**Base Build GDD**

* Building repair – When buildings are destroyed, they can be repaired by followers for a lower resource cost than the full build cost
* Fog of war
* Spawn creatures over time (up to a maximum number)
* Separate world into chunks

Functionality

* Land corruption and healing – healthy land can be corrupted by enemies, and corrupted land can be healed by priests
* Resources that are mined in corrupted areas draw more enemies and drop fewer resources
* Land healing draws far more enemies (priests must be heavily defended to heal land)
* Enemies can only be spawned in corruption
* Spawners appear in corrupted lands, the player must find them and destroy them before they grow
* Enemies target the home building (firepit etc.) until they are hit or are blocked by a wall
* More enemies and tougher enemies spawn as the player progresses
* Squads – allows soldiers, archers and priests to be commanded as groups rather than as single units. Combine squads to create armies

Buildings

* Guard tower – allows for archers to fire over walls when assigned to the tower
* Spikes – deal damage to enemies that walk over them
* Barracks – Convert followers to soldiers
* Temple – Convert followers to priests
* Archery range – Convert followers to archers
* Lumberyard/Mine/Farm – allows for resources to be gathered over time indefinitely
* Roads – Followers move faster on roads
* Bridges

Follower types

* Priests – priests can heal corrupted land over time, they must be defended while healing (more enemies attack priests while healing)
* Archers

Enemy types

* Undead – followers and soldiers can be raised from the dead by enemy necromancers. Standard undead followers have low health and damage, but soldiers have higher health and damage
* Necromancer – Raises followers and soldiers from the dead in an area around them (can only raise the dead in corrupted land)
* Corruption spreader – Spread corruption to uncorrupted tiles
* Explosive – moves really slowly but deals AOE damage when in range of followers or buildings. They must be killed in time
* Dash – When in range of a target, quickly dashes towards and through the target causing damage

Creatures

* Spawn over time
* Creature pathfinding
* Creature fleeing
* Creature bleeding when hit
* Sometimes doesn’t hit bunnies (not sure why)

Inspector

* Add building description
  + Add follower state/task
* Add building damage to the inspector for all constructed buildings
* Add squad management

Pathfinding

* Separate pathfinding with multithreading (or job system)

Corruption

* Add enemy squad spawning in corruption

Followers/Squads

* Update follower count on UI when follower dies
* Drag select multiple followers into a squad instead of right clicking on each one
* Squad management (removing followers)
* Buildings can call nearby followers to defend it?
  + When important building gets hit, find all combat type followers/squads to defend it (only if they aren’t already in combat)
* Combine squads together,

Worker improvements

* Find new build target when finished construction (continue building wall sections etc.)
* Followers store a list of previous commands and targets

Improved building system

* Drag build for some building types
  + Walls – click to begin drawing, then click again to build
  + Bridges
  + Roads
* Larger buildings
  + Select multiple tiles
  + Check all selected tiles are clear before building
  + Get mouse pos and select tile under it
  + If mouse x remainder (%) is greater than .5, add the tile to the right else add the tile to the left

Priest

* Command to heal followers when not in a squad by right clicking
* Recharge restoration pillars
  + Pillars lose charge over time
* Move away from enemies when too close (find path able tile far enough away)

Necromancer

* Necromancer movement
  + Move towards target unless there are corpses in range and the raise dead ability is off cooldown (if so move towards corpses)
* Check if target already has a shadow effect on them, if so attempt to find a new target

Tile effects

* Freeze effect – Freezes any follower on the tile, slowing them down until eventually freezing in place

**Followers**

There are 5 follower base classes

**Workers**

**Soldiers**

**Archers**

**Priests**

**Mages**

**Heroes**

Hero characters are **selected before starting the game**, and persist throughout the run. If a hero character is killed, they can be **revived** at a specific building (or something else).

Hero characters are **based on the core follower classes** (i.e. Paladin is a soldier hero that boosts priests, and pyromancer is a mage hero that gives archers fire arrows etc.)

They each have unique abilities that can benefit followers or structures, and can deal damage to enemies (**special powers**).

* Paladin (Soldier) – Soldier based hero that boosts the effectiveness of all priests in the same squad
* Beast Master (Archer) – archer based hero follower that is able to add creatures to the same squad

**Abilities**

Special/hero followers can have abilities that can be activated by clicking a button in the inspector. They will each have a unique effect, then will take time to cooldown before it can be used again.

* Meteor – Select a location for a meteor to land, then after a couple of seconds the meteor will hit the ground damaging everything nearby

**Possible roguelike elements**

* Infinite procedurally generated dungeons
* Unlock new followers, enemies and buildings between ‘runs’
* **Hero characters** that can be unlocked by doing various things
  + Can be selected before starting a run (kinda like binding of Isaac or don’t starve characters)
  + When they are killed they can be revived
  + You can only have one of them
  + Based on the core follower classes
  + They each have unique abilities
  + They can level up, increasing their strength
  + When added to squads/armies they can give the followers special powers
  + They can give civilisations (entire gameplay team) advantages
    - (i.e. increased wood/stone/food production)
* **Stackable effects** (similar to binding of Isaac)
  + Squads can be given items to give them unique abilities
  + Effects stack up, sometimes creating interesting synergies and unique interactions
    - (E.g. fire item causes all members of the squad to deal fire damage, when added to archers they shoot fire arrows which burn targets and spread fire to nearby enemies)
* **Items**
  + Items can be found from a variety of sources
    - Rarely from standard enemies
    - Commonly from rare enemies and bosses
    - In procedural dungeon chests
  + Different objects give different followers varying levels of advantages
    - (I.e. increased range will benefit archers more, but increased health would benefit soldiers more)
    - This adds some strategy to managing your squads/items as to make the most out of the items

**Day/night cycle**

* Gets dark at night, limiting vision
* Followers have torch lights that turn on when it gets dark
* Enemy spawn and corruption spread rates increase at night making it harder to defend
* At first you can’t survive the night without controlling followers
* Once you have built up enough defenses the followers can defend the base on their own allowing you to explore dungeons without risking a game over

UI

* Description box
  + Explains the building/follower when hovering over a button (e.g. button in building menu will give building explanation and resource cost)
* Squad management in inspector (remove, reorder and separate followers in squad)
* Toggleable building menu

Save/load

* Save cooldown positions (maybe serialize the whole cooldown class object)
* Save corpses
* Save projectiles
* Save day/night position (especially when fading)

Stretch goals

* Play as the other side (spreading corruption) – possibly multiplayer, possibly AI

To do:

* Prevent starting in water
* Find way to show followers behind structures (maybe shader)
* Rework resources system (very unnecessarily confusing)
* Rework HUD (needs to be easier to update intuitively (finds all of the data from static classes etc.)
  + Toggle between followers by clicking on the HUD icon
* Go through the codebase improving readability
  + Comment functions
  + Add comment headers to separate sections in classes
* Clear building functionality (i.e. storage) when destroyed
* Have some buildings open a default building inspector
  + Just shows health bar and building name
* Make pathfinding update more often when closer to the target and less when further
* Show status effects in inspector (maybe glow around health bar)
* Keep track of the duration of a run
* Add follower lastState loading
* Add delete save button
* If trainer is destroyed while training, set training followers activate again
* Save hidden followers that are being trained and load them with their gameobject disabled
* Add follower back to worker conversion
* Training cost?
* Make follower path to building before being added to it (trainers and guard towers)
* Wall gates
  + Followers can path through but enemies can’t

To add for first demo video

* Enemies destroy walls/buildings if no path exists to the home base
* Add construct cost to all buildings

Sprites to add

* Large building under construction
* New home base

Bugs

* could not direct or select followers randomly in game build
* Corruption doesn’t continue spreading after load if the first one hasn’t reached 100 corruptionVal
* Hud not updating when loading, or when a follower dies
* Worker sometimes doesn’t continue hunting after storing
* followers not facing target
* Directing follower with full inventory to gather resource sends them to the storage, then sets to idle (FIX LAST TARGET THING)
* Large buildings load out of place – need to store building position as floats instead of tile positions
* Enemies not pathing to follower when first spawning
* Archer stays disabled when guard tower is destroyed from build menu
* Ensure only targeting enabled followers/enemies

Name ideas

* Corruptology
* Affliction
* Archfiend
* Shadowveil

Guard tower

1. By right clicking on a guard tower with an archer with no squad (need to remove from squad if in one) they will path to the tower, then appear at the top.
2. You can then no longer select the archer like normal followers until they are removed from the tower or the tower is destroyed
3. Fires arrows at any enemy that comes in range of the tower

Enemies store a list of targets, once the current target has been killed, it will first search the area for more targets, if i