

Individual mini-game assignment

Making a virtual pet

Your task is to design and develop a virtual pet game where players care for a digital pet. The pet should have basic needs such as food, health, happiness, and energy, which the player must manage. Include interactive features like feeding, playing, or putting the pet to sleep. Make the game engaging by incorporating creative elements such as animations, a leveling system, or customization options for the pet. Focus on user-friendly design and ensure the game is fun and easy to use. Depending on your level of care, over time a creature can grow and evolve or fall sick from neglect and die.

Here are some examples:

- My Tamagotchi ([mobile game link](#))
- Bubbu My virtual pet cat ([link](#))
- Virtual Aquarium ([link](#))

Task

As there is a large variety of virtual pet games, here is a list of basic requirements for your game:

- 4 needs which a player need to satisfy for your pet
- 3 mini-game to play with the pet that:
 - Make sense in the context of the game
 - Affects the pet in some hidden form that effect how it grows
- Some mechanism to deplete the pets' needs over time
- Some real world clock feature (e.g. at 10pm your pet fall asleep and you should switch off the light for them)
 - Some features to speed up time (for testing purposes)
 - As we will not be able to simulate long play time within the demo session, add some features to remedy this problem, such as a "simulate 20 hours" button.
- Some features to grow (evolve) your pet based on needs (e.g. if your pet is always hungry it grows to evolves into something thin, if your pet plays a lot it evolves into something muscular)

Refer to the example above to gain a better understanding for the completeness of your game. A basic sample flow has been provided at the end of the document.

You are encouraged to use open-source visual assets to create this game instead of creating your own assets so that you can focus your energy and resources on designing the experience of the game and creating a working version.

Marking criteria

Your final product will be evaluated based on the following criteria:

- Functionality [10]
- Creativity [10]
- The main mechanic feels interactive [5]
- No major functional and visual bugs [5]
- The game needs to feel complete [5]
- General impression [10]

Submission

- Upload a PDF named **IMY300_MG_uXXXXXXXXX.pdf** before the **ClickUP deadline** where the Xs represent your student number.

Plagiarism will not be tolerated, and any student suspected of plagiarism will receive 0 for this assignment. Note that directly copying without crediting the source or incorrectly paraphrasing any source of information is also seen as plagiarism.

Demo virtual pet flow

The virtual pet is a brain

The need are food, health, happiness, energy

Food

- Need deplete a point every minute
- Can be replenish based on: fruits, water, sweets
- Each changes what the brain can evolve to
- Low food makes pet unresponsive

Health

- Need deplete a point every 5 minute
- Can be replenish by sleeping or taking medicine
- Low health cause pet to be sick more often

Happiness

- Need deplete a point every minute
- Can be replenish by playing one of four minigame
- Low happiness makes pet unresponsive

Energy

- Need deplete everytime an action is taken (vary based on action)
- Can be replenish by sleeping, eating certain food
- Low energy makes games harder

Event mechanic

- Every hour an event is triggered based on a table (good, nothing, bad)
- Negative event includes: getting sick, gone missing for an hour, etc.
- Good event includes: auto playing, resting, etc.

Evolve mechanic

- Brain can evolve into one of 16 type of brains based on how well/negated it has been for the past 48 hours.
- 4 is linked to food (too much water, too much sweets, too much fruits, balanced)
- 2 is linked to health (good health, bad health)
- 5 is linked to happiness (one for each game, one for just sad all the time)
- 2 is linked to energy (always low, always high)
- 2 is based on special events
- 1 is based on meeting very specific criteria
- Evolution is based on which criteria was most prominent
 - Pet eat fruits (10 times) > Pet play minigame 1 (5 times)
 - Pet is low health per hour (5 times) < Pet is low energy per hour (18 times)