PiFeed - Feed Your Pets with a Raspberry Pi!

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Objective

To create an automated cat and fish feeder with internet monitoring and control through the use of Raspberry Pi's

- The ability to maintain a healthy eating schedule for pets is a concern for members of our group, as well as many others who travel or are away from home for an extended amount of time
- By successfully implementing a pet feeding and monitoring system using Raspberry Pi"s, the stresses of animal care while away will be a thing of the past!

PiFeedControl

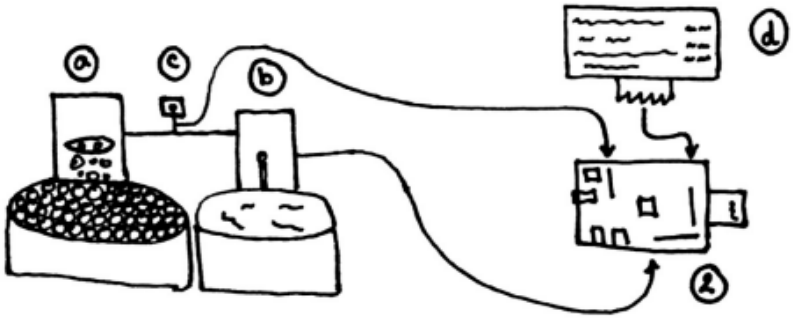
User will interface and be able to control the PiFeedFish/PiFeedCat remotely

- Able to monitor both aquarium and cat feeder
- Can customize feeders and control manually

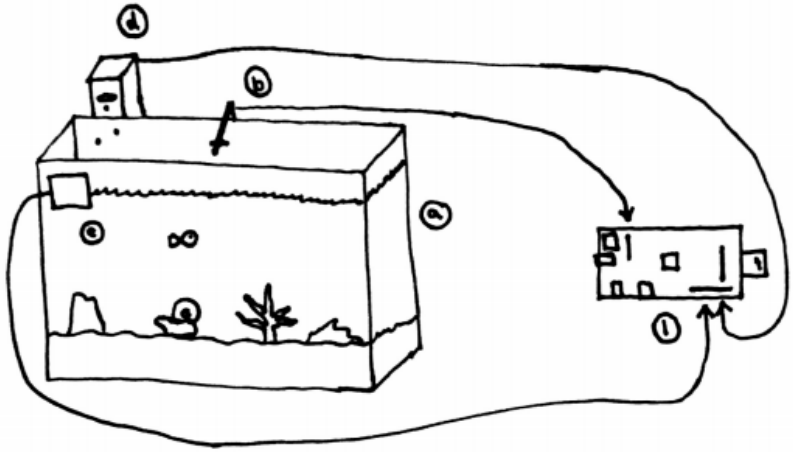
PiFeedFish

- Module to analyze sensor data
- Sends data when requested
- Controls feeder hardware
- Pi Camera to stream to a client

Cat Feeder



Fish Feeder



IoT Net App Patterns

- All sensor data will be published using RabbitMQ
- User control module will subscribe to the data
- User will access hardware/schedule events using sockets

Everyone

- Build automated fish tank feeder and automated cat feeder
- Test hardware component interfaces
- Test PiFeedControl, PiFeedFish, and PiFeedCat Python modules
- Test communication between all Raspberry Pi modules
- Demonstrate beta build and final build

Danny

- Implement PiFeedCat and PiFeedFish Python modules
- Connect hardware components

Daniel

- Design automatedfish tank feeder and automated cat feeder
- Implement PiFeedControl python module

Igor

- Design automated fish tank feeder and automated cat feeder
- Implement PiFeedControl, PiFeedCat, and PiFeedFish Python modules

Gant Chart

	Name	Duration	Start	Finish	Predecessors	Resources
1	Get hardware components	6d	11/10/2014	11/17/2014		
2	Set up fish tank and get a cat food and water bowl	1d	11/10/2014	11/10/2014		
3	Design fish tank automated feeder	1d	11/11/2014	11/11/2014		
4	Design cat automated feeder	1d	11/12/2014	11/12/2014		
5	Build fish tank automated feeder design	2d	11/13/2014	11/14/2014		
6	Build cat automated feeder	2d	11/14/2014	11/17/2014		
7	Connect hardware components	1d	11/18/2014	11/18/2014		
8	Write PiFeedControl python module	7d	11/19/2014	11/27/2014		
9	Write PiFeedCat python module	7d	11/19/2014	11/27/2014		
10	Write PiFeedFish python module	7d	11/19/2014	11/27/2014		
11	Test all hardware component interfaces	5d	11/19/2014	11/25/2014		
12	Test PiFeedControl python module interface	2d	11/28/2014	12/01/2014		
13	Test PiFeedFish	10d	11/28/2014	12/11/2014		
14	Test PiFeedCat	10d	11/28/2014	12/11/2014		
15	Test communication between PiFeedCat and PiFeedFish with PiF	10d	11/28/2014	12/11/2014		
16	Beta build demonstration	1d	12/01/2014	12/01/2014		
17	Final Demonstration	1d?	12/16/2014	12/16/2014