

High-Rise Harvest: A Farming Simulation Game Raising Awareness of Vertical Farming Practices

Story - Bobbito's Lolo Grice had always loved his backyard. A small patch of land filled with vibrant plants and the promise of life. But now, Lolo Grice was sick and confined to a hospital bed, unable to care for the garden he cherished so much. One day, Lolo Grice asked Bobbito to look after the backyard for him. Without hesitation, Bobbito agreed, knowing how much it meant to his grandfather.

As Bobbito tended to the plants, an idea sparked in his mind. He decided to turn the backyard into a small farm, growing vegetables and herbs to sell. Every seed he planted carried a purpose to raise enough money to help pay for Lolo Grice's medical bills. Day after day, Bobbito worked tirelessly, pouring his heart into the soil.

Eventually, his efforts paid off. With the money he earned, Bobbito was able to settle the hospital expenses. When Lolo Grice finally returned home, they stood together in the backyard, now flourishing with life. It wasn't just a garden anymore. It was a symbol of love, sacrifice, and hope. As they admired the beauty of the plants, Bobbito realized that this backyard had given them more than food; it had given them a future to enjoy together.

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SETTING / - The farm is in a rural/provincial area

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CHARACTERS

- Bobbito - Grandkid of Grice character of the player
- Grice (OG Gramps) - grandfather of the Bobbito (player) the original owner of the land
- José (Deliver man) - Friend of Grice who upon the first day of farming randomly goes by the house and offers to deliver produce to help his friend Grice
- Boogoi (Selling Man) - The local experienced farmer who owns an agriculture supply store
- Marlyn Karen Davilla (Buying woman) - Plantita who enjoys planting and learning more about vertical farming.

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MECHANICS/GAMEPLAY:

- Tutorial - (Cutscene) Grice has started a little progress on the farm and could not finish it due to a sickness. Bobbito, finds a letter on a table/rocking chair entrusting him to take care of the farm while Grice is sick in which he wrote the tools for the farm are in the shack.
- Farmer - Bobbito starts with the lettuce, Radish and Green onion, Carrots, and Dwarf citrus that his grandfather planted. Inside a shack he finds the tools his grandfather

uses. Along the way, he learns more about vertical farming, improving the farm and equipment in his grandpa's backyard.

- Buyer (Produce) - we will carry a box of crops then we will visit him in the city to sell her the crops.
- Seller (Supply Store) - he is a seller in the city where we walk there to buy seeds, and equipment

GAME MECHANICS

The character will start with his grandfather's leftover crops in his farm, while trying to maintain and grow the crops he had planted. While doing so he fends off bugs and insects as well animals who are trying to eat the crops in his vertical farm.

The player must also decide which crops are the most profitable to sell to reach the seasonal (Level) quota. The quota increases after every end of the season. Crops prices can and will also lessen due to the quality as bugs and animals try to eat it, lowering the overall quality of the crops. **(This big W)**

The player must juggle between the tools he uses with limited inventory space and must decide which is the most efficient in different scenarios. **(This also big W)**

Main objective of the game:

- To earn money for gramps hospital bills
- Not get bankrupt or not reaching the quota
- Survive each 20-day cycle without losing all resources (after planting, he can build the fences, pest spray can overtime make it better for the plant so that the pest will die
- Maintain a sustainable farm to support long-term income
- Make the plant survive the day and night against the parasite and sickness

NPC/Character Artstyle:



Due to the time constraint of the project, the art style for our NPCs will be low-poly so it's not too difficult to create, but it will still look clean and presentable.

NEUTRAL NPCs:

- Lolo Grice
- Jose (advice giver, gives quest)
- Karen Davilla(buy crops)
- Boogoi (Delivery Guy)

ENEMY NPCs:

- Parasites / Animals that eat plants
 - Caterpillars sa umaga
 - When you hover your mouse on the plant, you can see it if it is infected with bugs or you can inspect it yourself to see if it is infected
 - Raccoon for night enemy, tries to steal grown crops



Game mechanics:

2. Market & Trading System

- Market selling
- Price changes / dynamic pricing
- Jose gives a quest that says what crop is better to sell in that week (7 days he will pop up)

3. Storage & Inventory System

- Inventory management
 - Storage limits
 - Storage organization/management
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4. Farming & Crop System

- Crop Growth
- Crop Harvest
- Water is somewhat connected to the energy the character (it limits how many can you water the plants)
- Poso (**pwede natin ito gamitin for our water source, si bobbito ang kukuha nung tubig sa poso para pang dilig sa plants/fruits**)

Farming process

1. Container
 2. Soil
 3. Fertilizer (Has Quality)
 4. Seeds
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5. Safety & Defense System

- Fences
 - Pest Spray
 - Sanitizing agent (For infections in plants)
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settings:

- lolo's backyard? or farm lot
- market?
- little house connected to the backyard/farm
- Storage shed?

GAME CONTROLS

WASD - for movement of the character

E - for interacting

Q - to Drop Item

1, 2, 3, 4, 5 - corresponds to the hotbar inventory (when picking up items with full inventory you must drop 1 item to pick it up)

ESC - to pause the game and to access the menu settings.

LMB - for **planting** the crops hold

RMB - for **harvesting** the crops

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SEASONS:

Spring (Easy 1st Level)

VEGETABLES	FRUITS
• Lettuce • Radish • Green Onions • Carrots	• Dwarf Citrus (calamansi, lemon)

Autumn (Medium 2nd Level)

VEGETABLES	FRUITS
• Kale • Carrots • Beets • Jalapeño	• Blueberries

Summer (Hard 3rd Level)

VEGETABLES	FRUITS
● Peppers ● Tomatoes ● Cucumbers ● Celery	● Strawberries

Winter (Very Hard 4th Level)

VEGETABLES	FRUITS
● Spinach ● Radish ● Chives ● Beets	● Raspberry

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Endings:

Good ending: bills fully paid, farm stable

Neutral ending: Lolo survive, farm dead

1st Level (Spring Level)

1st stage:

The character spawns in the front of the backyard of the house (like a patio), There is a table and a rocking chair on the side. On the table, there is a note made for Bobbito from his grandfather Grice. He entrusts the garden to Bobbito while he is hospitalized. *There is a cutscene of Grice writing the letter* After the cutscene, Bobbito encourages himself to start working and the tutorial of the game starts. The character is lead to a shed/working station where the tools that can be used are found, it shows how to use it and where, including the seeds. The character is then tasked to take care of the by maintaining the quality of the crops and expanding the farm.

2nd Stage:

Infections are introduced, green smog is coming out of the crops and some crops are also getting infected with worse conditions. Bobbito must use an anti-infection spray and play a minigame to “cure” the crop. After 15 in-game days it is time to harvest and sell the crops to an NPC called Karen Davila. The money then can be used to buy better equipment, farm expansion, or other seeds that yield better crops for different circumstances from Jose.

2nd Level (Autumn Level)

1st Stage:

The orders from the first level are delivered by Boogoi, the delivery man. After receiving the delivery, Boogoi tells Bobbito about the crops that sell for more profit and then the 2nd level starts, it is the same as the 1st level but infections have higher chances of spreading, and animals that attack the plants are introduced. The character must use a horn that plays a loud noise to startle and drive the animals away. The animals can also destroy the vertical farm stands causing the crops to be damaged or unprofitable.

2nd Stage:

On the 2nd stage of the 2nd level animals have more chances to appear and attack and destroy the farm, and infections also spread a bit more quicker. When the farm is destroyed, the character can choose to drop and pick up different items and juggle between their equipment to rebuild the farm or take care and maintain the quality of the remaining crops. After another 15 in-game days, it is time to harvest once again but this time with a higher quota to meet. If the quota is met, the character is then allowed to buy more seeds or better equipment with the money earned.

3rd Level (Summer Level)

1st Stage:

The orders are delivered by Boogoi, the delivery man. After he delivers the goods, he warns Bobbito about the weather since summer is coming. During this time, the crops need to be watered more often.

2nd Stage:

The crops have a chance to dry out causing the infections to spread more and the crop to whittle faster, animals also has a chance to be enraged causing them to attack the farm more violently.

4th Level (Winter Level)

All adversaries have a higher chance to occur. Crops gets infected more and comes in worse conditions, animals try to attack the farm more often, and crops have a chance to be buried in

snow, lowering its quality drastically and stopping its growing progress. After successfully surviving winter Bobbito saves up more than enough money to pay the bills for Lolo Grice's hospital bills, and shows him what he has done to his grandfather's garden. Grice felt relieved and proud seeing how his garden turned into a beautiful farm, and more importantly how his grandson Bobbito grew independent and an incredible farmer.

The testing will be conducted at FEU, targeting BSIT students. Respondents will participate in a controlled gameplay session where they will play only the tutorial or first stage of the game, which is sufficient for evaluating gameplay mechanics, controls, and overall clarity without requiring long playtime. To support the evaluation of the game's narrative and advocacy message, a gameplay and story presentation will be provided through the game website or a short video. This allows respondents, including first-time or casual players, to understand the overall storyline even without completing all stages of the game. After the testing session, respondents will answer a survey questionnaire evaluating the game in terms of story, gameplay, sound, animation, and visuals. The study will target 50 respondents using purposive sampling, a type of non-probability sampling, wherein participants are deliberately selected based on their relevance to the study and their willingness to participate. This sampling technique is appropriate since the game is designed for a general audience and aims to promote awareness of environmental degradation. Including respondents with limited gaming experience allows the proponents to assess the clarity, accessibility, and ease of understanding of the game.