Virtual Pet Final Project Proposal

CS 396 - Introduction to Web Development

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Summary:

Our Web App will allow users to raise a virtual pet similarly to a Tamagotchi. Below you will find an outline of the features we plan to implement in our web app, the frameworks we will use during development, and a high overview of the flow of the application.

High-level App Overview:

1. Virtual Pet Data Tracked:
   a. Bio Information: Name, Age, Type
   b. Health Metrics (5 Bars): Hunger, Happiness, Sleep, Energy
2. Growth stages of the pet:
   a. 5 Stages (New Born, Toddler, Juvenile, Teenager, Adult)
3. Features:
   a. Setup:
      i. Pick a pet from the select options: (Dog, Cat, Fish, Bird, Turtle)
      ii. Name the Pet
      iii. Give it a story (User writes in a blurb about its bio and its origins)
   b. Interactions that users can take to interact with it (Different Buttons):
      i. Feed it
      ii. Play with it
      iii. Put it to sleep
      iv. Check its health
         1. If not healthy, take it to the vet
   c. Reset Option:
      i. Allows the user to reset and choose a new pet from the same options as before

Rules/Logic Overview:

General Logic:

- A pet starts with 5 bars (100%) for each of their health metrics (Hunger, Happiness, Sleep, Energy) when created
- You get 5 tokens to interact with your pet each day (they don't carry over)
- If health metric goes to 0, you start all over again

Metric Logic:

- Every day you loose 1 bar in sleep automatically
- Every 12 hours you lose 1 bar in hunger
- If your hunger goes below 3 bars, your happiness goes down a bar every 6 hours
- If your sleep is at or below 2 bars, your health goes down a bar every 12 hours

Progress Logic:

Every day you keep all your health and sleep above or at 4 bars, energy and happiness at or above 3 bars, it counts as a day of growth

- Every time you have 10 days of growth, your pet develops and grows

Interaction Logic:

- (1 token) Every time you Play, you lose a bar in energy and gain a bar in happiness
- (1 token) Everytime you Sleep, you gain a bar of sleep
- (1 token) Everytime you Feed, you gain a bar in hunger and energy
- (3 tokens) Everytime you take it to the Vet, health is maxed, happiness is set at 3, sleep is maxed, energy is at 3

Wireframe Flow Overview:

1. **Setup Screen**
    - **Welcome Screen:**
        - Display a brief overview of the app and a “Create your Pet” button.
        - **Animal Selection**: Show five images representing the pet options (Dog, Cat, Fish, Bird, Turtle). Users click on the animal they wish to raise and press “Create.”
    - **Pet Bio Setup:**
        - Three text boxes appear for filling in the pet’s name, hometown, and bio information (a story or blurb about its origins).
        - A “Done” button saves this information and transitions to the interaction screen.
2. **Interaction Screen:**
    - **Pet Display:**
        - A central area displaying an image of the chosen pet, which updates as the pet grows through the five stages (New Born, Toddler, Juvenile, Teenager, Adult)
            - You can click on the pet to show you its information (which they inputted before)

- **Health Metrics Display:**
    - A visible panel showing the current levels of Hunger, Happiness, Sleep, and Energy.
    - Each metric includes a visual indicator (bar or icon) that reflects its level in real time.
- **Interaction Buttons:**
    - Buttons to perform actions that impact health metrics:
        - **Feed**: Decreases Hunger level.
        - **Play**: Boosts Happiness.
        - **Sleep**: Improves Sleep level.
        - **Vet**: Available when health metrics are low; restores health

3. **Reset Option:**
    - A “Reset” button on the main screen allows users to start over, selecting a new pet and setting up from scratch.

Resources/Frameworks Planning to Use:

- React: implement the main functionality of our application
    - Interactive buttons users will press to engage in the actions listed above
    - State management used to update metric displays in real time and maintain consistency across page refreshes
- CSS: ensure the layout of our application is responsive
    - Including the adjustment between multiple form factors

Conclusion:

The basis of our web app will rely on four different actions the user can take to look after their virtual pet. We aim to create an engaging experience by allowing user input to personalize the pet, as well as consequences of starting over so that the user has an incentive to keep looking after their pet. We will use React and CSS to accomplish these goals.