

Nudge Design: Bottom Dollar Effect

Gris Ability - No Nudge

Gris Abilities are unlocked by the player during the **different gameplay chapters**. Once unlocked, they remain **fixed for the rest of the game**, without the possibility of **upgrading**. The goal of inserting a **Bottom Dollar Effect** into the game is to allow the player to obtain **Ability Points** and use them to **improve each skill**, allowing the Level Design to adapt to changes and **present new game environments**.



Skill Trees Definition

For **each mechanic**, **upgrade levels** are added which **increase** or **change** the basic **functionality** and the **effects** they have both on the *character* and on the *game environment*. Each skill starts at **level 0** and **requires** a certain number of **Ability Points to advance** to the next level.

Chapter 1 - Jump and Run

Jump Mechanic (LV 0) - New Skill Tree

Jumping is an ability that Gris **unlocks immediately** and which allows her to **reach higher platforms** and continue the gameplay. By adding a **Skill Tree**, variations are introduced to its functioning to allow the player **greater exploration and increased agency** over the control of the mechanics. Considering that *double jumping will be available* during the gameplay, the changes to the basic jump will **not add this possibility**.



Level	Description	AP Required
1	The jump covers a greater distance , allowing the character to reach higher areas of gameplay	1
2	During the jump the character can perform a horizontal dash and reach platforms located at a greater distance	2
3	During the air dash, Gris becomes invulnerable for 2 seconds (addition of obstacles and death system in Level Design)	3

Chapter 2 - Heavy Block Transformation

Heavy Block Transformation (LV 0) - New Skill Tree

In the second chapter Gris can **transform into a heavy block** that prevents her from being **transported by strong wind currents**. She allows her to interact with the elements of the game areas and **makes her destroy fragile floors** (*affordances*) to proceed to new areas. **Falling speed is greatly increased** in this form.



Level	Description	AP Required
1	Possibility to load the transformation . The more it is charged , the more powerful the impact will be (<i>Adding floors destructible only with max power</i>)	2
2	Added a horizontal boost during Heavy form to break through horizontal breakable walls (<i>new game areas</i>)	3
3	During the horizontal boost , Gris becomes invulnerable for 2 seconds (<i>addition of obstacles and death system in Level Design</i>)	4



Chapter 3 - Double Jump and Flying

Double Jump and Flying (LV 0) - New Skill Tree

Gris can **double jump** to **reach higher map points** and continue gameplay. Furthermore, if the double jump is performed at **certain moments of the game (red butterflies)**, the character will start **jumping at a much greater distance** until **taking flight**. The character is **controllable** in flight and the **falling speed is decreased** until he hits the ground. With the addition of nudge, **Flying** is used as a **double jump Power Up**, giving the player greater **agency** over when to use it.

Level	Description	AP Required
1	The second jump provides a vertical boost allowing the player to reach a greater distance .	1
2	If the player holds down the input after the second jump, the character will start to glide (Flying - slow descent)	2
3	If the player presses input when in Flying Mode , the character performs a mini vertical boost up to a maximum of 2 times (<i>A Short Hike mechanic</i>)	3
4	If the player presses input when in Flying Mode , the character performs a mini vertical boost up to a maximum of 5 times (<i>longer distance</i>)	5



Chapter 4/5 - Sing

Double Jump and Flying (LV 0) - New Skill Tree

Gris learns singing, a more **aesthetic** skill that allows her in the endgame to **awaken flowers** that create **paths** to overcome to reach the end. This ability can be made much more useful on a **gameplay level** by **enhancing** her singing or providing it with **additional effects**.

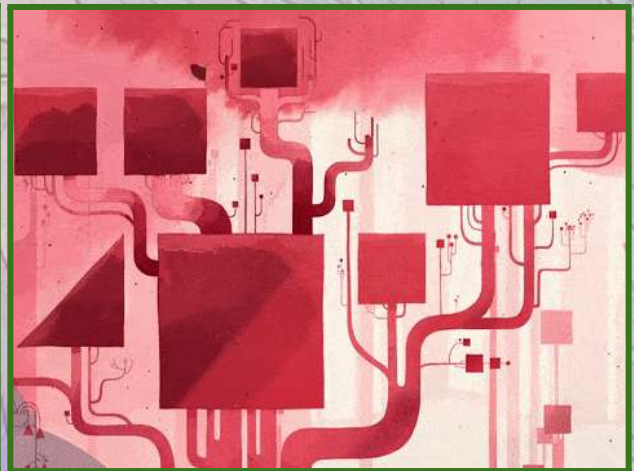


Level	Description	AP Required
1	The ability can be charged to increase the radius of effect (<i>further flowers activate</i>)	2
2	At maximum power , the flowers stay active for twice as long .	4
3	Singing can stop time and block any moving platforms (<i>adding moving platforms and puzzles to gameplay - Level Design Side</i>)	5
4A	Increased lock time for moving objects, the player can adjust the time by sending objects back and forth (Discovery for puzzle solutions, emergent gameplay)	6
4B	The player can move platforms in the game area , making them maintain the trajectory they had in the original position	6

Level Design & Narrative - New Implementation Changes

New Platforms

The **platforming element** is **reinforced** by the **jump and double jump effects**, which allow for **aerial dashes, extended fall times** and **increased jump distances**. This forces the designer to **increase the metrics** and insert **platforms** at a *greater distance* to allow the player to make the most of the **new mechanical effects**. The **difficulty** of the platform **must remain such as** to leave the player with his **visual** and **sensorial experience** of the game (*same Pace*).



Different Kind of Floors

The **Heavy Form upgrades** force the Level Designer to add **different types of floors**, destructible with **different powers** of the ability. The new floors can lead to **game areas that are not part of the main path** (*the player may not unlock the upgrades, this must not prevent him from continuing the gameplay*). New areas can be **hidden spaces** that contain **Lore insights into Gris's life** (*deepening her journey through emotional stages*) or **shortcuts** between the **various game areas** (*create loops between areas to improve navigation*).

Death Obstacles

To make sense of **invulnerability during abilities**, **obstacles** are added that lead to the **character's death**. The respawn can be positioned **just before the obstacle** (*simple solution, generates few fear aesthetics*) or add **checkpoints in the game** (*increasing the **player's stress**, but always remembering that the feeling, the pace and the main aesthetics of the game must remain **unchanged***).



Moving Obstacles (Time System - Movement in the Game Area)

Singing Ability upgrades allow the addition of **moving platforms** (already present in the game, such as those that appear and disappear) and which **can be moved by the player**. This **degree of agency** can also lead the player to **grow together with Gris**, who at this moment can **manage everything** she wants within the **journey into her feelings**. Upgrades create **Discovery** and **Emergent Gameplay**, the player can *experiment with different solutions* to **solve the puzzles** and **advance through the level** (the difficulty must remain low to leave the focus on the visual/auditory experience).



New Currency Added (Ability Points)

Ability Points are a **currency** that the player **obtains during gameplay**. There are **various options** on how to **implement** this mechanic within the game:

Ability Points can only be obtained **when Gris collects all the stars to proceed to the next chapter**. This methodology is **simpler** to implement, allows the player to **focus on the story and gameplay** and **precisely marks how many APs are obtained** each time the character moves on to the next phase. The player is **not very clear** on **how** and **when** to **use his AP** to improve skills, he does not know if the AP obtained changes each chapter, he is **unable to master the use of AP** in the most efficient way given that he obtains them only a **few times** in the gameplay.

Ability Points are made into **collectibles**, objects that can be **interacted with in gameplay**. They **encourage the exploration** of each game area and stimulate the player to **solve the puzzles** to obtain them. The player *sees the mechanics more often*, becoming **familiar with it** from the early stages of gameplay. The amount of **AP** obtained changes *based on the player's gameplay*, the level must allow him to obtain most of them **without having to solve complicated puzzles**. **Best solutions** for the analysis and for player experience.



BDE - Application & Theory

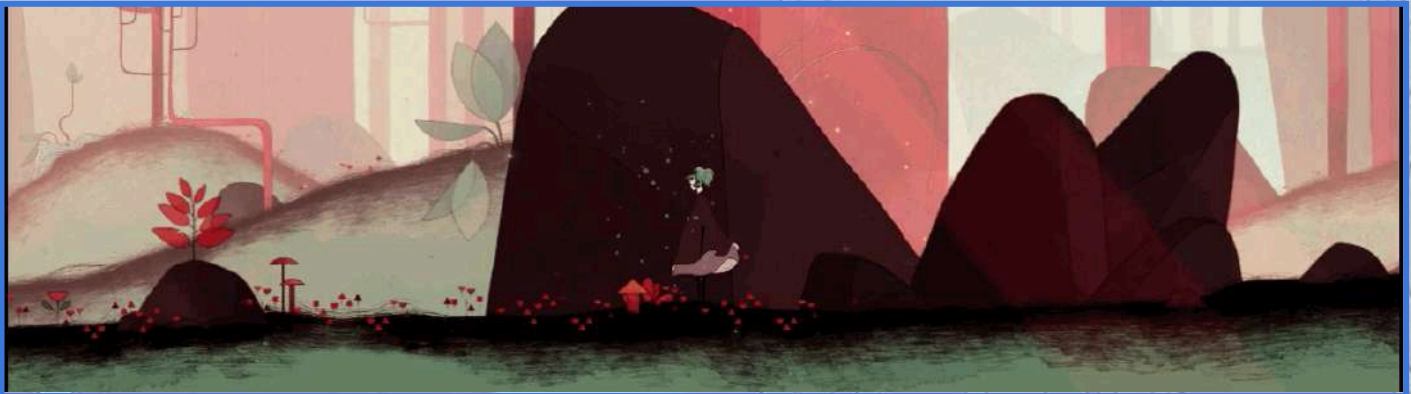
In each chapter of the story, the **complete exploration** of the **areas** allows the player to **collect APs up to the improvement of a single skill at the level immediately before the maximum**. In this way the player will always have **APs remaining** once he has spent them, always having the **impression of never having spent all** of his earnings. An amount of currency is **left** to the player always **greater than 30%** compared to the difference he needs to **reach the last level** of the skill (*1/3 of the progress he must make is already satisfied*)

Chapter 1 - Jump & Run

Jump - Run LV 1	Jump - Run LV 3	In chapter 1 the player can only upgrade the Jumping Skill Tree . If the player finds all the collectible APs that are placed on the game map, he gets a total of 5 APs . At this point he can decide whether to upgrade the jump or not , and if he does, how many levels to advance it (<i>the upgrade is not strictly necessary to complete the chapter</i>)
1	3	
Jump - Run LV 2	Total APs Obtained	
2	5	
Total APs Obtained		
5		

Chapter 2 - Heavy Block Transformation

Heavy - LV 1	Heavy - LV 3	In chapter 2 the player unlocks the Heavy ability which allows him to increase the weight of the character to overcome the gameplay phases with the wind pushing him away and to continue the gameplay by breaking through destructible floors . By fully exploring the level the player can obtain 7 APs , which he can use to level Heavy mechanic by 2 levels or save them to enhance other abilities.
2	4	
Heavy - LV 2	Total APs Obtained	
3	7	
Total APs Obtained		
7		



Chapter 3 - Double Jump & Flying

Double Jump - LV 1	Double Jump - LV 3	In chapter 3 the player unlocks the Double Jump ability which allows him to continue the gameplay by reaching new areas higher and higher , where the <i>simple Jump cannot reach</i> despite the upgrades. By fully exploring the game area the player can obtain 8 APs which allow him to upgrade the skill up to level 2 or to conserve the points to uniformly upgrade all the other skills unlocked at the moment. <i>Upgrades and flying are not necessary to complete the main path, the player has the possibility to finish the game even without ever having upgraded the skill.</i>
1	3	
Double Jump - LV 2	Double Jump - LV 4	
2	5	
Total APs Obtained		
8		

Chapter 4/5 - Singing

Singing - LV 1	Singing - LV 4A	In chapter 4 the player unlocks the Singing ability . With the enhancements inserted for the skills, the player can use new powers to move around the game areas by moving obstacles and platforms and using them as a new path to follow . This leaves the player with increased agency in solving the puzzles and allows him to find new solutions not foreseen by the designers (<i>Emergent Gameplay</i>). The APs provided by the complete exploration of the level are 14 , enough to upgrade the skill up to level 3. Level 4 is divided into two different types of upgrades , <i>the player can decide which of the two to use based on his style of gameplay</i> .
2	6	
Singing - LV 2	Singing - LV 4B	
4	6	
Singing - LV 3	Total APs Obtained	
5	14	



Stress Generation (Paradox of Choice & Complexity)

Stress is caused by the amount of **possible choices** provided to the player by the **character's Skill Tree**. The APs that the player can obtain are **lower than those needed to unlock the entire skill tree** and **max out** all the skills. This creates even more **tension** in the player, who is **forced to decide whether to spend APs on enhancing one skill rather than another**. Based on the gameplay style, the final **skill tree** will change.

The Nudge insertion strategy **increases the game's variability and replayability**, and also allows players to **express themselves** as they see fit. It also allows him to **characterize Gris** at will, making them **further identify with the gaming experience**.

Complexity is given by the **structure of the skill tree itself**. To be upgraded to a certain level, **the skills need to be at the level immediately before**, there are **4 different skills** and each one serves **different purposes** in the game. Each ability varies the gameplay and will facilitate the **player's exploration** depending on the game area in which he is located.



Aesthetics Generated

Both the aesthetics added by the insertion of the **Skill Tree** and those caused by the **Bottom Dollar Effect** are analyzed.

Gameplay - Mechanics Aesthetics

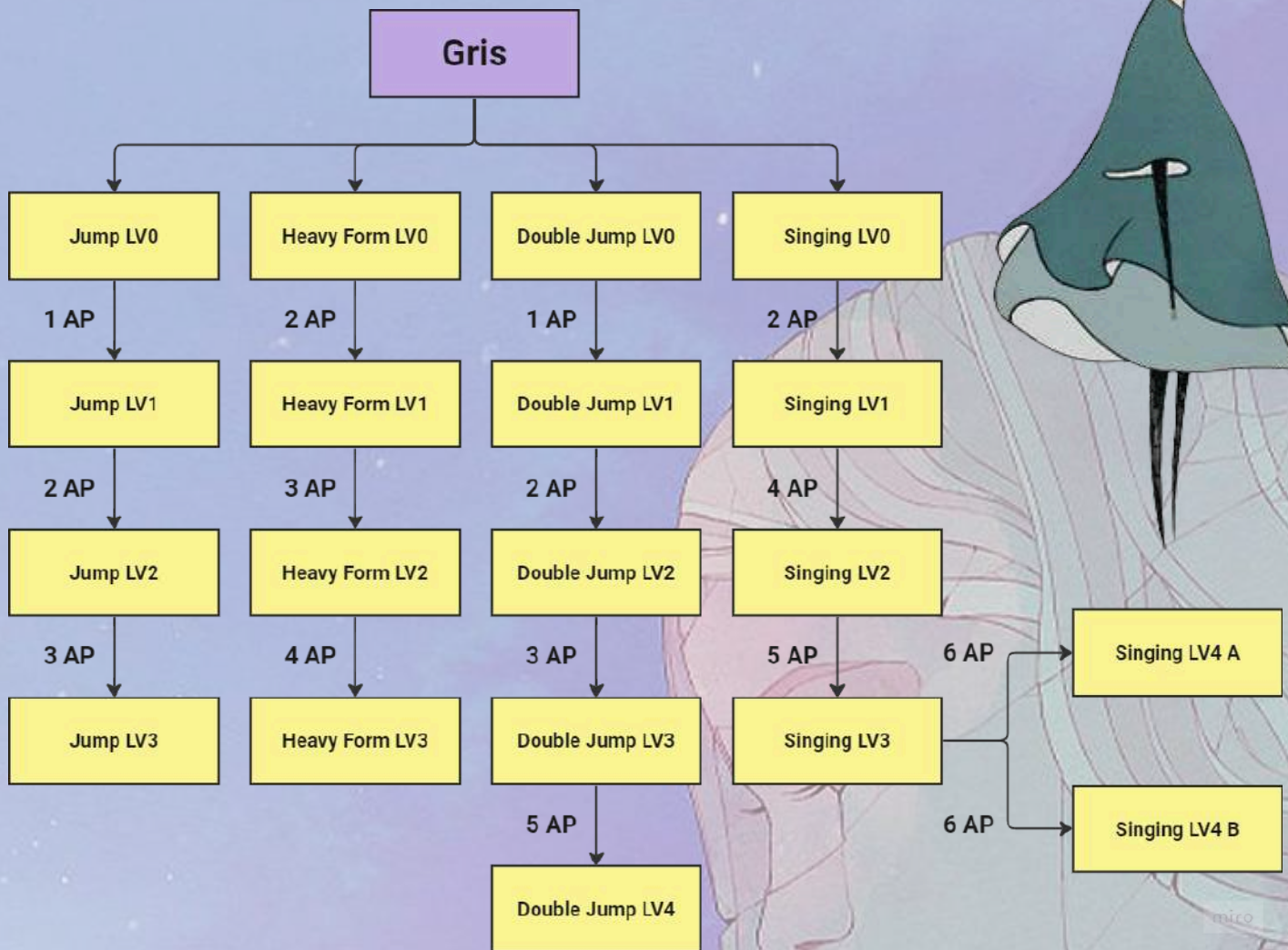
Accomplishment	When solving puzzles and unlocking a new power-up , the player feels like he has taken a step forward in the gameplay .
Logic	Strategy and reasoning used in solving puzzles (<i>Singing forces the player to think</i>)
Fiero	Satisfaction in combining skills and building a character that reflects the player and his way of playing.
Sensation	Animations, VFX and sound effects are added with the new mechanics
Excitement	The slight variation of pace in the game and the choices in the Skill Tree provide moments of tension in the player
Fear	The addition of obstacles that hit Gris and make her respawn increases the feeling of fear and tension in the player.
Discovery	The player can use the new mechanics to discover new ways to overcome puzzles
Socialization	The player can share his final Skill Tree on social media to suggest to other players <i>how to build their character</i>

Bottom Dollar Effect - Aesthetics

Fear	With the Skill Tree the player must choose between conserving APs or using them to upgrade skills.
Logic	The player must strategically build his Skill Tree to enhance skills at the right time and only those necessary for his goal.
Expression	The player can customize the character not <i>aesthetically</i> , but can decide which abilities to enhance to make it feel like his, as if it were his virtual representation .



Final Skill Tree (Graphic Representation)



Conclusions

The addition of the **Nudge Bottom Dollar Effect** adds a **new aspect to the game** which strengthens the **player's personalization** of the **gaming experience** and his ability to **use skills to overcome the various game areas**. *Each ability was already present in the previous version, the pace of the game varies slightly and the Lore remains unchanged (it can be further explored by reaching new areas that the updated platforming provides).*

In this way the player is **constantly faced with a choice**: does he **use all his APs to upgrade a greater variety of skills** or does he **save them to upgrade a couple to the maximum level**?

The **stress** in this choice is reinforced by the fact that the **APs** that each chapter provides are **never enough to fully enhance a skill**.

The player has **agency** in using the upgrades, he can decide as he likes whether to **obtain them or not** (*it is possible to complete the game even without upgrading any skills*). **Enhanced abilities** only offer one alternative method.

The chapters provide enough **APs** to the player to **upgrade the skill related to that chapter** up to the level **before the maximum**, also leaving him with a sum of APs greater than **30%** compared to the amount he needs to reach it.