1) Project Description

"Develop a mechanism that can take still photos looking in any possible direction, controlled by a web

interface. You must be able to position the camera at the end of a boom, aim it in any direction relative

to some fixed reference frame, take a picture and send it back to some connected location. Develop a

web interface to display the images You will have to think about how you will construct a frame of

reference relative to which the camera angles can be specified."

2) Project Goals

Our goal for the project is to get the servo to move when given commands from

a web interface. When the servo is in the position given, it should take a picture or stream a video and send it back

to the interface and display it. Also, all this should be mounted on the boom.

3) Plans

We plan to use a Continuous servo motor to move a Pi Camera 360 degrees in any direction. The boom

will be 3D printed and designed using Google SketchUp. The Pi camera will take the picture/stream

and send it back the the interface to display it.

4) Project Components

Motor Movements and Commands

- Recieving commands for the continuious servo from the interface

and working with the 16 channel servo driver to make the servo rotate.

Web Interface (movement and display)

- Sending commands through a web interface with sliders that move

the servo motor, and in turn, the camera. Displaying the signal from the

camera on a panel within the web frame.

Camera Functions

- tagging and saving pictures taken from the Pi Camera, working with the camera and

writing the code to know where the camera is at any given moment, sending the picture

to the web.

Camera Boom

- designing and putting into production, the camera boom and other mounts

in which the camera and motors and attached to.

5) Progress

Motor- Motor not moving yet. Still in beginning stages of working with 16 channel

servo driver and the continuous servo motor.

Web - Mock website already made, still needs to be put on a server and to recieve

and send commands accordingly. Good progress so far.

Camera- Working perfectly, Already streaming and taking pictures, when the web interface

is more along, we will incorporate a stream using the Pi Camera.

Boom- being designed on Google SketchUp, soon to be done and printed. Using measurements

of motor and camera to design mounts and boom.

6) Summarize Project (group point of view, do friday)

The Camera and Web interface were the easy aspects of the project so far.

The Camera was easy to work with and our group knew web programming well enough to

program a web interface fairly quickly and efficently. We are having troubles using the motor

and the driver, but we are working diligently to get that working. The 3D software is also

somewhat complicated and we hope to have a full understanding of it within the next

couple of days.

7) Next weeks

In the next 2 weeks, we would like to see the camera and motor recieving

commands from the web interface(mostly communication between the seperate parts),

the camera functioning and displaying the pictures to the web interface, a

nd a prototype or finished boom to hold everything.

In 3-4 weeks, we plan on testing the finished product and putting the finishing

touches on our project.

8) Group Members and contributions

Ferrao, Lionel

Working on servo motor, getting it to run with GPIO.

McCabe, Michael

Configured camera and wrote python script for streaming and saving pictures

with directional commands.

Putterman, Danield

Working on servo motor, getting it run with GPIO. Code written for servo motion with

360 direction.

Inglese, Christopher -

Created sample web interface with sliders and images.

Calonge, Jhonathan -

Investigating MJPEG streaming and helping with a GUI to control servo motor.

MacLarion, Sean N02788929-

Researched code for Servo motor and designs for camera boom.

Wrote Documentation

Designing Boom with Google SketchUp

Coding Motor Moving Scripts and working with Motor Hardware

Wrote Parts List