



GAME DESIGN DOCUMENT (GDD) - COOPED UP

An Itch.io Farm Jam 2025-2026 Submission | (4TH PLACE OVERALL)

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CORE ELEMENTS

GENRE: Single Player, Tower Defense Survival, Farming Simulator

GAME PITCH: A Farming Simulator, Tower Defense in two parts. By day players will scavenge the wasteland for radioactive materials to then trade for valuable plant seeds. By properly tending to these seeds when planted, players will gradually grow them into combative mutated plants which will then help defend their Coop from mutated creatures by night. They must survive 4 progressively more challenging nuclear seasons to win !

INSPIRATIONS: Influenced by 'cozy-game' industry titans such as *Stardew Valley*, and *Harvest Moon*; Cooped Up leans on tried and true methods of 'tasking' players with upkeep. By subdividing the act of tending to plant seeds as hoeing the earth, actively planting, then watering; players are more pressed to consider their usage of time in the day. Also being inspired heavily from the *Plants Vs. Zombies* series, Cooped Up leans onto comedic and cutesy portrayals of what some might consider to be 'scary' themes such as nuclear winter.

PLAYER EXPERIENCE: Remaining within a single screen throughout the duration of play, players will engage in a quick tutorial where they are taught mechanics of play from the main character's grandpa. Here they will learn about foraging for materials within the larger playspace, trading for useful mutated plant seeds, growing mutated plants, and defending against mutated creatures during the night. Across 4 Seasons (with 6 days & nights in each progressively more difficult season), players must protect their Coop by planning their usage of time each day, managing their growing garden, and fighting viciously when the sun drops.

TARGET DEMOGRAPHIC: While being deeply influenced by farm simulators, this game appeals to players who are not adverse to a ticking time clock and dwindling resources. Cooped Up, while leaning on farming game tropes, actually holds more genre signifiers from its Survival and Tower Defense roots, which indicates the players it will likely appeal to.

TECHNICAL SPECIFICATIONS

FORM: 2D, Pixelart

PLATFORM / DEVICE: [Itch.io](https://itch.io), PC

VIEWPORT: Topdown Isometric

LANGUAGE / ENGINE: GDScript, Godot

GAMEPLAY MECHANICS OVERVIEW

CORE GAMEPLAY LOOP:

4 SEASONS - 6 FULL DAY CYCLES EACH SEASON - 3 MINS DAY - 2 MINS NIGHT.

2 HOUR CUMULATIVE PLAY TIME + SCREEN PAUSES.

VICTORY occurs when you & your coop survive all seasons (24 Days and Nights).

LOSS occurs if you ever reach 0 HP, or if your Coop is Destroyed.

DURING THE DAY (3 MINS)

- Forage offsite of your **Coop** for Trading **Materials**.
- Trade for **Plant Seeds** using Foraged **Materials**.
- Plant and Harvest **Resource Class Plants**. Use their Harvested **Materials** to Trade for more unique **Mutant Plant Seeds** - which can help defend your **Coop** at night.
 - Planting Requires:
 - Hoeing
 - Watering (x1 each day)
 - Harvesting is instant upon interaction when **growth cycle** is complete
 - **Growth Cycle** is different for each plant, but only counts time passed during the Day
- Trade with the travelling **Cultist** or **Researcher** merchants if they are available

DURING THE NIGHT (2 MINS)

- Defend your **Coop** by manually attacking incoming **Mutant Creatures**
 - Don't let the **Mutant Creatures** destroy your **Coop**, or you lose !
- Forage for and gather rare **Materials** offsite of your **Coop** - but only if you can risk it !

SEASONS - Seasons last for 6 Days, making each season a total of **30 mins** of playtime.

TRAVELLING MERCHANT

- Twice per each Season your Coop will be visited by a **Travelling Merchant**. One visit will be from a merchant with the **Fusion Collective**, and the other will be from the **Technoflora Research Society**. Recipes for new Mutant Plants may be bought from either trader in exchange for Seed or Materials.
 - The **Technoflora Research Society** gives machine mutant plant recipes.
 - The **Fusion Collective** gives flesh mutant plant recipes.

PLAYER ACTION MECHANICS:

TILLING - The Hoe

Must be used to turn **Untilled Land** tiles into **Tilled Land** Tiles the land PRIOR to being watered and having seeds planted onto it.

- Hoeing Time: 2 Sec
- Hoe Quirks:
 - Cannot be used on unfertilized, already planted upon, or item filled tiles. Radioactive Material, Trees (fallen or otherwise), the Coop, and the Traders cannot be tilled.
 - If **Tilled Land** is left undisturbed with no plants being planted onto it - it lasts for 2 minutes before turning back into Untilled Land.
 - When a Plant is destroyed or removed - the **Tilled Land** tile it was placed atop of is turned back into an **Untilled Land** Tile.
 - A **Shovel** may also be used to turn **Tilled Land** into **Untilled Land**

WATERING - The Watering Can

Must be used to 'water' **Tilled Land** Tiles so Seeds may be planted on them. Must also be used at least once every 2 in game days or else plants **die**.

- Watering Time: 3 Sec
- Watering Can Quirks:
 - Must be used to 'water' **Tilled Land** Tiles so Seeds may be planted on them.
 - Once the plant grows - begin a **10 min** in game timer. The plant must then be watered again within those 10 mins, or else wither and be destroyed.
 - Each time it is watered - reset this timer
 - After **5 mins** have elapsed - show the water droplet to indicate it is parched. Remove this when the timer is reset or upon plant death.

REMOVAL - The Shovel

Can be used to Remove unwanted **Mutant Plant** Tiles or to turn **Tilled Land** into **Untilled Land**.

- Shoveling Time: 1 Sec
- Shovel Quirks:
 - May only be used on **Tilled Land** Tiles or Tiles which contain Mutant Plants - anything else has no effect.
 - Either use of this effect just created regular **Untilled Land** Tiles.

ATTACKING - The Pitchfork

Can deal **damage** in a small aoe to invading mutant creatures.

- Attack Time & Aoe: Defer to Milo Animation
- Attack Quirks:
 - Deals damage in an area according to the animation. The animation will overlay on top of any mobs hit - but all mobs hit by the animation take damage.
 - **Damage dealt is 50hp per hit.**
 - Make sure to hard limit the amount of attacks to the speed of the animation. IE the player cannot attack again until the animation has completed

PLANTING - The Seedpouch

Can be **Right Clicked** to open the seed pouch and select a seed. Can be **Left Clicked** to then **Plant** the seed into a **Tilled Land Tile**.

- Planting Time: 2 Sec

Planting Quirks:

- Seed Pouch will, from the beginning of play, have a slot for each possible Seed available to the player.
 - Each of these slots will appear as a darkened silhouette of the fully grown plant, with the generic seed sprite (shared by all of them) overlaid on top.
 - Every slot will then, overlaid on top of that, have a listed number which shows how many of that seed the player has.
 - If a seed is currently selected - the four corner cursor box sprite (used also by the hotbar) should be overlaid on top of it.
 - The seedpouch will open on a right click and will close when either it is right clicked again - or if a player chooses a seed by left clicking it.
- When a seed is selected and **Left Clicked** onto a **Tilled Land Tile** - it will then plant that seed and begin the seed's count down.
 - This only works if the player has **1 or more** of the currently selected seeds in their pouch. If they do not have any of the currently selected seed - this action will fail and do nothing.

MUTATED CREATURES:

Mutated Creatures begin spawning as soon as it becomes night, and continue to spawn until 1 minute and 30 seconds have passed into the night. Mutated Creatures last into the day, but begin to take small amounts of damage each second once it becomes day. More kinds of Mutated Creatures appear as the nights of each season go onward - and each season provides different 'Buffs' to Mutated Creatures.

Mutated Creature AI Hierarchy: Attack Player or Coop (if in Range) -> (if not in range) Attack Mutated Plant -> (if not in range) move to nearest Mutated Plant [or Coop if Closer]

AVERAGE MOB: OPOSSUM

A Medium Health Medium Damage Mob which spawns on all days of each season. Every Opossum spawned on day 1 of each season has a **25%** of instead being an Opossum Carrier. Every Opossum spawned on day 2+ of each season has a **50%** of instead being an Opossum Carrier. Opossum Carriers explode into 4-6 Opossum Babies when they die. Opossum Babies are a low health low damage mob, and they have a (1%) chance of spawning instead of a regular Opossum on all days of each season.

Opossums and Opossum Carriers each have a **10%** chance to drop Mutant Nails on death.

RANGED MOB: RACCOON

A Low Health Medium Damage Mob which spawns days 3-6 of each season. Raccoons are ranged damage dealers who attack with pistols (tommy guns?) far enough to avoid all melee mutant plants. They also ignore the taken damage and debuff effects from attacking the Rhubarbwire Mutant Plant and the Poison Eyeivy Mutant Plant respectively.

Raccoons have a **10%** chance to drop Gun Parts on death.

TANK MOB: BEAR

A High Health High Damage Mob which spawns days 4-6 of each season. Bears are devastating melee damage dealers who attack slowly, but strongly. They also can take quite a beating compared to other Mutant Creatures. Each attack from a Bear onto a Mutant Plant has a **40%** chance to deal half its damage to 1 other mutant plant in an adjacent tile.

Bears have a **10%** chance to drop Mutant Pelts on death.

MUTATED PLANTS:

MACHINE PLANTS - *Plants which mutated and Merged with Machinery. Perhaps represented and sold by a Scientist / Government Agency Trader or Faction?*

FENCEFENNEL - [Fence Class] A tough and durable plant which grows into a tall impassable fence which can take quite a beating. **HP: 150 ATK: 0 GRW: 2 Mins**

RHUBARBWIRE - [Fence Class] A sharp and fast growing plant which grows into impassable and shredding barbed wire, which has lower durability but hurts enemies who harm it. **HP: 125 ATK: 25 / per attack GRW: 2.5 Mins**

ARTILLERLILLY - [Weapons Class] A slow growing, but highly offensive plant which fires ranged seedpod projectiles at ranged enemies.
HP: 75 ATK: 50 / per attack SPEED: 1 Sec GRW: 2 Mins

BAZOOCCHINI - [Weapons Class] A slow growing, but highly offensive plant which fires ranged explosive squash projectiles at enemies.
HP: 50 ATK: 40 / per attack (AOE) SPEED: 2 Sec GRW: 3 Mins

JAS-MINE - [Explosives Class] An explosive landmine flower plant which destroys itself and harms enemies who step on it.
HP: 0 ATK: 150 (AOE) GRW: 1 Min

MUSTARDGRASS BOMBS - [Explosives Class] An explosive landmine plant which destroys itself and emits lasting, harmful gas when enemies trigger it.
HP: 0 ATK: 20 / per sec, 10 Sec (Extra large AOE) GRW: 1.5 Mins

WATERINGMELON - [Support Class] A slow growing support melonfruit plant which uses the watering-can growing from it to water all adjacent plants at the beginning of each day (basically a sprinkler). **HP: 100 ATK: 0 GRW: 2 Mins**

FLESH PLANTS - *Plants which mutated and merged with animal biology. Perhaps represented and sold by the Cult Trader or Faction?*

HEARTICHOKE - [Support Class] A slow growing, domestic cardiovascular thistle plant which provides a slow, but passive regeneration effect to all nearby plants.

HP: 75 HEAL: 10 / per sec GRW: 3 Mins

INTESTVINES - [Fence Class] A fast growing mass of mutant intestinal tract vines which may grow on existing Mutant plants to give them more health.

HP: 100 ATK: 0 GRW: 1.5 Mins

POISON EYEVY - [Fence Class] A slow growing bloom of densely poisonous and red itchy eyes which has a chance to blind nearby enemies for 10 seconds when struck.

HP: 100 ATK: 15% chance to blind GRW: 2.5 Mins

LEGGPLANT - [Weapons Class] A slow growing, purple, and highly offensive leg-shaped bulb which stomps on 2 nearby enemies at once.

HP: 100 ATK: 75 / per attack SPEED: 2 Sec GRW: 3 Mins

TWOLIPS - [Weapons Class] A slow growing, but highly offensive mouthy flower plant which rapidly bites at nearby enemies.

HP: 75 ATK: 50 / per attack SPEED: 0.5 Sec GRW: 2 Mins

TUMOR TUBER - [Explosives Class] An explosive mine tumorous growth which destroys itself and causes tumors to grow which harm nearby enemies over time.

HP: 0 ATK: 75 + 10 / per sec, 10 Sec GRW: 1 Min

ALOE VERTEBRAE - [Explosives Class] A regrowing explosive mine made of spinal column components.

HP: 0 ATK: 100, regrows every 90 Sec GRW: 3 Mins

RESOURCE PLANTS - *Plants which are grown and harvested for the sake of Trading mutant plant seeds or for trading with travelling merchants. Destroyed Instantly if attacked.*

GEIGER GRASS - [Resource Class] A tuft of radioactive grass which you definitely should not eat. **GRW: 1.5 Mins**

GREENTHUMB SAPLING - [Resource Class] A dense coral of wooden thumbs are grown from this sapling. **GRW: 2 Mins**

PLUMTONIUM - [Resource Class] An ordinary plum tree which has undergone extreme radioactive decay. Don't eat this. **GRW: 5 Mins**

STONEFRUIT - [Resource Class] A fruit with a hard pitted center. **GRW: 3 Mins**

FENCE CLASS PLANTS - High Durability, Block Enemy and Player Movement through them.

EXPLOSIVES CLASS PLANTS - Self Destructs on Trigger, but creates a high impact effect. Usually quick to grow.

WEAPONS CLASS PLANTS - Usually low Durability, repeat sustained ranged or melee attacks at nearby enemies while alive.

SUPPORT CLASS PLANTS - Usually Medium Durability - provides some utility effect to nearby plant creatures.

RESOURCE CLASS PLANTS - Is destroyed instantly if hit - can be harvested to gain resources which can be traded or used for Trading

RESOURCES, WHERE TO FIND THEM, & TRADING RECIPES:

RESOURCE PLANTS - *Plants which are grown and harvested for the sake of Trading mutant plant seeds or for trading with travelling merchants. Destroyed Instantly if attacked.*

GEIGER GRASS - [Resource Class] A tuft of radioactive grass which you definitely should not eat. Harvest produces glowing grass tufts used for Trading. **GRW: 1.5 Mins**

GREENTHUMB SAPLING - [Resource Class] A dense coral of wooden thumbs are grown from this sapling. Harvest produces wooden fingers used for Trading. **GRW: 2 Mins**

PLUMTONIUM - [Resource Class] An ordinary plum tree which has undergone extreme radioactive decay. Harvest produces plutonium plums used for Trading. Don't eat this. **GRW: 5 Mins**

STONEFRUIT - [Resource Class] A tasty fruit with a hard pitted stone seed center. Harvest produces Stone Pits used for Trading. **GRW: 3 Mins**

FORAGE NODES - *Resources which may be found in randomly spawning locations across the map.*

CATSTAIL - [Foragable] A mutated feline reed plant which often grows besides thick pools of festering radioactive waste sludge. **LOCATION: Upper Right**

SALINE STALAMITE - [Foragable] A very sodium filled crystalline formation found only in the Salt Craggs. **LOCATION: Bottom Right**

RELIGONION - [Foragable] A highly sought after and very rare bulb vegetable known only to grow near sites of potent worship and reverence. **LOCATION: Upper Left**

RADIOACTIVE SAP - [Foragable] A very unstable and rare leaking liquid which may only be acquired from the trees of an Isotope Forest. **LOCATION: Bottom Left**

TRADABLES - *Resources which may only be Traded for from either of the Merchants.*

MACHINE PARTS - [Tradable] A collection of disassembled machine parts which may be carefully propagated into carbon based plant life to homogenize the two structures. **MERCHANT: Researcher**

FUSION CORE - [Tradable] A highly unstable remnant of a much larger nuclear machine which has been carefully reconstructed and inscribed into as to encourage Nuclear Fusion in plant life. **MERCHANT: Cultist**

MOB DROPS - *Resources which may only be Dropped upon death on occasion from Mobs.*

Mutant Claws - [Drop] A handful of glowing claw nails which belonged to the various fingers of an unlucky mutant Opossum. Or Opossum baby - you murderer. **MOB: Opossum, Baby, and Opossum Carrier**

Gun Parts - [Drop] A small assortment of disassembled pre-nuclear gun parts which at one point belonged to the gun of an aspiring mutant raccoon mafioso. Until he was put on ice - by you. **MERCHANT: Raccoon**

Mutant Pelt - [Drop] A high quality mutant bear pelt whose condition has been preserved thanks to the incomprehensible amount of grandpa rooster it has eaten. **MERCHANT: Bear**

COOP LAYOUT (16x16) - FULL MAP (40x40):

Coop - COLOR

River - COLOR

Fertile Land - COLOR

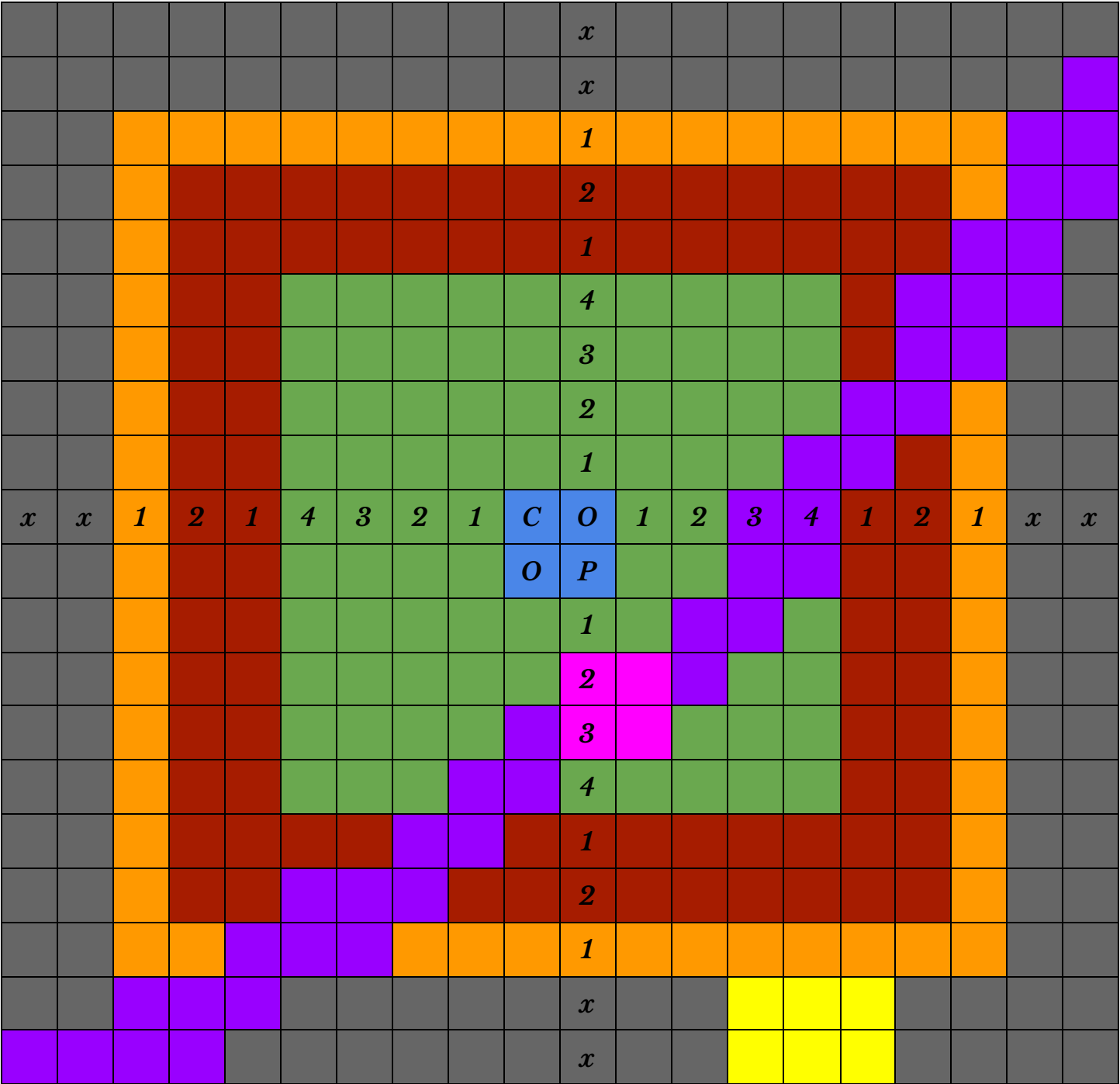
Fence - COLOR

Infertile Land - COLOR

Bridge - COLOR

Unplantable Land - COLOR

Trader Truck - COLOR



LARGER MAP CORNERS:

Top Right - Radioactive Lake Top Left - Shrine Bottom Right - Salt Crag Bottom Left- Trees

ART & AUDIO DIRECTION

VISUAL DESIGN & ANIMATION: Seeking the aesthetics and asset pipeline of a 2D game, but not wanting to compromise on the mechanics of the player exploring a pseudo-3D space; our team determined a topdown isometric pixel aesthetic, like that of *Hyper light Drifter*, would be most ideal. This also allowed us to also make use of Godot's built-in tile programming functionality. From there we compiled a 'Rustic' and 'Dirty' color palette which sought to put emphasis on the 'wasteland' aesthetic of the 'Harvest or Be Harvested' game jam theme - and then began designing the central 'playspace', icons, and animations.

MUSIC: While originally a larger soundtrack had been planned, due to the short Jam duration cuts had to be made, resulting in a more lean soundtrack of two songs; one for the day and one for the night. Both tracks were composed using traditional instrumentation while being played through a digital application. While the day song made use of banjos and violins to emphasize the rural ambiance & tonality, the night song maintained a far more sinister undertone by making use of various woodwinds and bass. The juxtaposition of these two songs helps reinforce the duality of the day and night playstates.

SOUND FX: While the music used within the project relied on traditional instrumentation, the game's sound effects used were composed to emulate old-school chiptunes & 8-bit noise. By limiting the waveform types into squares, triangles, and other similarly iconic sound structures, iconic sound effects which evoke a sense of nostalgia can be created. These were used to help further reinforce the usage of pixel art, and make the whole game feel 'retro'.

UI / UX DIRECTION

CONTROLS: As the game is located solely on PC, the Controls are exclusively linked as such:

WASD: Up, Left, Down, Right

Right Click: [Variable] Alt Use of Item

Left Click: Use Current Equipped Item

Escape (esc): Open the Pause Menu

Scroll Wheel: Rotate Equipped Item

RESOURCES: The player, while gathering various in-play resources throughout the duration of the game, primarily has 3 exhaustible resources: Health Points, Time Spent, & Coop Durability. Health Points reset at the end of each night, but otherwise cannot be regained during an individual night of defense. Loss of all Health Points results in death, and the loss of the game. Time is a resource that is constantly ticking away as long as the player is not in the Pause Menu. Players only have 3 minutes each day to gather their necessary defenses and make a plan. This time cannot be gained back, and at the end of those 3 minutes certain activities cannot be accomplished until the night has ended, and the next day has begun. Finally Coop Durability refers to the amount of Health Points your Coop has, and it resets only at the beginning of each season - meaning that a single bad night each season can set a player back for the remainder of the season.