

# **PHYTOPOLIS?** Gameplay Specification

Syndic8 — Team 10

Ireanne Cao, Kevin Chang, Alanna Cooney, Shirley Li, Amy Mai, Tawakalt Okunola, Pedro Pontes García, Jordan Rudolph

## **Core Vision**

Phytopolis introduces the player to a dystopian urban landscape which they must traverse by building a giant plant using sun and water. While moving upwards to reach the top of the cityscape, the player must strengthen the plant's structure to protect it against hazards and move towards resources. The player must manage their time and water, as fires pose a great risk if left unextinguished. Faced with scarce resources and impending threats, the player must develop a strategy to structure their plant and make it to the top.

## **Design Philosophy**

### **Diverse Strategy**

Our most important design goal is to encourage diverse, fun gameplay where there is no single dominant strategy. To do this, our level design must balance resource distribution across the map since this encourages the player to consider building in various directions rather than straight up. There should be a reasonable amount of sun since the sun builds “bouncy platforms” and “reinforced branches” which become critical in quickly traversing a tall plant and protecting the plant against hazards. There will be an optimized hazard generation frequency to encourage a more defensive plant structure while not making the game too hard or based on randomness.

### **Urgency**

Our next design goal is to give the player a sense of urgency through fast-paced gameplay, time management, sound, and art. Hazards such as fires and drones are implemented to speed up the gameplay, challenging the player to put out the fire and grow faster as the urgency ramps up over time. These hazards create an immersive gameplay experience by making it essential for the player to concentrate and make quick decisions.

### **Immersion**

Our last design goal is to maximize player's immersion through energetic music and vibrant art styles. To achieve this, city-core dream punk/techno music will be incorporated to set the main cyberpunk theme for players to dive into. An example of the background music of our game would be “Viridian” by Otherspace. Furthermore, different tempos and melodies will be added to synchronize with various stages to boost the player's immersion. Sound effects will be added to pair with each hazard to give the player another form of notification. On the other hand, dark, dystopian, and futuristic art that features neon lights and lively plants is used to reinforce the setting

and help the player to be more engaged with the backstory. Additionally, the androgynous character guarantees maximal affinity with the player through a simplistic Chibi concept.

## Objectives

The objective of *Phytopolis* is to grow a sprout rooted on the city floor to become a massive organism with many branches that reach the skyline. However, as the player progresses upwards, their plant is more susceptible to random hazards such as fire and drone strikes, which the player has to resolve to prevent the plant from collapsing. Making difficult trade-offs between growing the plant and defending it from hazards encourage the player to be consistently challenged throughout each level.

## Actions

Verb	Input	Limitation	Outcome	Importance
Move	A, D	Player must be within level boundaries	Player moves left, right, or falls	Critical
Jump	W, Space	Player must be within level boundaries	Player moves up	Critical
Drop through platform	S	Player must be standing on a leaf	Player falls through the leaf that they are standing on	Critical
Build branch	Left Click over new branch location	Player must be near the branch location	New branch is grown	Critical
Build leaf	Shift + Left Click over new leaf location	Player must be near the leaf location	New leaf is grown	Critical
Upgrade branch	Left Click over existing branch	Player must be near the branch location and have sun	Branch is upgraded to a reinforced branch	Desirable
Upgrade leaf	Shift + Left Click over existing leaf	Player must be near the branch location and have sun	Leaf is upgraded to a bouncy leaf	Desirable

Verb	Input	Limitation	Outcome	Importance
Extinguish fire	Hold Left Click over fire location	Requires a fire to be present and the player to have water	Fire is extinguished	Valuable

## Interactions

Trigger	Outcome	Control	Importance
Drone strikes next to normal branches	Adjacent branches are destroyed and floating plant is destroyed	N/A	Critical
Fire spawns near normal branches	If the fire isn't extinguished within a set amount of time, adjacent branches are destroyed, floating plant is destroyed, and fire spreads	N/A	Critical
Fire spreads	Fire spawns at adjacent branches	N/A	Valuable
Drone or fire strikes next to reinforced branches	Adjacent reinforced branches become normal branches immediately (if drone) or after burning for a set amount of time (if fire)	N/A	Desirable
Player collides with water resource	The player obtains water	Move	Valuable
Player collides with sun resource	The player obtains sun	Move	Desirable
Player jumps on a bouncy leaf	The player jumps higher than normal	Jump	Desirable

## Challenges

### Timer

Each level is equipped with a timer that limits the amount of errors the player can make before failing to complete the level. The player has to make quick decisions when encountering a trade-off between saving the plant or reaching the top. This forces the player to be taking actions to

advance upwards and making wise choices to utilize resources rather than exhausting the slow recharging nature of the resources.

## **Limited Resources**

Every action taken to advance upwards in a level requires resources. Growing a branch, a leaf, or extinguishing fire requires water, and upgrading an existing plant element to a reinforced form requires a sun. The water resource is limited on each level and recharges at a slow rate, encouraging the player to move around the level and ration the use of resources given the time constraints. The sun resources fall from random locations in the sky, which also prompts the player to move around horizontally to gather them as they plan to upgrade their plant.

## **Hazards**

Throughout a level, random fire hazards will spawn in random locations. When the plant catches on fire, the player has to extinguish it before it destroys all the branches above that node while keeping in mind that extinguishing costs water. The randomness of fire spawning locations also forces the player to traverse around the plant and remain conscious about the safety of their plant.

## **Obstacles**

To advance upwards, the player must water the sprout and grow branches in their desired directions. However, they need to avoid obstacles, such as clotheslines and extended balconies, that constrain the movement of the player as well as the growth of the plant. This would prompt the player to plan the structure of the plant to get to their next closest resource in the most efficient way and diversify the direction of their plant from simply upwards.