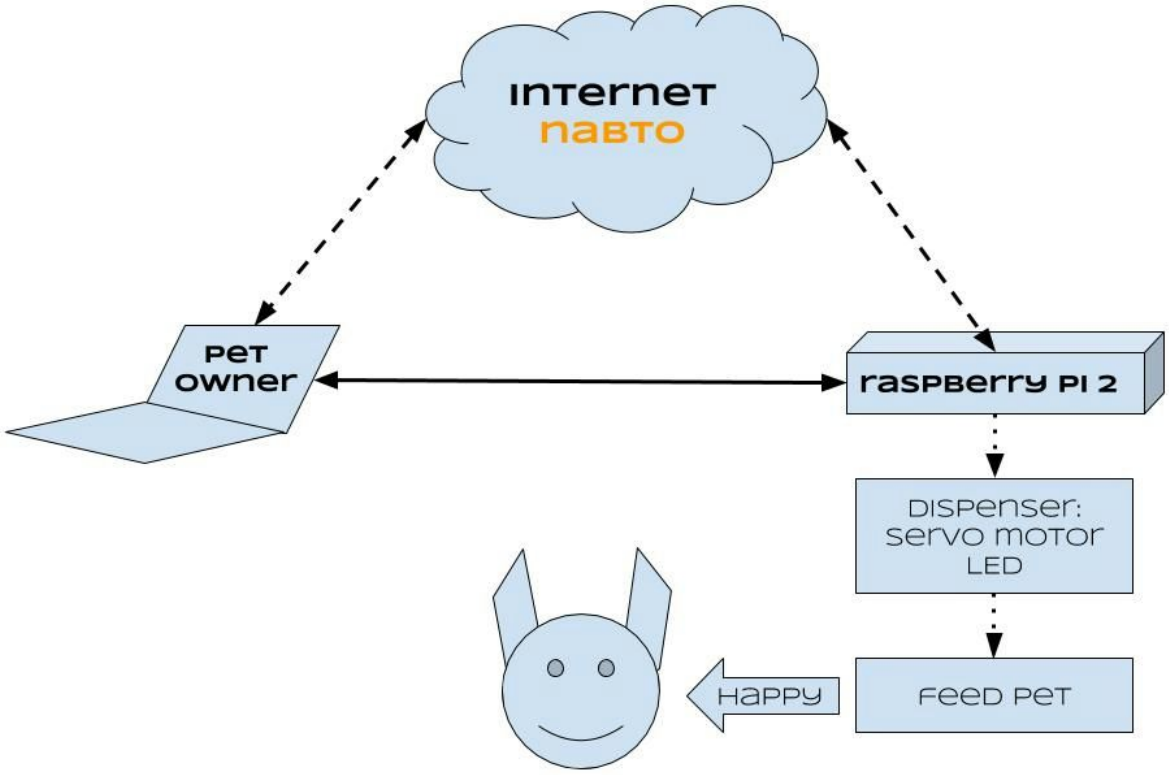

Remote control dispenser

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Overview

The project aim is to build a remote pet food dispenser controlled through the Nabto platform. Particular milestones have been addressed along to ensure a step-by-step implementation of the project. The device chosen for this application is a Raspberry Pi 2 model B, such that further functionalities may be possible for implementation.

Milestones

I. Familiarisation

For the first week, the main focus was to understand and get familiar with the Nabto platform and the Raspberry Pi 2. Running demos, scripts, setting up a blog (github) and documenting the work.

II. Implementation

In the second week, a more technical approach has been made by means of implementing the application, thus getting closer to a final product. The steps were as follows:

- choosing a servo motor to open-close the dispenser and a LED for signaling
- finding a good way of implementing the application (wiringPi library)
- writing different scripts and testing them on the Raspberry Pi
- using and modifying the demos made by Nabto to make it work
- testing and documenting everything

How it works

1. The user makes a specific device [ID] and a unique [Key] will be generated through the Nabto portal:

   https://portal.nabto.com/

2. A specific device application for the Raspberry Pi 2 is made to ensure connection with the Nabto platform. To run and establish connection with your device:

   #./unabto_unix -d [ID].demo.nab.to –s –k [Key]

3. The HTML client application used, is the default one, but the functionality when the light bulb is ON or OFF is changed, each triggering a script.
4. Switching to ON the servo motor will go into a desired position for food to fall from the dispenser. Some problems occur, while running the scripts, but the project is still in Beta and needs further work.
5. The main program (explained in Miniproject.pdf, found on github), which run the servo motor and LED on the Raspberry Pi 2 is triggered when switching the virtual light bulb ON through the HTML client.
6. Carefull! The project is still under construction and may need further work. But, until then watch the Demo.

Demo

https://www.youtube.com/watch?v=5g5tH8Bh4WA

Future work

- Improve the writing of this article
- Improve nabto device application
- Building the actual dispenser to work and pet test
- Create HTML client application
- Call pet function (using Raspberry Pi audio jack)
- Watch pet function (using Raspberry Pi camera module)

Thank you!