

DogeFetch 

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Meet Link



The Problem



Dogs require constant attention



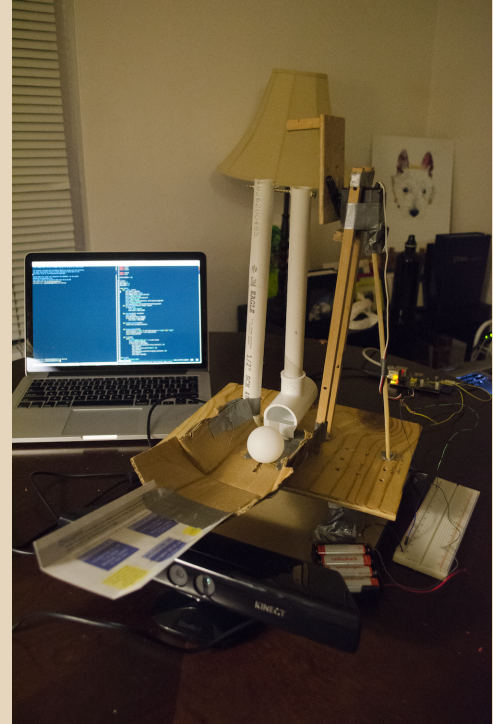
But people are sometimes too busy

The Solution... DogeFetch!



The automatic dog fetch machine!

Entertain your dog when you're not around!



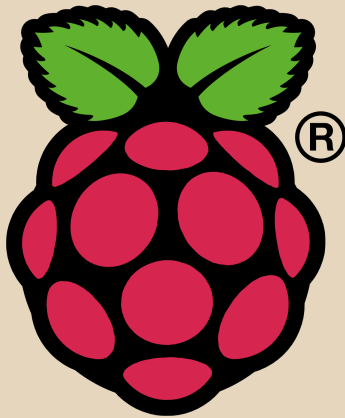
The Video



Dog Found

Kinect detects dog's side and rotates base servo

The Hardware



Implementation

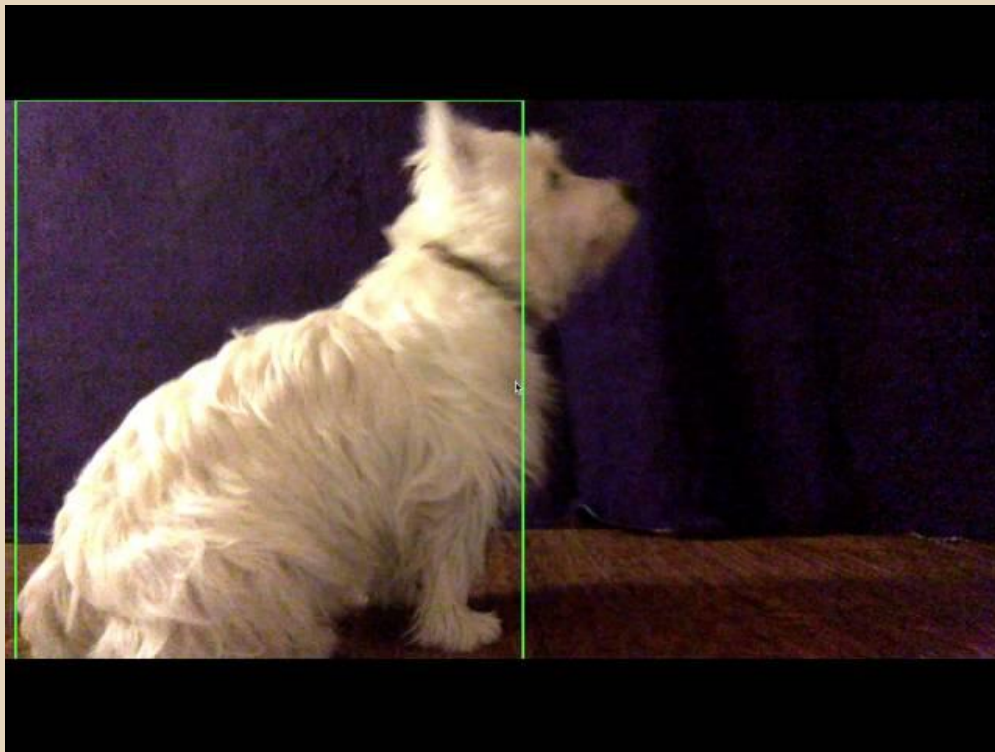
Software

- Threads on threads
- OpenCV

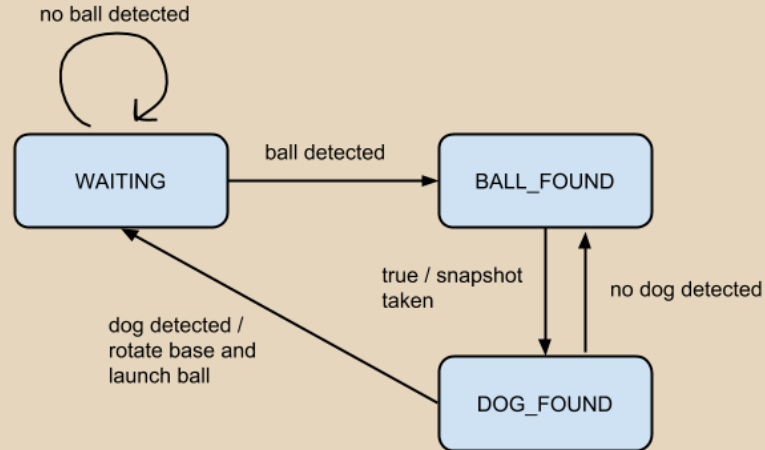
Hardware

- Raspberry Pi GPIO
- Librekinect

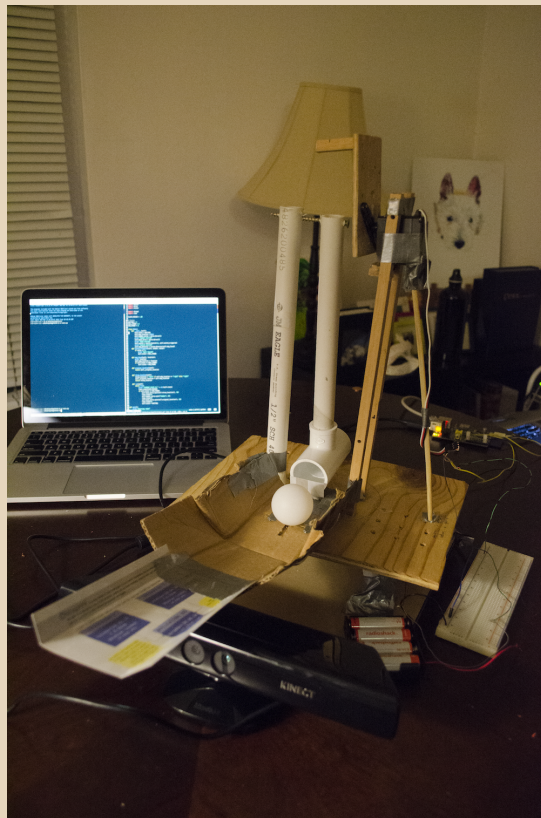
Vision



The State Machine



Actual Device



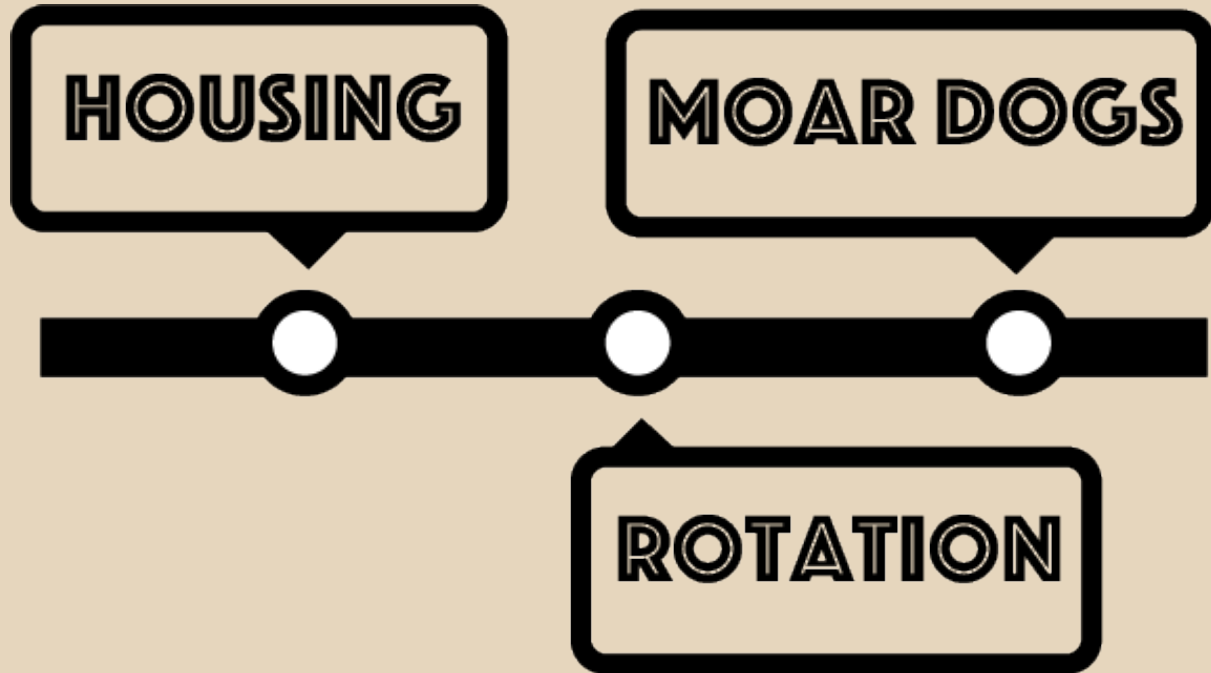
Challenges Faced

- Faulty USB charger for the Pi
- Pi kept overheating
- Syncing Kinect with Pi (previously trying Beaglebone)
- Latency for Kinect
- Building the actual device with parts
- Servo not as powerful as expected
- Microswitch not reliable

Lessons Learned

- Power consumption
- Mechanical Engineering is hard
 - 3D printing
- Plan wiring in advance
 - PCB

Next Steps



Link to our video

<https://www.youtube.com/watch?v=tQ1lts0a2JE>