Our Farm Day is a simple 2D sandbox with interesting gameplay.

1. Storyline:

In "Our Farm Day," players immerse themselves in the charming life of Alex, a young farmer navigating the joys and challenges of rural life. Under the guidance of his wise grandmother, Jane, Alex learns the essentials of farm management. The game's picturesque setting includes a serene farm with a babbling brook, clucking chickens, vibrant flower beds, and a well-tended vegetable garden.

Alex is never alone; he is always accompanied by his bunny, Nana, who adds a touch of warmth and companionship to his adventures. As the day begins, Alex receives tasks from Grandma Jane, who imparts valuable wisdom and instructions to her grandson. Players must help Alex think critically and creatively to accomplish his tasks, such as finding water sources by following a maze path and overcoming monsters, growing a bountiful harvest, and uncovering the mystery behind the arrows that occasionally whiz by.

The game is full of physics-based interactions, adding a layer of realism and complexity to the tasks. Additionally, players can craft three types of dishes, enhancing their understanding of farm-to-table processes and the importance of cooking in farm life.

Each task in "Our Farm Day" is designed to teach players about resource management, strategic planning, and environmental interaction. The tranquil farm environment comes alive with the sounds of nature, enhancing the immersive experience.

Throughout the day, Alex faces various challenges that test his physical and mental abilities. These tasks serve as mini-lessons in farm life and are crucial for developing a thriving farm. By evening, Alex and Grandma Jane gather to review the day's progress, celebrate successes, and plan for future endeavors. This reflective time also allows players to strategize and improve their approach to upcoming tasks.

"Our Farm Day" offers a fulfilling gameplay experience centered on growth, mentorship, and the satisfaction of hard work. Players will leave the game with a deep connection to Alex’s journey and a sense of accomplishment from the simple yet rewarding life on the farm.

Grandma Jane's phrases:
Good morning, Alex!

Are you ready to start a new day on the farm? If so, come to me, dear, and I will give you a list of tasks.

Wait just a minute, let me remember and write down all your tasks.

You have to plant and harvest carrots. Use them and water to prepare one delicious soup for our family dinner.

As well, don't forget to prepare 5 mashed potatoes and 3 mayonnaise for them.

While you are busy with these dishes I'll prepare other plates.

Carrots seeds and water you can gather from the territory.

Now go and do the tasks.

But be attentive, some monsters could be on your way.

Good luck.

Did you plant carrots and harvest them? Go! I'm waiting for the plates.

Wow! I love this soup! Now we need some mayonnaise (3) and smashed potatoes (5) for it.

This plate indeed needs mayonnaise (3). And don't forget to harvest the carrots and prepare the soup.

We still need mashed potatoes (5) for mayonnaise and a delicious soup to make everyone full.

Didn't you forget something? Where is the sauce? We need 3 of them!

And the soup? Did you harvest the carrots already?

We won't eat soup with mayonnaise, still looking for mashed potatoes. I am looking for 5 plates.

Thank you for your hard work! Everyone will be so happy to see such a table full of plates.

2. Game physics

Here are main examples of physics-based mechanics that are included in "Day on the Farm" to meet the game physics requirements. These examples use Unity's physics engine to create a more interactive and realistic game environment, enhancing both the challenges and immersion for players. Implementing these features will not only meet the game physics criteria but also enrich the gameplay experience in "Day on the Farm."

A. **Nana's Attachment to Alex:** Nana, the bunny, is attached to the player character, Alex. This component allows Nana to navigate the terrain and follow Alex seamlessly. We calculate the optimal path for Nana to take, ensuring she can follow Alex around obstacles and across the map. The attachment mechanism gives a sense of companionship and dynamic movement, enhancing the game's immersive experience.

B. **Sliding Chest Mechanic:** The sliding chest mechanic is implemented using Unity's Rigidbody component. Chests in the game have Rigidbody components attached to them, allowing them to respond to physical forces. When Alex pushes a chest, a force is applied to the Rigidbody, causing the chest to slide in the direction of the push. This interaction is further enhanced by tweaking the friction and drag properties of the Rigidbody, ensuring a smooth and realistic sliding motion.

C. **Nana's Interaction with Alex:** Besides following Alex, Nana can sometimes push him, which is achieved through Unity's Collider components and Rigidbody interactions. On narrow paths, the collision between Nana's and Alex's colliders can result in Alex being pushed or bouncing off Nana. This interaction is unintentional but adds a playful and dynamic element to their relationship. Additionally, Nana can occasionally block Alex's path, requiring players to navigate carefully around her.

D. **Arrows from Archers:** Players notice unusual arrows flying when they first enter the game. These arrows are shot by archers positioned above the map and fly at specific angles and speeds. Although they are harmless and do not cause damage, their presence adds a dynamic visual element to the gameplay.

E. **Colliders for Boundaries:** The game uses colliders to define the boundaries of the map and certain structures. These colliders prevent players from running off the map, ensure they pass through gates instead of over fences, and require them to use bridges to cross rivers. This guides player movement and interaction within the game world.

These five physics implementations enhance the realism and interactivity of "Our Farm Day," making the game environment more engaging and believable for players.

3. Interaction mechanisms:

In "Day on the Farm," we implemented several key interaction mechanisms to enhance the gameplay experience, focusing on crop cultivation and inventory management.

Raising the objects:

Player can raise the items like bottle with water, or seeds, or vegetables.

Crop Cultivation:

We designed a detailed process for growing crops, specifically potatoes and carrots. This process includes the following steps:

Tilling the Soil: The player can till the soil, preparing the ground for planting.

Planting Seeds: Once the soil is tilled, the player can plant seeds, such as carrot seeds.

Watering: The player must water the planted seeds. This is crucial for the growth of the crops.

Growth Animation: After watering, a growth animation plays, showing the progression from seedling to mature plant.

Harvesting: When the crops are fully grown, the player can harvest them. The harvested crops are then added to the player's inventory.

Inventory Management:

The inventory system is designed to be intuitive and functional, allowing players to manage their items effectively. Key features include:

Adding Items: Harvested crops, like carrots and potatoes, automatically appear in the player's inventory.

Removing Items: Players can remove items from their inventory by discarding them. When an item is discarded, it appears on the ground next to the player, allowing for easy retrieval if needed.

These interaction mechanisms make the farming experience in "Day on the Farm" engaging and realistic, allowing players to immerse themselves fully in the agricultural tasks and resource management essential to the game.

4. AI functionality or NPC system:

In "Day on the Farm," Grandma Jane serves as the cornerstone of wisdom and guidance for the young farmer, Alex. As a pivotal non-player character (NPC), Grandma Jane is integral to the game's narrative and mechanics. Her interactions with Alex are not only central to the storyline but also crucial for gameplay progression.

Throughout the game, Grandma Jane imparts instructions and essential advice, helping to scaffold the player's understanding of the game's mechanics and objectives. Her role is designed to guide the player through the farming tasks, ensuring that they grasp the logical sequence and

importance of each activity. This educational approach helps players learn agricultural practices and resource management in a step-by-step manner.

Grandma Jane's interactions are characterized by:

Task Assignment: At the beginning of each day, Grandma Jane provides Alex with a list of daily tasks, which may include planting, harvesting, or maintaining the farm. These tasks are designed to teach players the cycles of farm life and the necessary steps to sustain it.

Advice and Feedback: As Alex progresses through his tasks, Grandma Jane offers timely advice and feedback based on the player's actions. For example, if a task is incomplete or improperly done, Grandma Jane will provide specific guidance on how to correct the issue or complete the task more effectively.

Narrative Progression: Grandma Jane also plays a crucial role in advancing the game's narrative. Her dialogues with Alex reveal backstory elements and intertwine personal growth with farm management skills, enriching the player's emotional engagement with the game.

By integrating such a mentor figure, "Day on the Farm" not only enhances its educational value but also fosters a deep connection between the player and the game world, making each interaction with Grandma Jane meaningful and impactful.

5. Resource and crafting system

Crafting is a pivotal element in "Day on the Farm," particularly through the culinary activities that drive both game development and player engagement. Central to the crafting system is the preparation of meals, which is integral to fulfilling various tasks within the game. Players can craft three main dishes: Mashed Potatoes, Carrot Soup, and Mayonnaise.

Recipes:

Mashed Potatoes:

- Ingredients: 1 potato + 1 water
- Potatoes appears in inventory at the beginning of the game.
- Water can be found near the archers.

Carrot Soup:

- Ingredients: 2 carrots + 4 water
- Carrots need to be grown by the player.
- Water can be found near the archers.

Mayonnaise:

- Ingredients: 1 potato + 1 water + 1 carrot
- Potatoes appears in inventory at the beginning of the game..
- Carrots need to be grown by the player.
- Water can be found near the archers.

Ingredient Sourcing:

- Water: Players can find water near the archers positioned above the map.
- Carrots: Players need to grow carrots by tilling the soil, planting seeds, watering them, and then harvesting the mature carrots.
- Potatoes appears in inventory at the beginning of the game..

This crafting system not only enhances the gameplay experience but also teaches players about resource management and the importance of planning and preparation in farm life. By integrating cooking and crafting into the core mechanics, "Day on the Farm" offers a rich and engaging simulation of rural living.