# Lesson 11–12 – micro:pet Project

## Getting Started

## Loneliness and isolation are real problems for children staying in hospitals for long periods, especially in rural areas. You have been tasked with creating a digital pet that they can play with to keep them company whilst they stay in hospital. A key part of the task is how the user will interact with the pet as this is the element which will help to alleviate loneliness and generate interest in the pet.

## Success Criteria

## The product must be suitable for the target user and must:

* look like a friendly pet (be creative)
* be robust enough to be played with
* have one or more interactions programmed so it behaves like a pet to keep the user company
* contain a micro:bit that users can interact with
* have a face to express emotions when interacted with

## **Some Ideas**

Here are some possible ideas that could be programmed for your pet:

* reacting to playing/shaking (accelerometer)
* feeding (every few hours)
* feeding attention (gets lonely if not interacted with frequently)
* generate a sound if the pet is hungry at random intervals
* sleeping and waking (light sensor)
* reacting to temperature (temperature sensor)
* reacting to wind
* reacting to being spoken to using the built-in microphone
* reacting to touch – stroking the micro:bit logo on the front of the device
* mini games
* communication/interaction between pets
* use of other inputs such as other types of sensors (requires additional hardware)
* use of other outputs such as movement (requires additional hardware)

## **Design**

You can go one of two ways, using the provided net to use as the body of your pet which you can adapt and decorate or design your own! If you design your own, then you will need to complete the design sheet to justify your design ideas.

The most important thing to remember is to be creative and come up with something novel that meets the success criteria in an interesting way. Think about the needs of the user and think about how they will interact with the pet and what they would expect a pet to do and how it would behave.

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|  | This is a BLANK net, whilst it would make a minimalist pet you are meant to come up with a name and design for your pet to give it character and to make it come alive for the user. |

## You may also want to design your algorithms. You can do this using flowcharts. Initially create your IPO diagram and then create a flowchart for each IPO. When programming your pet always remember to consider the following:

* How can the user interact with the pet?
* What are the inputs, processes and outputs?
* Test your pet continuously, refining interactions as you go along
* Keep in mind the success criteria