%.
* Every time an enemy takes damage they take +5 damage per stack from damage sources, i.e. if a bullet hits them and deals 50 damage, next hit will be 55, then 60, etc., works for DOTs and the like. Caps at +25 damage per stack.
* Every 2 seconds when firing, you shoot a lazer out that copies all your bullet effects and deals 3x damage. Stacks give you extra lazers that fire out around you.
* Every shot you shoot that DOESN’T proc a random effect gives you +10% damage, up to a maximum of +100%. Random procs reset this. Stacks increase the buff received and increase the bonus limit. Decreases your bullets’ proc coefficient by 0.5.
* On hit, your bullets inflict a status effect that stacks like bleed. When your bullets do a random proc event (or after a couple of seconds of not being hit), a black hole is created that sucks in enemies and deals damage to them. The damage, size and duration of this black hole increases exponentially with the number of stacks the enemy had. Stacks add an extra stack of the status on hit. Maybe the status also activates on death?
* Shots that don’t proc a random effect heal you for 1 HP, +1 HP per stack.
* Enemies you touch take 2x your damage.
* Receive an increase to your fire rate and move speed over time, resets at the start of each level. Fire rate doubles every 3 minutes, and move speed increases by 50% every 3 minutes.
* Receive an increase to your proc chance over time, resets at the start of each level. Proc chance quadruples every 3 minutes.
* Crits add 0.5 seconds to the timer.
* Defeating a wave adds 5 seconds to the timer.
* After the timer runs out, your attacks heal 5 HP.
* Items collected after the timer runs out give you 4 of the item you picked.
* If caught by Pizza Face, you get locked to 1 max HP for the rest of the run, but receive 4x items.
* Receive a huge damage and firerate buff if close to Pizza Face – the closer you are to him, the higher the buff. Maximum of 3x fire rate and damage when near him.
* 50% of any temporary damage, fire rate, shot speed and whatever other buffs get added to your actual stats at the end of each level.
* You are 1/3 smaller, and get +something move speed.
* Pizza Face takes damage, and has something like 1000 health. If you defeat him you are teleported to the next level, get 2x items for the rest of the run, but shortens the level timer by 25%. Works 1 time per stack.
* Receive +1 permanent damage and HP up for every 5 seconds you stick around when the timer runs out.
* Familiar that walks around randomly and eats any enemy that it touches. After eating 3 enemies, it spits an arc of poison gas that lingers for 5 (+10 per stack) seconds, poisoning enemies every second that they stand in it.
* Familiar that bounces around like the DVD logo. Every enemy bullet that hits it causes it to shoot 8 bullets around it that deal 25 damage. Deals 10 damage per tick. Stacks summon extra ones.
* Familiar that targets an enemy, picks it up, and throws it at enemies when it detects there’s a cluster, applying the knockback script we all know and love.
* Familiar holding an electric pylon thing that zaps enemies (and itself) in a radius every 15 seconds, for 5 seconds. This deals no damage but stuns enemies and increases the damage they take by 50%. It only does the zap when you’re out of range, but you can walk into the range and get yourself zapped. Stacks increase the zap duration.
* Familiar that follows you closely, doing a knockback that recharges after 30 seconds when enemies or bullets get too close. Stacks add extra charges (i.e. can block twice two seconds apart, both charges then take 30 seconds to recharge).
* Big bus familiar. Like the charging enemy, but does not stop charging when it hits an enemy, and the knockback amount is enough to instakill most enemies. It hits you, but only targets enemies when they’re not in the vector such that the bus would hit you, and it brakes when you’re in front of it (such that it would deal less damage on impact, and When it hits a wall it breaks down. Gets fixed after 10 seconds or so. Stacks increase the number of times it goes before it breaks down.
* Upon killing an enemy, 1/round number chance to summon a familiar with 50 HP that runs around and shoots at enemies, applying enemy on-kills. This inherets all familiar bonuses.
* Killing an enemy summons a ghost of it. Ghosts deal 50% of the damage they used to, and they die after 10 seconds, applying enemy on-kills. Inherets all familiar bonuses.
* Familiars move faster and have 25% shorter cooldown times.
* Familiars heal you for 1 HP per second when they’re close to you.
* Familiars do an effect similar to that charged cord in Isaac.
* Familiars aim towards your mouse pointer. Increases familiars’ range.
* Familiars have a 25% chance to spawn a clone of themselves upon killing an enemy. The clone lives for 30 seconds. This ability has a 45 second cooldown for each familiar, but clones can clone themselves. Stacks increase the chance it happens.
* Spawns a soccer ball on the map. When close to the ball your fire button causes you to kick the ball in the direction vector from you to the ball (shows this vector when you’re close enough to it). The ball flies forward, giving enemies it hits the knock script and bouncing off walls and the like. Using your dodge ability, at least 10 seconds after you last kicked it, teleports it back to you. Stacks increase the velocity at which you kick it. (Could maybe make it deal more damage/explosive damage the more times you kick it within a certain timeframe to encourage you to always be chasing after the ball, and if you manage to kick it off enemies enough times quickly it just causes a big nuclear explosion) <- mesh idea that goes hard
* Funny epic random item:
  + When you pick it up, it selects a trigger and effect. Each trigger and effect has a certain cost associated with it. If the cost of the trigger is below 50, it rolls to either add a new trigger or add a new effect, this process repeats until the cost gets to 50. For trigger/effect combos that have a cost of above 40, it sets the chance of occurring to (100 – 2 \* (cost – 40)), clamped to a max of 100% and a minimum of 2%. If an effect hurts current enemies, the item is guaranteed not to roll ‘on round end’ cos that would be fuckin shit wouldn’t it?
  + Effects:
    - Hurt all enemies for 50 damage after a short delay. (25)
    - Give enough XP to level you up. (50)
    - Adds 3 seconds to the timer. (30)
    - Heals 20 HP. (30)
    - Increases your fire rate by 0.2f if you haven’t been hit for 20 seconds. (20)
    - Spawns 3 XP orbs nearby. (5)
    - Rerolls all nearby rocks. (10)
    - Marcelageloo effect. (40)
    - Summons a familiar that has the ATG’s movement, but rather than exploding on hit, deals 50% of your damage upon passing through an enemy. (25)
    - Increase a random stat by 5-10%. (40)
    - Applies a random status effect to all enemies after a short delay. (10)
    - Get invincibility equal to 20% of your damage stat (i.e. with 50 damage you get 10 seconds). (40)
  + Triggers:
    - On hitting an enemy. (50)
    - Every 30 seconds. (20)
    - On round end. (10)
    - On picking up an item. (10)
    - On taking damage. (5)
    - At the end of a dodge during combat (during combat to stop the player from spamming the effect when there are no enemies around). (35)
  + Selects a funny name for itself, consisting of adjective, noun, and occasionally a suffix
    - i.e. “Ferromagnetic Globule V3” or “Wacky guy” or “Thinglike thing VII” or “Boberman’s Boberman”
* Receive two copies of the next item you pick up.
* Cursed items are +100% more likely to spawn.
* Increases the weight of rarer items (+100% higher weight per stack).
* Receive +200% XP from pickups when you have a curse active, stacks linearly.
* Proc events have a 10% chance to repeat themselves.
* On-death effects also trigger when an enemy gets below (or equal to) half health. Stacks increase number of times this occurs – for example, 2 stacks mean it occurs when at 66.7% and 33.3% health, 3 stacks means 75%, 50%, 25%, etc.
* On-death effects have a 20% chance to repeat. What this should do, is when this procs, it spawns a GameObject where they died that repeats the effects after a slight delay, maybe 1/3 of a second. Stacks cause the effects to occur again – i.e. 2 stacks means it happens 2 times, 3 stacks 3 times, and so on.
* 5% chance on death to instakill all enemies in a given radius. Radius should be moderate size. Radius increases with stacks.
* 20% chance for, when enemies take damage, all enemies in a radius take 50% of this damage. Stacks make it repeat, i.e. 2 stacks makes it occur a second time after a delay. 0 proc coefficient.
* Gain 10% bonus movement speed per max stack of an item you have (i.e. if your most stacked item is bleed, the bonus depends on the stack size). Up to +100% move speed per stack is possible.
* Chance upon hitting an enemy to throw a poisonous vial at the enemy that leaves creep on the ground that applies poison. The poison does 10% of your base damage, and the vial has a 0.5 proc coefficient.
* Chance on hit to deal an extra 50 damage (+50 damage per stack) after a delay, kinda like needletick (but a shorter delay, maybe 0.5 sec). The percent chance of this proccing is half of your damage stat (caps at 100%)
* Bullets have 10% chance on hit to tether an enemy (like the plasma gun in RoR). This enemy takes 0.2 \* (the player’s damage) ^ instances damage every 0.5 seconds for 3 seconds with a 0.4 proc coefficient.
* Whatever that funny doll type is called when one is inside a larger one is inside a larger one: 1/3 chance for an item pedestal to spawn another pedestal when picked up. Can occur 1 time per stack.
* 15% chance on hit to spawn a fast-moving orbital with a radius between that of orb 1 and 2. These orbitals deal your damage stat. The number spawned is the number of instances of this item.
* All damage sources that AREN’T your bullets deal an extra 5 damage (+5 per stack).
* Increase movement speed and fire rate depending on your missing %HP. The bonus is +0.5 x your missing HP per stack.
* You can only be killed by damage sources that deal over 1/4 of your max HP. Stacks increase this logarithmically up to ½ of your max HP.
* When below 25% HP, a heal effect starts. After 10 seconds (down to 2 seconds at high stacks) it heals you to full HP, but damage interrupts it (and it doesn’t restart the countdown after being interrupted). Recharges after 30 seconds (down to 15 seconds at high stacks).
* Healing’s potency is dependent on your missing %HP. Healing is +2 \* %HP missing x as effective per stack.
* At the end of your dodge, shoot 8 (+ 8 per stack) fireballs around you that inflict fire and deal 25 damage, with a 0.5 proc coefficient.
* On taking damage, create a big puddle of poison around you that deals some multiple of the damage source as damage. Size and multiplier increases with stacks.
* If you start shooting 0.5 seconds after dodging (within +/- 0.05 seconds), fire a superLazer that has your first shot has 5x damage and 5x proc coefficient, bonuses increase linearly with stacks.
* On level up, your first hit summons a wraith status that effects enemies with 0 proc coefficient and 5 \* round number damage per second (targets one enemy at a time!). The wraith lasts 5 seconds (+3 seconds per stack), but hitting the enemy it is inhabiting sets the timer back to its max (make that a rollonhit). The wraith can last for a maximum of 30 seconds (+15 per stack). Upon killing an enemy, the wraith moves to another enemy. Note that it doesn’t actually ‘follow’ the enemy, rather copies their exact position and damages them (and when it infects another enemy it more or less teleports with a cool transition)
* On picking up XP, hurt all enemies in a radius around you for 10 damage (+10 per stack). Has a proc coefficient of 0.5.
* Dodging while not moving causes you to parry – spawns a hitbox directly in front of the player, and if any bullets or enemies are in the hitbox, deals 50 damage (or your bullet damage, whichever is higher) to nearby enemies and deflects all nearby enemy projectiles. (radius increases with stacks). Successful parries make you invincible and +100% crit chance for 2 seconds (+2 per stack).
* Every second, auto-fire a fast moving crystal dart at an enemy that deals your damage and infinitely pierces enemies. Stacks increase fire rate. Proc coefficient 1.
* Pressing shoot while dodging resets the dodge timer and causes you to move the direction you’re aiming. Can be used once per dodge, per stack.
* Killing an enemy adds a close-range, non-projectile blocking orbital, capping at 20 orbs. On taking damage, fire these orbitals at enemies like ATG missiles, that deal 25% of your damage and have a proc coefficient of 1.
* Touching an enemy during your dodge teleports them some distance behind you (i.e. in the opposite direction to which you’re dodging), and deals damage equal to its max HP to enemies in a radius (proc coeff 1), including itself obviously. Radius increases with stacks.
* Every second, gain an orbital that does not block projectiles. Upon shooting, the orbital speeds towards the enemy closest to your cursor (similar to ATG movement) and hits them for half (+50% per stack) of your base damage.
* Legendary item: If enemies have an item, remove it. If they do not currently have one, remove the next item they get.
* Gain +1 weapon slot. Weapons can be scrolled through using the middle mouse button.
* Biohazard shots – Gain +100% biohazard resistance. Every 20 seconds when firing, you also fire a vial that inflicts the biohazard status. On kill, infected enemies split into 6 projectiles that inflict each of that enemy’s biohazard types, but can hit both enemy and player teams (hence why the resistance is necessary). Stacks give +50 biohazard resist and decreases cooldown time logarithmically-ish-kinda-like. Min cooldown time should be 5 seconds.

## Weapons

* Whip: Decent range, lower damage, higher fire rate. Destroys bullets.
* Spectral cat shooter: higher fire rate, low damage, each hit applies one stack of vulnerable (cats swipe at enemies they hit)
* Double shotgun: slow fire rate (half that of normal), low damage (by default, 10 per bullet), but some special affix that allows it to be fired twice each time the fire timer reaches 0 (i.e. once you shoot, the fire timer goes to 100 as normal, but you can shoot another time before the fire timer resets). Cannot hold to shoot. Shoots 10 bullets in an arc, like the monstro enemy, that have damage randomised by a factor of about 20%. Should make it slightly knock you back when you shoot and do screenshake to give a funney epic powerful vibe to it.
* Blunderbuss: Functionally based on the lazer: Lower fire rate, pierces through enemies it kills, and deals high knockback (do the good ol high KB knockback script bullshit).

## Active items

New ideas:

* 20 second cooldown, call a big missile strike where your reticle is that hits after 5 seconds for 10x damage.
* 4 second cooldown coin flip – like Ultrakill, flip a coin up. Shooting it redirects your bullet to the nearest enemy, dealing 2x damage and 2x proc coefficient.
* Temporarily remove half of your items, but gain an all stats up proportional to the number of items removed.
* 10 second cooldown. Upon use, spawns a RoR2 Railgunner-esque reload bar. Activating the ability again fires your primary weapon for up to 4x damage and 2x proc coefficient.
* 15 second cooldown. Activates your two other skills, regardless of their cooldowns, and NOT triggering their cooldowns or reducing their charges.
* 20 second cooldown, Fire a slow moving ball of energy that deals 200% damage. If an enemy is killed by this projectile, it fires lightning at the 2 closest enemies for 80% of the ball’s energy. Enemies killed by that repeat the lightning chain, again doing 80% damage.

Old ideas, might use some in the new planned active implementation method.

* 10 second cooldown, charms enemy nearest to your mouse cursor.
* 20 second cooldown, deal +50% damage but take +30% damage.
* 60 second cooldown, summon a Trin familiar for 20 seconds that runs around, shooting and stabbing enemies. During this time, if you walk into him you pick him up and can throw him at enemies.
* Marcelageloo radius – spawns the marcel radius effect (bullets are deflected and enemies in a radius are slowed) for 5 seconds. 15 second cooldown.
* 20 second cooldown, shoot a superLazer (just a normal lazer, but with a unique particle effect to differentiate it) that deals 5x damage and 5x proc coefficient, and obviously copies all your items. Make it deal a bunch of game freeze on shot to make it feel powerful.

# Music

Would be fun to have some cool old-school liquid, like this <https://discord.com/channels/709264126240620591/755139710589993111/1094996703058341988>

# Art

## Fashion

So in Lil Aggy’s small Elden Ring character video, the guy actually looks kinda cool in the latter parts of the video (in faram azula/onwards, especially with drac. Tree sentinel armor), so maybe make a set based on that. Could actually use that as inspiration for Queen of Detritus actually.

# Lore

New idea, that’s simple and not ass hopefully:

It’s literally just about time breaking down, the universe ending, and such. The Boberman, who is receiving items and equipment for… some reason, is just fighting because he’s dumb and doesn’t realise what’s going on, but for the player, it’s about trying to survive, and not give in to time caving in on itself. Perhaps at the end of the run, you can either extend time (somehow), which further corrupts time and leads to the extra chaos of a loop, or either just fucking go down with time OR alternatively escape to another timeline. I’m not sure what yet.

An idea I had at 2:14AM when I couldn’t sleep before my last exam of semester 1 year 3:

The allens are essentially performing research on Earth and a bunch of other planets, in order to essentially determine the ‘ultimate society’, where there is no conflict, complete peace, no environmental destruction, and so on. To do so, they are able to create essentially ‘simulated solar systems’, essentially duplicates of the existence of a particular dimension, then study it with any required changing of variables to see how different societies respond to the changes (which ones are more successful and the like). When the simulation is done being used, the allens do a kindness by merging the consciousness of equivalent people, so nobody technically experiences death or ‘deletion’ via this process. An issue arises with the Boberman, as they are so stupid that the Allens can’t find a consciousness to copy over, and as such, they can’t be deleted. So, unfortunately, they have to kill the Allen, however this too doesn’t work. So, the Boberman hops from reality to reality, planet to planet, to try to escape from the Allens’ forces, unintentionally corrupting other duplicated realities. This could be so catastrophic to the very fabric of the nature of existence, which is why the Allens are so heavily intent on ending the Boberman.

Random item lore ideas:

* Concrete drops (the ‘brick’ item) – in a reality of completely ridiculous and extreme urbanisation, the residents have taken to actually eating concrete because there’s no land left to grow anything. A funny little surprised dialogue between Allen researchers discussing this could go hard.

# Longer-term ideas

I like the idea of enemies having a tiny chance to drop a card (tarot card, maybe?), and from then on every game you play it draws 3 of the cards you’ve collected and you can choose one that adds a little spice to the run. If a card drops during a run you can choose to activate it then and there as well. I think they should be net positive but give some interesting downside. Cards should also have a weight assigned to them so some are less likely to spawn than others, which could make for some fun when you’re offered a very rare card. A wild card that has a randomised effect would also be fun.

At the end of each run, the total xp you got can be spent in a little store to unlock permanent upgrades, like more HP drops and 20 minute till dawn-esque rune upgrades. Every 5 upgrades you unlock gets you a new weapon (should be in a set order, i.e. you start with the pistol, after 5 upgrades you get a shotgun, a further 5 gets you another thing, etc.). Having a little skill tree could also be fun and lead to some pog moments when you unlock the ‘omega upgrades’.

The structure of the game should be kinda RoR-esque, i.e. you start in one area, then go to another, then to another, with the last thing you do in each area be fighting a miniboss. Maybe 5-10 waves per area would be funny. Possibly a lil slay the spire-esque route progression could be fun. Areas don’t need to be unique, but could be kinda randomly generated, like it generates a list of 5 enemy types to use, a particular sprite sheet to use, a particular palette swap setting thing, and chooses between one of the maps.

I love that sense that I used to get from the old Star Wars DS games of there being secret doors and the like I could see were there but didn’t know how to access – this could be very fun to recreate, with very rare locked doors in maps that can only be unlocked with a certain, very lategame key item meta unlock, that are, until that point, very mysterious. Obviously there would need to be something to go behind them in order for that to not be a scam – they could be stuff like unique cards, a new item added to the pool, etc.