ResQ Sensor

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Technologies

- FLIR Lepton LWIR 80x60: longwave infrared image sensor which detects heat given off an object and produces an image of it.

- Raspberry Pi 2: single board computer that runs on a Linux system.

- A3020 Sub-Micro Digital High-Speed Metal Gear Aircraft Servo.
The Project

- ResQ Sensor is a heat sensor that alerts the user if an undesirable temperature is reached and allows the user to choose an action, such as extinguish a possible fire.
- User interface allows user to insert temperatures and program the lepton to detect these undesirable actions.
- Will ONLY affect the target area.
- Can then serve other purposes such as:
  - detection of home intruders with the temperature set to the average human body temperature
  - military for the same purpose.
Overall System

1. User will be given the option to input a temperature range for the Lepton to detect.
2. The Raspberry Pi receives an alert once the temperature is undesirable from the Lepton causing an extinguisher to set the flame off.
3. For our purpose, the extinguisher will be a water pump that will shoot water at the flame to put it out.
Hardware

- Water Spritzer:
  - Windshield Washer Pump
  - Soft Tubing
  - 12 volt battery
IT'S DEMO TIME!
The User Interface
The Water System
The Servo
Problems Encountered

- Missing external hardwares
- Merge C++ and Python
- Raspberry Pi internet connection
Next Quarter!

- Connecting the Lepton and the servo
- Working with mechanical engineer to build the case for our finished product
- Making User Interface more presentable for user and getting all buttons to work.
ARE THERE ANY QUESTIONS?

I HOPE NOT
That's all Folks!