

# Game Design Document Template

# Woodchips for Dinner?

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## Game Summary

### Brief

You can plant and cut down trees to shape the environment of a larger region. This will have an impact on climate and disasters.

### Genre

Educational game.

### Platform

Windows 10 PC with middeling graphics hardware and low sound volume.

## Player

Mostly children (7 to 14 years old).

### Player 1:

Name: Antoon

#### Stats:

Age: 15

Gender: Male

Location(s): Dutch

Primary player-type: Killer

#### Interests:

What other games does your player play? Action games.

What other media does your player watch? Youtube, Tiktok.

**What is your player looking for in your game? Reaching the highest score to beat others and a real sensation of progression.**



### Player 2:

Name: Barbara

#### Stats:

Age: 30.

Gender: Female

Location(s): Dutch

Primary player-type: Explorer.

#### Interests:

What other games does your player play? Adventure games that allows her to discover areas or find hidden easter eggs at her own pace..

What other media does your player watch? Facebook, Instagram.

**What is your player looking for in your game? Exploring the map and all the options in the game.**



### Player 3:

Name: Cynthia

#### Stats:

Age: 8.

Gender: Female

Location(s): Dutch

Primary player-type: Socializer.

#### Interests:

What other games does your player play? Educational games.

What other media does your player watch? Youtube.

**What is your player looking for in your game? ? A way to spend her time at the museum and a subject that she can discuss with her family.**



## Gameplay Brief

### Summary of gameplay loop:

You go to a new area of the world, where you see a forest of trees. You then cut down as many trees as you want, and can collect seeds to plant new trees. Once you have been in an area, you can go back to the map screen and switch locations [Loop].

### Primary game mechanics:

#### **Game mechanic 1: zoom in/zoom out to navigate map**

You can tap on an area to move there, you can pinch to zoom back out. You can use this to navigate to the desired location in the game.

#### **Game mechanic 2: cut trees**

You get target locations on trees, and if you swipe over them quickly enough, the tree gets cut in two at that location. Most trees require multiple swipes before you get to cut them down fully.

#### **Game mechanic 3: plant trees**

You can tap on a tree to rustle it and make seeds fall down. If you then tap the seed before it reaches the ground, it plants a new tree in the forest.

#### **Game mechanic 4: burn the forest**

When all trees are cut down, you can burn down the bushes and grass in an area to permanently clear it.

#### **Game mechanic 5: The Combo systems and dynamic difficulty**

You get a combo when you plant/cut down trees continuously.

### Platform differences:

There is going to be a non-touchscreen version of the game (made for testing purposes), which will not have the pinch motion for the zoom, but instead a back-button in the UI.

## Story

### Game story summary

You are Sam, and you have been cutting trees for over 5 years now, albeit only in tree farms so far. You have finally made it big and have your first international gig for a big company.

When you start to really get into your new job however, it is nothing like you imagined. Cutting down natural forests is entirely different from the farmed ones that you are used to harvesting. It is not about the lumber at all, only about the ground beneath the forest, and the way that you are displacing the local wildlife does not sit right with you. The moment your superiors order you to burn down a stretch of woodlands to speed up your clearing time is what finally leads you to a tough choice:

Will you continue to harm the woods of the world, or will you change your ways and begin to save them instead ?

## Player story

The player has to make the choice between cutting down the forest and displacing the local wildlife (of cute animals that will look very sad when you do), or planting more trees in order to pull in additional animals, or strike a balance between the two paths. In the end, after visiting all the different areas of the world, the player is presented with the consequences of their actions and presented with an award depending on their performance on the two metrics (trees cut and planted).

## Aesthetics

### Perspective

The player can see a top down/birds eye view of the world, and when they zoom in, they are in a steady camera view of the forest at roughly eye-level.

### Style

Slightly stylized, but not fully cartoonish. Proportions are preserved and animations retain proper physicality and shape for the most part.

### Audio

Our audio is going to be mostly realistic but optimized for low playback volume

[?]

### UI

The games menu is very clearly buttons, which are only slightly stylized to fit our aesthetic. This is to ensure that they have a harsh contrast to the background and even users who are unfamiliar with the concept of a menu screen can immediately tell what areas are intractable.

### HUD

The game has a simple 2 piece HUD, which displays the two scoring metrics (trees cut and planted) at the top center. It also shows the current location in the top right corner.

## Gameplay Detailed

### Primary game mechanics

#### **Game mechanic 1: zoom in/out**

It allows the player to navigate the different locations within the game.

It does a zoom in and blur to mask a scene transition into the down to the ground scene. On the zoom out it does the same in reverse. The inputs for this effect are a simple raycast collision on the map and a touch gesture algorithm to detect the pinch.

It does not really interact with other mechanics much, but it serves as a way to enforce some variety in visuals that breaks up gameplay.

The player can see their current regions and the other regions that they could be visiting when they are on the map, and they see their current region when they are zoomed in.

#### **Game mechanic 2: cut trees**

It allows the player to cut trees by swiping over the correct locations.

It places cut-locations on the tree in the form of a UI element that can be a raycast target. Then when you perform the correct movement quick enough on that (tracked by a subroutine), it performs a mesh-split and applies some force to the second new mesh. It also reduces the tree's HP, since only a low HP tree will be able to spawn its final cut-location to reduce it to a stump. If there is an animal sitting on the part of the tree that has been split, the animal falls down, plays its hurt animation for a bit and then leaves.

This is our main mechanic, as it both provides excitement as well as brings across our message. It interacts with the plant-tree mechanic in a back and forth kind of way, basically enabling you to have exactly the amount of trees you want after playing.

The player can see the cut-locations and guess the tree-hp based on the amount of missing branches. The player can also see the animals to judge for themselves if they want to cut off their resting place (has no effect on actual gameplay but might be emotionally important to players)

### **Game mechanic 3: plant trees**

It allows the player to plant trees by playing a tapping minigame.

Tapping the tree outside of a cut-location has a chance of instantiating a seed somewhere in its leaves, but always plays a rustle animation. If a seed is instantiated, it falls down until it hits the ground, at which point it rapidly increases its alpha value and then destroys itself at alpha 0. If the seed registers a raycast hit before this point, it gets collected and a new tree gets spawned. (this would be the point for optional growth stages).

It allows the player to balance their resulting level of deforestation to their liking. Even offering the alternative gameplay path of just replanting forests.

The player can see the rustle as feedback for their actions and the falling and fading seeds to communicate the desired action.

### **Game mechanic 4: burn the forest**

It allows the player to finish clearing a forest by burning down the remains of it when all trees are cut.

When all trees are cut, it opens a pop-up UI window that the player can then choose to burn down the forest in. If chosen it generates particle systems that mask the destruction of assets

It allows the player to draw the ultimate line, basically forcing the decision "forest or not" on the player.

The player can see the dialogue window and the consequences of the choice.

### **Game mechanic 5: The Combo systems and dynamic difficulty**

Both seed catching and cutting can contribute to combo chains, the length of which positively affects your score and also includes a feedback loop by providing you with powerups that will further improve your score. Repeated poor performance on the combo systems, will result in a gradual decrease in game difficulty (slower moving targets, more aligned cuts, less variation in target position...), while a good performance in the combo system will result in a gradual increase in difficulty (faster targets, less aligned cuts, more variation in position and angle). This is to ensure a gradual difficulty curve, as well as a satisfactory play experience regardless of player skill (which is especially important since our target audience is everyone from younger children to their parents, and we can not expect a consistent level of game-experience from them).

## HUD/UI

The player can see their score, broken down into trees planted and trees cut (most likely represented as a sliding scale between the two extremes), as well as the current location they are in. They can also see the current cut-locations if they are in the zoomed-in-view.

The main menu additionally features a play button, an options menu (which allows you to configure settings like sound, and touch vs mouse controls), a way to switch between the three languages and the option to enable colorblind modes of different types (the latter being optional but sweet).

## Assets

See asset list