No More Butt Shots

Climbing Gym Climbing Pictures

Overview:

Camera and remote mounted above climb

Climber reaches top of climb, presses remote button

Camera delays [3 seconds] then takes picture

Climber visits website [www.nomorebuttshots.com], views thumbnails of pics sorted by time

Climber selects desired picture

Climber enters email, credit card information

Full-resolution picture emailed to climber, money sent

Functional requirements of website

1. Transfer pictures from camera to email [or dropbox] using microcontroller and WiFi
2. Transfer pictures from email [or dropbox] to website
3. Display pics in low-res form with watermark
4. Transfer money via credit card
5. Email selected picture to input email address

Look into raspberry pi microcontroller

Unit Costs per setup

GoPro Camera - $130

Raspberry Pi Microcontroller – $30

WiFi USB plugin - $12

Case - $8

Power supply cable - $8

SD card - $12

SD card - $8.35

Website Plan:

Buy [www.nomorebuttshots.com](http://www.nomorebuttshots.com), use wordpress.

Use free “Sell Media” plugin on website, which allows adding watermarks and selling pictures with credit cards (<https://graphpaperpress.com/plugins/sell-media/>)

Options to display images:

1. Use “Sell Photo” plugin
   1. Assign gym-specific ID to each picture upon upload via python program.
   2. Use [gallery id=””] shortcode in each gym page to display relevant pictures.
   3. Use different plugin to add watermarks (“Easy Watermark” plugin)
   4. Use different plugin to allow payment by credit card (Stripe?)
2. Use “Sell Media” plugin
   1. Write new plugin in php to upload files from media library to specific page
   2. Pay for Sell Media upgrade to accept credit cards with stripe
   3. Use free plugin (“Easy Watermark”) to add watermarks to images

Option 2)

Wordpress website

Username: [egilbert@alum.mit.edu](mailto:egilbert@alum.mit.edu)

Password: KRkI8V3zo!EH\*7cC$Qz$whOs

Bluehost login

username: nomorebuttshots.com

Password: Cl!m&!ngP1cs

Cloudflare login (a bluehost service to speed up website)

Username: [egilbert@alum.mit.edu](mailto:egilbert@alum.mit.edu)

Password: P!c5Fr0mt0q

Connecting to gopro over wifi

Open web browser and enter 10.5.5.9:8080

Jamesgopro password: dragon55

Password to connect to VNC: juggle31

Wordpress account login (graphpaperpress.com/dashboard) [for downloading extensions and plugins]

Username: egilbert

Password: unicycle314

Lessons:

Turn off windows firewall to connect to pi via wired Ethernet ssh

Use wifi usb adapter that has no known issues. (Belkin F9L1101v2 with driver 8192du doesn’t work)

Do not unplug RPi witout shutting down. This may corrupt the SD card and it will have to be reimaged.

Best resources for connecting to RPi via SSH:

<http://diyhacking.com/connect-raspberry-pi-to-laptop-display/>

<http://www.instructables.com/id/Direct-Network-Connection-between-Windows-PC-and-R/>

Best resources for setting up wifi usb adapter:

<http://raspberrypihq.com/how-to-add-wifi-to-the-raspberry-pi/>

Best resource for setting up two wifi usb adapters:

<https://www.raspberrypi.org/forums/viewtopic.php?&t=49283>

(may need to use “sudo ifdown --force wlan0” “sudo ifup --force wlan0” if dongle shows up in iwconfig but doesn’t connect”

Best resource for installing wordpress-xmlrpc in python:

<http://python-wordpress-xmlrpc.readthedocs.org/en/latest/overview.html>

How to connect over wifi to RPi using weaved.com

Login at weaved.com

Username: [egilbert@alum.mit.edu](mailto:egilbert@alum.mit.edu)

Password: juggle314

Click on the device to connect to (ie RaspberryPi-BKB-SSH).

New window gives a host name and port number to enter into putty.

-use putty to connect, with something like proxy7.yoics.net as the “Host Name (or IP Address)” and the port number (ie 37940 or similar) provided by weave entered into the “Port” box

Enter username: pi, password: raspberry in command window and connection established.

To Do List:

-Buy new wifi usb adapter compatible with RPi. (Edimax EW-7811un from Fry electrons in Renton, $9.99)

-Get both wifi usb adapters installed, with one connected to KatieEric internet, one to jamesgopro camera

-Save python code on RPi and test run

-modify code to delete old pictures on gopro to not saturate memory after time.

-modify code to not exit if it can’t connect to gopro (just keep running)

-Make website look pretty

-put pictures in grid format (use this plugin: https://wordpress.org/plugins/thumbnail-grid/)

-add watermarks (may be free plugin, or can use pay upgrade from sell-media)

-add credit card payment (may require pay upgrade from sell-media)

-make modification to sumner theme code be a plugin (in case theme is changed)

Expenses

Nomorebuttshots.com website ($4/month for 36 months) - $144

Raspberry pi - $79

Belkin wifi usb adapter - $15

TP-Link wifi usb adapter - $8.99

4-port powered usb hub - $14.99

Accept credit cards, watermarks - $47.68 (yearly fee)

Directions for setting up raspberry pi out of the box to work with nomorebuttshots.com

1. Image raspbian operating system on micro SD card
2. Plug card into RPi, plug RPi into wall, and connect RPi to laptop with Ethernet cable
3. [If not already done] Download putty ssh program
4. Follow directions here to assign an IP address to the Ethernet connection and connect to it using putty: <http://diyhacking.com/connect-raspberry-pi-to-laptop-display/>

<http://www.instructables.com/id/Direct-Network-Connection-between-Windows-PC-and-R/>

1. Insert wifi usb adapter that is known to be compatible with RPi (a list can be found here: <http://elinux.org/RPi_USB_Wi-Fi_Adapters>)
2. Setup wifi connection on the RPi following these directions: <http://raspberrypihq.com/how-to-add-wifi-to-the-raspberry-pi/>
3. Exit putty and remove Ethernet cable.
4. Login at weaved.com
   1. Username: [egilbert@alum.mit.edu](mailto:egilbert@alum.mit.edu)
   2. Password: juggle314
5. Click on the device to connect to (ie RaspberryPi-BKB-SSH).
6. New window gives a host name and port number to enter into putty.
7. Use putty to connect, with something like proxy7.yoics.net as the “Host Name (or IP Address)” and the port number (ie 37940 or similar) provided by weave entered into the “Port” box
8. Enter username: pi, password: raspberry in command window and connection established.
9. Install second wifi usb adapter using these direcctions (see troubleshooting below if no connection): <https://www.raspberrypi.org/forums/viewtopic.php?&t=49283>
10. Plug GoPro into wall and turn on GoPro App. Turn gopro to picture taking mode.
11. Run iwconfig in command prompt on RPi to make sure connected to gopro
12. Install xmlrpc on RPi by entering command “sudo pip install python-wordpress-xmlrpc” Documentation here: http://python-wordpress-xmlrpc.readthedocs.org/en/latest/overview.html#installation
13. Navigate in command line to Desktop/NoMoreButtShots
14. Run command “python PostPictures11.py &”. This will load pictures to the website. The “&” at the end ensures the code keeps running when the ssh connection is terminated.
15. To kill script use ctrl+c or “sudo kill 3424”
16. Install weaved on RPi by following directions here: <https://www.weaved.com/installing-weaved-raspberry-pi-raspbian-os/>
17. Setup RPi to automatically run script at startup using these instructions: <http://www.raspberrypi-spy.co.uk/2013/07/running-a-python-script-at-boot-using-cron/>

Trouble Shooting

1. Laptop does not assign IP address to Ethernet port connecting to RPI.
   1. Turn off windows firewall
   2. SD card could be corrupted and needs to be formatted and reinstalled. Corruption could be from improperly shutting down. To properly shut down, use the command “sudo shutdown.” Wait until all lights quit flashing (except the constant red light). Now it is safe to unplug the RPi.
   3. Don’t use “sudo reboot.” For some reason it never boots after running this command.
2. Wif network recognized but not connecting
   1. Enter command “sudo ifdown --force wlan0” then “sudo ifup --force wlan0” (or same command with wlan1).
3. GoPro wifi doesn’t turn on
   1. Turn completely off. Then push small wifi button. After blue light flashes, then push mode button and turn on gopro app.

Tips for modifying website:

To use custom css, enable developer tools in chrome to see custom css items. Modify using Edit CSS in wordpress dashboard.