Beeyond the Garden

For Pirate Software Game Jam 14 - Theme: "It's Spreading"

An idle-simulation puzzle game about bees restoring a barren world into vibrant, self-interactive and self-spreading life.

Overview

The primary motivation of *Beeyond the Garden* is to enjoy the discovery that comes from reclamation and growth, within an interactive board game-style simulation. Discovering bits of history and mystery from what initially seems like a simple, **Idle Puzzle Simulation game** is what we seek to bring surprise and delight to the players with. A lively, naturally-spreading world of tile interactions and magical whimsy, overlaid upon a pastel post-apocalyptic scene.

The core mechanic of the game is that of tile interactions and worker placement, much like that of popular board games in the "**Eurolite/Euroheavy**" genre. The game world is made up of a large hexagonal grid, where tiles can be placed that each have their internal rules of growth and spread. The player's interaction isn't necessary for these rules interactions to occur or this spread to happen, but their "workers" can alter and change the course of such spread.

The primary tile that benefits the player is the **Garden** tile, which provides the player with a resource used for other actions and progression. The **Honey** they gain is then spent on tending tiles, expanding hives, or most importantly, growing bigger gardens to ramp up honey production. However, gardens are very fragile tiles and require manipulating other tiles in the environment to protect them.

Within some of these tiles can be ruins of an old world, fragments of history, and hints for mechanics in the form of visual novel-style scenes. These instances also provide the player with new types of **Solitary Bees**, which have different available actions from your standard worker bees. (Like building wax structures to alter tiles, scouting out ranges beyond the hive, or even fighting fires!)

Note of Developer Intent

Overall, it was always expected to be an idle puzzle game, very boardgame in style, nintentionally inspired by Conway's game of life, where each "cell" has overarching rule and systems for how it all interacts with everything else.

The general concept that we were aiming for during initial design was one more of an infinite or expansive world to explore to progressively discover different bits of story in a world that you're slowly reclaiming with nature. We wanted to show memories of the way things were to provide storytelling and provide hints for how the game was played, especially due to a lot of the nuanced rules for spread and interaction.
Our team wanted to use these as a more integrated and natural tutorial, however we ultimately had to scrap the entire story aspect of the game for the duration of the game jam, but it is something we intend to add on in a later time as a form of exploration or story mode, a unique thing to do to most games in the puzzle genre from what we've seen

The victory state is to restore the world by activating a series of magical flowers, culminating in one final challenging flower that wins the game. This comes in steps, usually one objective at a time, and completing that objective changes the world, either in expanding the player's reach, or introducing a new threat, a new challenge from what they had previously grown used to.

Genre, Style, and Audience

[Genre and Inspirations] - Puzzle, Idle/Clicker, Nature Simulation, Board Game, Conway's Game of Life, Hexcells, Kongregate Games (Tentacle Wars), Bibites, Burning Sands

[Gameplay Loop] - Tiles spread, gain honey, send out workers to use honey for further spread or change of tiles, spread to objective flowers, change world state.

[Loop Anomalies/Breaks] - Threats arise/close in, use bees to remove vulnerabilities or create defensive tiles, grow towards goal/away from threats, find discoveries/solitary bees

[Core Audience] - Slower paced puzzler, with a lean towards players who enjoy discovering elements of the game themselves, without being outright told or tutorialized to every nuance.

MVP Systems

Environmental Simulation

Brush Tile - These act as a somewhat invasive spreading tile that is almost a counterpart to the player's own attempt to grow other land, but it also acts as barrier to water, while being vulnerable to fire, acting to spread or block such threats. If brush is near water, it will use up that tile of water or turn itself into forrest.

Stone Tile - the base of the world, they don't have any interaction rules themselves, but are often the result of other tiles being removed, and act as a baseline for other things to spread into.

Forrest Tile - Forrest tiles are naturally growing *walls*. They often don't let other tiles spread into them, nor can the player build onto it. However, they are quite defensive against both the flooding threats of water and the burning threats of fire, since it takes large flames to take down forests,e specially those dampened by nearby water. They will spread brush tiles to nearby open tiles of any type that are small to the forres's own stack. Forests grow taller and take up water when adjacent to water sources.

Garden Tile - Gardens don't naturally spread very easily, they only spread to *fertile tiles* that are equal or smaller to them in stack. Garden's purpose is two fold: They provide **honey**. Each garden provides it passively, but bees can be placed to provide additional honey for adjacent tiles, so it encourages big stretches of garden tiles together, in particular a garden a surrounded by other gardens increase in stack, allowing it to spread further. However, gardens come at the caveat of being very fragile. They are VERY flammable and aren't usually near damp surfaces because they are so susceptible to flooding The second purpose of gardens is to activate various flowers found within the world, flowers that survived the apocalypse of the old world. If these flowers are surrounded by garden tiles, it will activate them and change something about the world, and progress the player towards victory.

The Water Tile - The water tile is a source of many tile rules and their growth states, all water comes from a geyer upon the map that activates after reclaiming a certain flower in the previous stage of the world. This geyser will continuously produce water and eventually flood the space that its allowed. The development of water was one of the biggest coding challenges as it

represented the biggest leap in personal development capability in programming, specifically in learning how to simplify one's code. The way water works comes down to a couple different factors- water will always flow to lower stack counts whenever possible (lower stack counts of damp tiles specifically). If it can't flow to damp tiles, it will either flow to other water or flood nearby tiles, turning them damp. One caveat to the water's flow is that it can never flow to a water tile that flowed into it. This can create wave or river effects that ensure that water is always trying to spread.

Magma Tile - Magma works almost exactly like water, but it looks for open tiles rather than damp, and moves *much* slower, only checking its rules every few turns. However, magma produces sparks to adjacent tiles, which can start fires if the adjacent tile is flammable.

Fire Tile - Fire occurs if a spark is not tended to by the player or put out by damp tiles at which point the spark will turn its current tile into a fire tile. That fire tie will then grow its stack count up to match the stack count that was previously ont hat tile and then run out of fuel. While it is running out of fuel, the stacks will decrease until zero and produce another spark on a random adjacent tile. Adjacent Fire takes away damp tag. When fire runs out it turns to ash!

The Ash Tile - Ash tiles are th remains of burnt tiles, and act as both barriers and a recovery method for more natural tiles. Higher stacks of ash often cant be spread into, but nearby water will reduce their stack. After a few turns, ash will turn fertile, allowing gardens and brush to spread into the, and if there is no nearby natural tile, ash will turn into brush if adjacent to water.

Wax Tile - The wax tile is the player's *main* form of defense, the *only* non natural recurring tile. Wax is produced by builder bees, and is very effective at containing water and fire, though it will wear down over time. Additionally, wax, if built into a full hexagon of 7 tiles, will turn the centertile into a new hive for the player! Which increases their maximum number of workers and their effective range for placing workers. They take damage whenever next to spark/fire or 3-high water

Worker Placement

Hives - Hives increase the range that the player can place their bees as well as produce their garden tiles adjacent to them. The players initial hive is always indestructible, ensuring that the world can ALWAYS recover. For every hive, the player gets one more worker that they can place within the world, acting much like the worker placement mechanic in other boardgames, in such games the amount of workers you have directly equate to the amount fo Actions one can take in a turn, creating exponential progression.

The three different types of workers represent the three major interactions the player can have with the world.
Builder Bees - can create Wax tiles, which can be further upgraded to hives or used as defense in other parts of the world
Gardener Bees - simply turns its tile fertile, or if the tile is already fertile, it'll make nearby tiles fertile at random every turn
Worker Bees will - "tend" a tile, often resulting in breaking it down or reducing its stack to make room for other tiles (Lum-Bee-Jacks)

All of these actons require:
Honey - a resource players have available that is produced by gardens mentioned before. The cost in honey is often determined by the stack or threat level of a tile, as well as getting exponentially more expensive when outside the range of a hive. As well as somewhat more expensive the further out from the center of the world it is.

Key Moments

1. Growing out of the initial garden

This moment takes place early into the game, often with the first 10 minutes of play. This is when the tutorialization officially ends, and the player should have a good grasp of how to place bees, spread tiles, and what their goals often look like.

When the player spreads to both goal flowers available to them, it allows the forest around them to grow large enough to break through the stone wall keeping the player's actions trapped and restricted.

2. The change from water being a goal to being a threat

Once the player has achieved the first set of objectives in the water "stage" of the world, the very thing they were previously trying to guide, is now created in such abundance that it switches to more of a threat than previously.

This moment marks a particular mindset shift for the player, as they realize tiles can become multipurpose, both in use and in threat. It encourages and pushes the player to not just learn the tiles' rules, but to learn how they should react to them in abundance.

3. The race against time to finish the final flower

Finally, once the player has regrown the flowers closest to the volcano, the sense of threat to the world increases dramatically. Magma, the toughest tile to manage thus far, is now being produced in large and dangerous qualities. On the opposite side of the world, the toughest flower to regrow has just shown itself.

This flower requires the player to sequentially surround it with different sets of tiles, each one requiring player knowledge of that tile type's particular ruleset, interactions, and vulnerabilities. It's a time-consuming task to get everything "just right", all while magma is spreading fast. While the player has means to hold it back, it creates a distinct sense of rising tension towards a climax to which their reward is watching the world be doused in gentle rain.

Art, Sound, and Music

[Art Description] - 2d, pastel tiles and UI, rounded corners and minimalist muted design, tiles that progress with amount of decoration to display level, fake 3d popup art on each tile. Vibrant, humanoid character art in bust portrait style

This game has a pastel-colored palette with smooth, minimalistic aesthetics. This makes the instances of character art and player “pieces” far more vibrant and stand-out, while also ensuring that the information given to the player doesn’t become overwhelming.

[Sound Design] - lots of little tactile satisfying buzz sounds on most clicks and interactions

[Music Design] - no music inherently, but melodic notes in scale when tiles flip or spread or stack, possibly some ambient tracks.

Player Objectives and Progression

Gameplay Loop

- The gameplay loop primarily consists of building up and spreading gardens to produce for more expensive actions via the production of the energy resource: Honey.
- Building up Wax to expand your worker count and protect your gardens, spreading out further towards Flowers to progress the state of the world
- Adapting to the changes in the world after that specific world state change is completed

Full Progression (As of Game Jam)

- The first goal:
    - A barren world only of stone and the player’s hive
    - This acts as a tutorial stage for generic bee actions and the primary step of the gameplay loop- spreading gardens
    - Once the player spreads to a Sapling, the only point of interest left in that barren space: The sapling produces Two more Flowers, as well as turns the stone walls surrounding the main area into budding forrest tiles
    - Without water present, forests can’t grow, and so those two new flowers are the next objective

- Second goal:
    - Spreading to those flowers is made somewhat difficult by the presence of grasslands
    - Forests often spread grasslands to nearby tiles, sot he player's garden tiles are now competing with these other tiles
    - Once the players spread gardens to the two flowers, each will increase the stack count in the forrest ring surrounding the current world stage
    - At which point, these forests can grow out over the previously impenetrable stone wall, thus increasing the player's reach into the world out much further
    - This also activates the world's first geyser, which is very active within this "ring" of space that the player just unveiled
- Third goal:
    - Next objective- water in current amount doesn't spread very far, so the player must guide this budding river to new Flowers that require water to grow
    - Once both of these flowers have been reached, it causes the geyser to increase in strength and turns this resource you've been guiding into a new Threat of flooding
- Fourth Goal:
    - At this point, this ring's final objective appears: a New Flower that requires a level 3 garden to grow
    - Important: Because gardens grow bigger when surrounded by more gardens, getting up to a three-stack garden requires a much larger space that needs to be protected against flooding water
    - Once this flower had been reached and grown, it unlocked the final rings of the world! Which exposes the player to the most virulent threat so far:
- Fifth Goal:
    - During this stage, a Volcano becomes active
    - This volcano produces sparks in adjacent tiles, forcing the player to contest with *fire* for the first time
    - The flowers that they need to grow are nearby which demands that the player risk the proximity of fire to reach their objective and requires careful management of wax walls and resources
    - OR using the flooding water from the previous stage
    - Once these two flowers near the volcano have been grown, the volcano will become Truly Active, and start producing Magma

    - This magma can spread much further, and lingers much longer than the simple sparks
    - And given that continually produces and can only be stopped by water, it becomes a threat that *could* be spread throughout the entire world, making it a race for time
- Final Goal:
    - The final objective Flower spawns at the other side of the world
    - Forcing the player to spread towards it rapidly where they might not have much prebuilt infrastructure, all while trying to escape the encroaching magma, or hold it at bay, and balancing the previously learned gameplay systems from previous world states
    - If the player grows gardens towards this final flower and manage to grow it up to stack 3, it creates a Victory state of the game where rain falls over the whole world and stops the threat of fire and Magma
    - As well as restoring all of the ash back to grasslands within the world

Required Game Assets

Visual

- Tile Template
    - Garden Tile
    - Forest Tile
    - Water Tile
    - Hive Tile
    - Mountain Tile
    - Ash Tile
    - Magma Tile
- Bee World-Sprite
    - Worker
    - Scout
    - Queen (Maybe Unneeded?)
    - Builder
    - Gardener
    - Protector(/Firefighter)
- Character Busts/Portraits

    - Queen
    - “Main Character”/Knight/Scout(?)
    - Worker
- Yeahhhhh, we ended up needing too many to keep track of. And we’ll need way more.

Audio

- Undecided, presently ambient backing music.

Programming/Systems

- Spaghetti. Dear gods. It started so clean, and now I can’t tell where one ends and the other begins. Please send help, I think the code has become sapient.

Ideas and Expansion

[Story/Exploration Mode] Due to time constraints, we couldn’t implement the discovery element of our gameplay loop, as well as the story/cutscene skits.

[Stretch Goals]

Unresolved Questions and Issues

- As things currently stand, forests are slightly imbalanced in that they completely stop any advancement of water, and I want to find some method for which water can still expand around them. We should ideally make some sort of equilibrium, still in development.
- Water will have more capability of spreading if it travels in the same direction for a number of tiles, represented by a rule where if the tile that water is trying to spread into is opposite of the direction where ti flowed in from, water will count as one stack higher for the purposes of spreading
- This allows water to spread into three height and, only if for forrest, 4 stack height, which should prevent the previous stalemate between water ad forrest