# Virtual Pet Manager (VPM)

## How it Works

1. **Pet Creation:**
   1. **Selection:** Users begin by selecting a virtual pet from a list of options, such as a rock, potato, cat, fish, dog, or other quirky choices. Each pet type has its own set of unique traits and care requirements, making the choice impactful. For example, a cat might require regular grooming, while a rock would have minimal care needs but require more attention to mood-related activities.
   2. **Customization:** After selecting a pet, users can personalize it by choosing its name, color, and any other available customizable features. For pets like cats or dogs, users might also select specific breeds or patterns. These customizations allow users to form a bond with their pet, making the experience more immersive.
2. **Interactions:**
   1. **Core Activities:** Users can interact with their virtual pets through various activities, including:
      * **Feeding:** Users choose appropriate food items based on their pet’s type (e.g., cat food for a cat, fertilizer for a potato). Feeding improves the pet’s health and mood.
      * **Playing:** Users can play simple mini-games or choose toys that suit their pet’s preferences. Playing keeps the pet active and boosts its mood. Keep these mini-game(s) **simple.**
      * **Grooming:** For pets that require grooming, users can engage in brushing, washing, or other care routines. Grooming is essential for maintaining the pet’s appearance and health.
      * **Walking (For Certain Pets):** Some pets, like dogs, require regular walks. Users can simulate walking their pet, which contributes to both the pet’s physical health and happiness.
      * **Customization:** Users can further personalize their pet’s appearance by changing accessories, colors, or other available features. This feature allows users to update their pet’s look and feel.
   2. **Effect on Mood:** Each interaction directly influences the pet’s mood. Positive actions like feeding and playing improve mood, while neglect or incorrect care lowers it. The effects of interactions are immediate, allowing users to see the impact of their actions.
3. **Mood Gauge:**
   1. **Visual Representation:** Each virtual pet has a mood gauge displayed prominently on the screen. The gauge reflects the pet’s current happiness and satisfaction, which is influenced by the user’s interactions. The gauge might be color-coded (e.g., green for happy, yellow for neutral, red for unhappy) to provide a quick visual indicator of the pet’s mood.
   2. **Feedback System:** The pet will provide textual or visual feedback based on its mood. For instance:
      * **Positive Mood:** “I’m feeling great! Thanks for playing with me!”
      * **Neutral Mood:** “I could use some attention soon.”
      * **Negative Mood:** “I’m feeling neglected. Please feed me!”
   3. **Consequences of Mood:** Prolonged neglect can lead to a decrease in the pet’s overall well-being, possibly requiring more intensive care to return it to a positive state.
   4. **Reward for mood:** A positive mood will reward the user with **‘pet store points’ (PSP)** where they can buy pet customisations, tools for their pet, and additional pets.
4. **Care Management:**
   1. **Routine Tracking:** The app keeps track of the user’s care routine, monitoring how often they feed, play with, groom, and walk their pet. This tracking helps ensure that the user is providing consistent care.
   2. **Reminders:** Users receive notifications or reminders for essential activities like feeding or walking their pet. For example, if a pet hasn’t been fed for a while, the app will remind the user with a message like, “Your pet is hungry! Don’t forget to feed it.”
   3. **Care History:** The app maintains a log of the user’s interactions and care routines. Users can review this history to see patterns in their care, allowing them to adjust their routine if necessary. For example, if a pet’s mood consistently drops at the same time each day, the user might decide to engage in more frequent interactions during that period.
5. **Pet Management:**
   1. **Adding Pets:** Users can add new pets to their collection once they have successfully maintained a positive mood for their existing pet(s) over a certain period. This feature encourages users to expand their virtual pet family, adding variety to the experience.
   2. **Removing Pets:** If a user no longer wishes to care for a particular pet, they have the option to remove it from their collection. The pet’s care history and mood will be updated to reflect its removal, and the user will receive a final summary of the pet’s status before it is removed.
   3. **Multiple Pets:** For users managing multiple pets, the app provides a consolidated view where they can see the status of all their pets at a glance. This feature allows users to efficiently manage their entire virtual pet family without needing to switch between different screens or views
6. **[Optional] Education:** 
   1. **Education mode**: Education mode may be selected when making the account (through authorisation). This mode will provide the user with facts and information about the truths of pet ownership. Quizzes may also be taken which can provide additional PSPs.

## Criterior

### Small Audience

**a. Individuals with Allergies or Space Constraints:**

* **Target Group:** People who cannot have real pets due to allergies, small living spaces, or other constraints.
* **Need:** They seek the companionship and responsibility of pet care but face physical or health limitations.
* **VPM Solution:** The VPM provides a virtual alternative, allowing these individuals to experience pet ownership without the physical or health-related challenges. By offering customizable and interactive virtual pets, the VPM satisfies their desire for companionship and engagement.

**b. Busy Professionals or Students:**

* **Target Group:** Individuals with demanding schedules who may find it challenging to provide consistent care for real pets.
* **Need:** They need a flexible way to engage with pets without the time commitment required by real animals.
* **VPM Solution:** The VPM’s design accommodates their busy lifestyles by allowing users to interact with their virtual pets at their convenience. Features like reminders and routine tracking help manage pet care in a way that fits into their schedules.

**c. Fans of Virtual Pet Games:**

* **Target Group:** Enthusiasts of virtual pet simulations, such as fans of Tamagotchi or similar games.
* **Need:** They are looking for new and engaging ways to interact with virtual pets, valuing innovative and fun features.
* **VPM Solution:** The VPM offers a rich array of interactive activities and customization options, providing a fresh and engaging experience that caters to their interests. The mood gauge and feedback system enhance the immersion and satisfaction for this audience.

**d. Prospective Pet Owners:**

* **Target Group:** Individuals considering adopting a real pet but wanting to understand the responsibilities involved before making a commitment.
* **Need:** They need a way to experience pet care and management in a low-risk environment.
* **VPM Solution:** The VPM simulates various aspects of pet care, allowing users to learn about pet management and develop skills that could be valuable when transitioning to real pet ownership. This educational component can help users make informed decisions about adopting a real pet.

**e. Educational Institutions and Parents:**

* **Target Group:** Schools or parents looking for educational tools to teach children about responsibility and care.
* **Need:** They seek engaging methods to educate students or children about pet care and responsibility.
* **VPM Solution:** The optional Education mode provides facts and quizzes about pet ownership, making it a useful tool for educational purposes. This feature can help teach children or students about the responsibilities of pet care in an interactive and engaging way.

### Real Impact

**a. Emotional Satisfaction:**

* **Impact:** Users experience emotional fulfillment and companionship through their interactions with virtual pets. The mood gauge and feedback system create a sense of attachment and satisfaction.
* **Detail:** The VPM offers a form of companionship and emotional engagement, which can be particularly valuable for individuals who may feel isolated or lonely. The ability to see their virtual pet’s reactions and moods provides users with immediate emotional feedback.

**b. Flexibility and Convenience:**

* **Impact:** The VPM provides a pet care experience that adapts to users' schedules and living conditions. This flexibility allows users to enjoy pet ownership without the physical or time constraints associated with real pets.
* **Detail:** Features like reminders and routine tracking help users manage their pet care responsibilities without being overwhelmed. This flexibility makes pet ownership accessible to a wider range of people, including those with busy lifestyles or limited space.

**c. Introduction to Pet Care:**

* **Impact:** Users considering real pet ownership gain insights into the responsibilities and challenges of caring for a pet.
* **Detail:** By simulating various aspects of pet care, such as feeding, grooming, and walking, the VPM helps users understand what is involved in real pet ownership. This educational experience can prepare users for the responsibilities of owning a real pet and reduce the risk of impulsive decisions.

**d. Community and Connection:**

* **Impact:** The VPM can foster a sense of community among users who share an interest in virtual pets. This social aspect can enhance the overall experience and provide additional emotional benefits.
* **Detail:** Features such as pet sharing, leaderboards, or community challenges could create opportunities for users to connect with others, share their experiences, and participate in group activities. This community aspect can enhance user engagement and satisfaction.

**e. Gamification and Rewards:**

* **Impact:** The reward system, including ‘pet store points’ (PSP), motivates users to consistently engage with their virtual pets and participate in activities.
* **Detail:** By offering rewards for maintaining a positive mood, the VPM encourages users to interact regularly with their pets. This gamification element adds a layer of fun and achievement to the experience, making it more engaging and enjoyable.

**f. Educational Value:**

* **Impact:** The optional Education mode provides valuable information and quizzes about pet care, which can be used for educational purposes.
* **Detail:** This feature can be particularly beneficial for schools or parents seeking to teach children about pet care responsibilities. It provides an interactive and engaging way to learn about the realities of pet ownership, making it a useful tool for educational settings.

## Work breakdown

**Group Member 1: UI/UX Design (Sam)**

* **Primary Tasks:**
  + **Design Pet Selection Screen**
    - Layout for pet options and customization features.
    - UI elements for pet traits and care requirements.
  + **Develop Interaction Screens**
    - Feeding, playing, grooming, and walking interfaces.
    - Visual elements for mood gauge and feedback system.
  + **Create Pet Management Screens**
    - Interfaces for adding, removing, and managing multiple pets.
* **Collaboration:**
  + Work closely with Member 3 (Core Functionality) to ensure UI elements are properly integrated.
  + Coordinate with Member 5 (Notifications) to align reminders and notifications with the UI design.

**Group Member 2: Authentication and Data Persistence (Kien)**

* **Primary Tasks:**
  + **Implement Authentication System**
    - User registration, login forms, and password recovery.
  + **Design Data Models**
    - Data structures for user accounts, pets, and interactions.
  + **Develop Data Storage and Retrieval**
    - Methods for saving and loading user data.
    - Update pet care history and routine tracking.
* **Collaboration:**
  + Collaborate with Member 3 (Core Functionality) to integrate authentication with pet interactions.
  + Coordinate with Member 4 (Care Management) for data storage related to care routines.

**Group Member 3: Core Functionality (Enzo)**

* **Primary Tasks:**
  + **Pet Creation and Customization**
    - Logic for pet selection, naming, and customization.
    - Handling different pet traits and requirements.
  + **Interaction Management**
    - Methods for feeding, playing, grooming, and walking pets.
    - Mood gauge adjustments based on interactions.
  + **Mood Feedback System**
    - Logic for mood feedback messages and visual indicators.
* **Collaboration:**
  + Work with Member 1 (UI/UX) to ensure the functionality integrates seamlessly with the UI.
  + Collaborate with Member 2 (Authentication) to handle user-specific data for pet interactions.

**Group Member 4: Care Management (Leighton)**

* **Primary Tasks:**
  + **Routine Tracking and History Log**
    - Monitoring and tracking care routines.
    - Reviewing and displaying care history.
  + **Implement Reminder and Notification Systems**
    - Logic for notifications related to pet care needs.
    - Integrate reminders with the user interface.
* **Collaboration:**
  + Coordinate with Member 1 (UI/UX) for reminders and notifications integration.
  + Work with Member 3 (Core Functionality) to ensure care management features align with pet interactions.

**Group Member 5: Notifications and Feedback (Daniel)**

* **Primary Tasks:**
  + **Set Up Reminder System**
    - Develop reminder and notification logic.
    - Schedule and manage notifications.
  + **Design Feedback for Inactivity**
    - Messages and alerts for neglected pets.
    - Consequences and recovery methods for neglect.
* **Collaboration:**
  + Collaborate with Member 1 (UI/UX) to ensure that reminders and notifications are well-integrated with the overall design.
  + Work with Member 4 (Care Management) to align reminders and notifications with routine tracking.

**Additional Coordination:**

* **Weekly Check-Ins:** Schedule regular team meetings to review progress, address any issues, and ensure that all components are integrating smoothly.
* **Shared Documentation:** Maintain a shared document or project management tool to track tasks, responsibilities, and deadlines. This helps in managing dependencies and ensuring that all members are on the same page.