Remote iPad Mount Control Using WF32
by **bryceaj** on April 20, 2016

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Intro: Remote iPad Mount Control Using WF32

In this instructible, I will guide you through the use of the WF32 as an HTTP server that hosts a website that can be used to control servos and a stepper motor. The purpose of this was to create an iPad mount that allowed users to log in from a remote location and point the iPad around the room to look around.

After following these instructions, you will have a WF32 that hosts a website that can be accessed locally.

Parts needed:

1. WF32
2. USB cable to connect WF32 to computer
3. Micro SD card
4. Internet access
5. 12V power supply with barrel connector (optional as can use USB power, but must have computer connected to WF32, taking away the 'remote' aspect)

Note: This project is based off of Josh's instructible (Controlling a WF32 from a Computer: http://www.instructables.com/id/Controlling-a-WF32...). Feel free to reference that for additional clarifications.
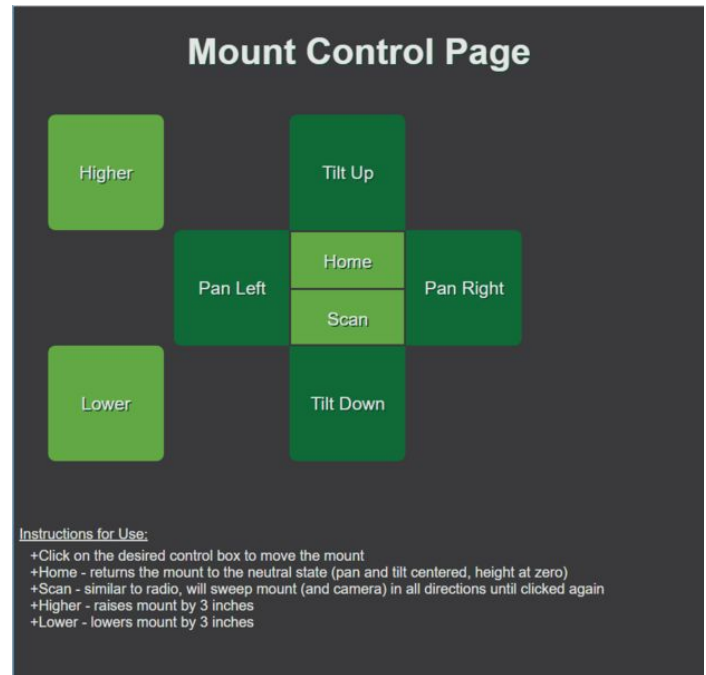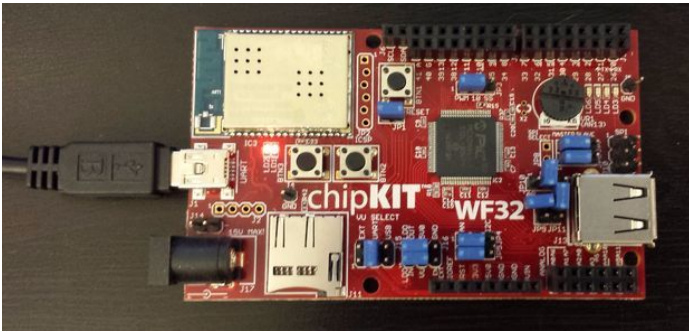

Step 1: Download Test version of MPIDE

The latest version, necessary for the code to be loaded on the WF32 to function as desired, is required.

The download for this version is given below:

http://chipkit.s3.amazonaws.com/builds/mpide-0150-...

This version of MPIDE is for windows. If you are a non-windows user, feel free to visit the chipkit website for the latest version in your operating system. (http://chipkit.net/wpcproduct/mpide/)

Once installed, the software should open and look as pictured in the image above. You may have to extract the files from the folder following the download. You can then open the program by opening the filed named MPIDE.exe.
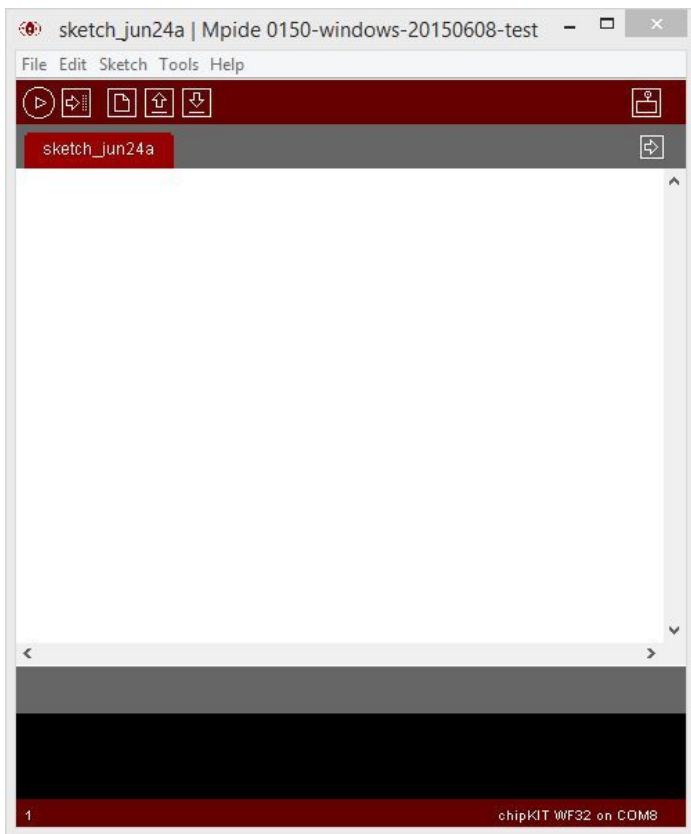
Step 2: Place Content on SD Card

Download .zip file attached on this page. This will be the content that needs to go on your microSD card. After unzipping the file, open it and place all the files contained within directly onto the microSD card. It is important that the file Homepage.htm is at the root of the SD card otherwise the WF32 will not have success finding it (i.e don't copy the 'SD Card Content' folder on the SD card, copy its contents).

After the files are on the SD card, insert it into the SD slot on the WF32.

File Downloads

SD Card Content.zip (52 KB)
[NOTE: When saving, if you see .tmp as the file ext, rename it to 'SD Card Content.zip']

Step 3: Download Code for WF32

Download and unzip the files provided. After unzipping you should have a file that contains another folder called "deWebIOServer" and a word document called "Coding Reference Guide." If you open the deWebIOServer you can click on the file called deWebIOServer.pde. This will open in MPIDE. If this is your first time opening this type of file, you may need to right click on the file and click Open With and then find MPIDE. Another way of doing this is first opening MPIDE and then click File->Open then find where you downloaded the file attached here.

File Downloads

CodeV5.zip (34 KB)
[NOTE: When saving, if you see .tmp as the file ext, rename it to 'CodeV5.zip']

Step 4: Open MPIDE Files

Open the file called deWebIOServer.pde in MPIDE, by either clicking on it (if you've used MPIDE before) or first opening MPIDE and then clicking File->Open and find the downloaded file.

When opened, a new sketch should open that contains four separate tabs within it. It should look like the photo above.
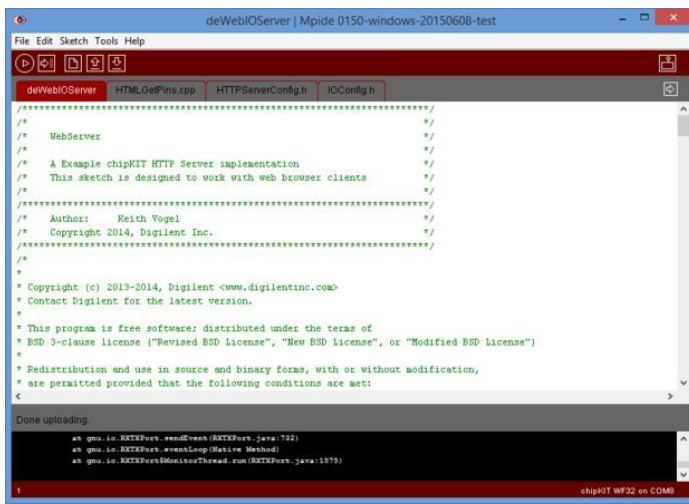
Step 5: Add Your Personal Wifi SSID and password

- Click on the tab called HTTPServerConfig.h within the MPIDE sketch.
- Scroll down until you find on the page where it says "specify the SSID of your AP"
- In the blue string text below, where Johnson is currently written, put in the name of your wireless network (Replace Johnson). Capitalizations do matter with this. This must be written exactly as your wireless name is.
- Find down a bit in the code where it says in blue again, "Johnson13". Replace this with your password to the network that you already specified
- Save the file (ctrl + s)
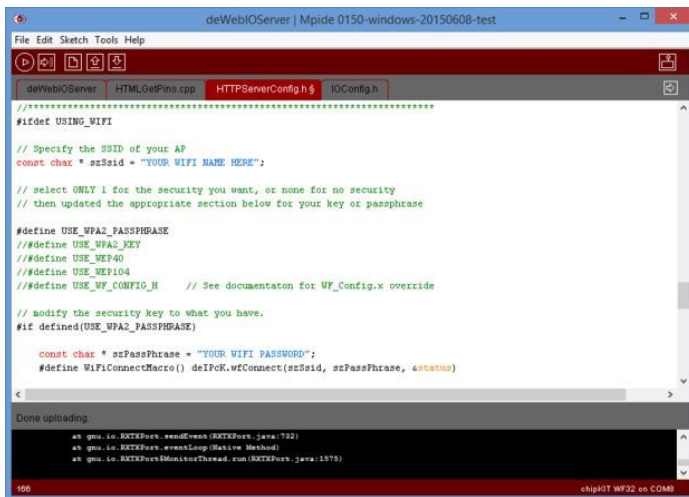
Step 6: Connect Board to Computer

- Connect your WF32 to your computer with the USB cable.
- Ensure the correct board is set in MPIDE as seen in the picture
- Click tool->Serial Port-> Comm #
  - If a comm does not show up, check your boards connection to the computer
 - Also check that the VU select jumper is on UART, not EXT or USB
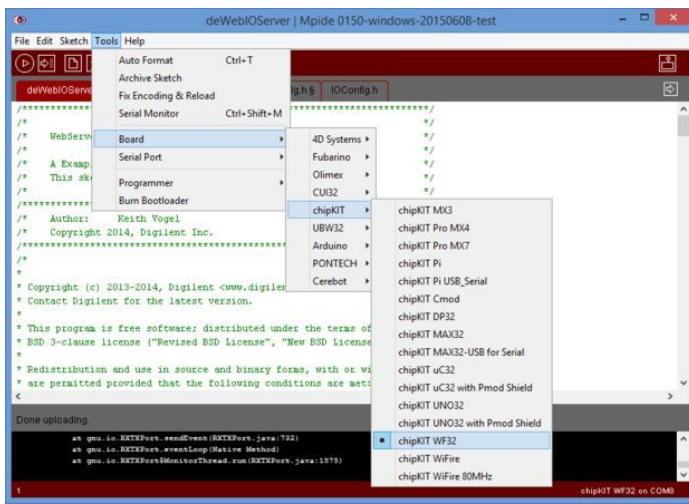
Step 7: Upload Code to the Board

- Once the board is securely connected and the correct comm port is selected (whichever one shows up), upload the code to the WF32 by hitting the upload button in the top left corner (directly below Edit)
- In the bottom of the screen the status bar should say something like Uploading to IO Board
- This takes a long time... (like 5 minutes)

Step 8: Find the WF32s IP

- After the code is uploaded, click on the serial monitor on the upper right hand corner of the screen (below the X to close the program)
- This should open the monitor which will display all sorts of connection information
- Wait until the monitor says "is linked to physical network" and says "5 sockets listening on IP: ...." The IP is the address of your WF 32. Copy and paste this into a browser window on a computer connected to the same network.
- You should now be able to see the home page!!
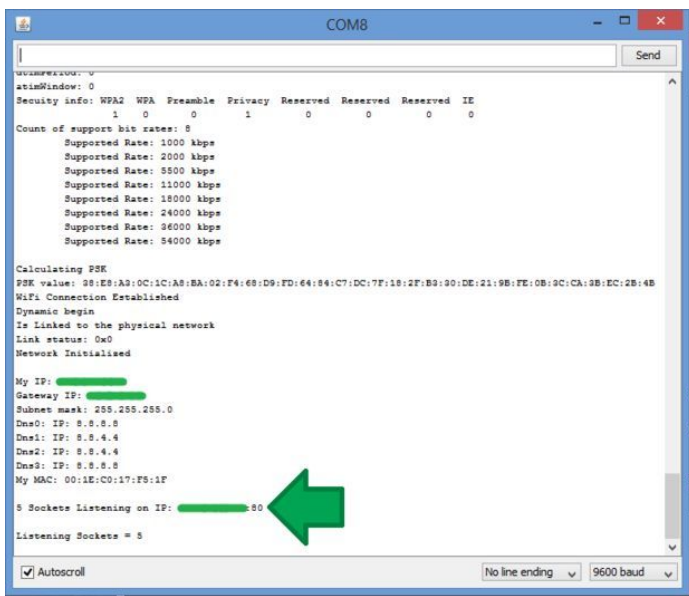
Related Instructables

Control of Servos with WF32 by bryceaj

3D Printed Pan Tilt iPad Mount by kaitlyn1franz

Electrical Connections on the 3D Printed IPad Mount by kaitlyn1franz

Using LabVIEW LINX and chipKIT WF32 to Control an LED Strip by Sudharsan Sukumar

Display Weather and Location Using chipKIT WF32 and LabVIEW by Sudharsan Sukumar

Controlling a WF32 from a Computer by joshwoldstad

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