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September in Tampa

Meeting

Windows 10 On Many Devices

by

William LaMartin

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6:30 PM

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Meeting Preview: Windows 10 will be displayed running on devices of various sizes: A laptop computer, a Windows 10 phone, and a credit card sized computer running windows 10 IoT, where IoT means Internet of Things. There will be the usual windows SIG preceding the presentation.

Editor's Comments – Raspberry Pi 2 and Windows 10 IoT

By William LaMartin, Editor, Tampa PC Users Group
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The entire newsletter is one long comment this month. It is a comment instead of an article since it started on the first page. Last month I wrote that I had installed Windows 10 on six devices: Two desktop computers, two laptops, a Surface Pro 2 and a seven-inch tablet. Now I can say that I have added one more device to the list. It is a credit card sized computer named the Raspberry Pi 2. It is simply a tiny motherboard with all the necessary items to make it a real computer. It has four USB 2 ports, and I have connected a keyboard and a mouse to two of them. It has an HDMI port, and I have attached a 23-inch monitor to that. There is port for a LAN cable, and that is how I first connected the Pi to the Internet and the Local Area Network. Finally there is an RCA port to connect a cable

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October Meeting: To be announced

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However, for business concerning this newsletter, Bits of Blue, please contact the Editor, William LaMartin, at 813-251-3817, or william@lamartin.com.

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Minutes of the August Meeting

By Merle Nicholson, Secretary, Tampa PC Users Group
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The Windows Special Interest Group (SIG) opens our monthly meeting. Bob LaFave, the SIG moderator introduces new or little known products and technological developments for discussion by the group. He accepts questions and requests for help in solving problems from attendees. This month in Bob's absence Merle Nicholson was the substitute moderator and also the presenter for the month's presentation. The SIG was brief, and the topic was, of course, the new Windows 10, which brought us to the presentation, done on a Windows 10 computer.

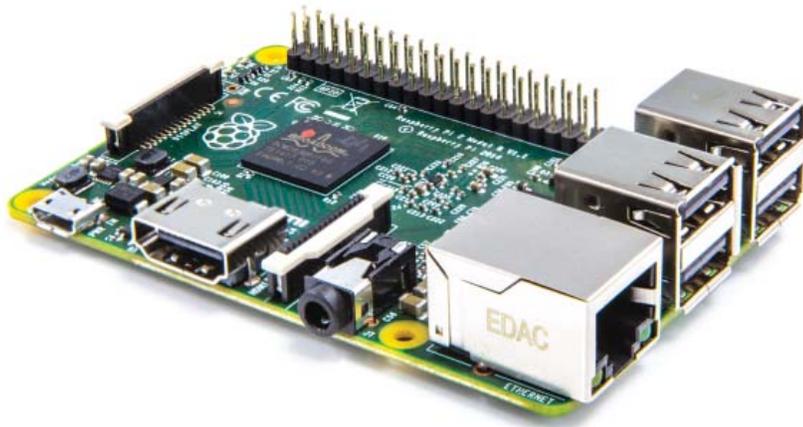
The subject of the presentation was "Windows: Use a Standard Account for security and other good reasons." I presented all the reasons that it is a bad idea to do your daily work on an Administrative account. It means that as long as you're logged on, any malware or electronic intruder can execute and install using the authentication level of the current user. 90% of all virus infections and other malware could be prevented by simply using a standard account. A standard account user is prevented from installing software and making configuration changes and settings. The system must ask for an administrator password.

Using Windows 10, the demonstration activated the administrator user account, created a password for the account, tested the accounts, changed the original account to standard and changed the User Account Control Settings.

As was expected, there were continuous discussions surrounding the operation and appearance of Windows 10 and questions about installing it. Windows 10 final release was just a few days before, and most members had not upgraded.

All in all, we had a successful and lively presentation.





Comments.....Continued from page 1

to the speakers on the monitor. The price of the Raspberry Pi 2 is around \$45. A mouse and small keyboard are around \$10 to \$12 each. The most expensive item is the 23-inch monitor at around \$130, as I recall. Of course, you could use a spare monitor you already had. To the left, there is a photo of the Pi with nothing attached. Then following that is a photo the Pi enclosed in a clear plastic case with the mouse, network cable and monitor attached. At the time I took that photo, my keyboard for the Pi had not arrived.



But before you can use the Pi you will need to give it an operating system . My choice is obviously Windows 10 IoT (Internet of Things). I won't go into how you put that on a micro SD card that you then insert into a slot in the Pi. But if you are interested you can get detailed instructions from <http://www.Windowsondevices.com>.

All the hardware items mentioned above were purchased through Amazon (using the link on our home page). What I

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Windows

UTILITIES /

- Home
- Apps
- Processes
- Performance
- Debugging
- ETW
- Perf Tracing
- Devices
- Bluetooth
- Networking

Networking

Wi-Fi adapters

Broadcom Wifi Dongle Driver

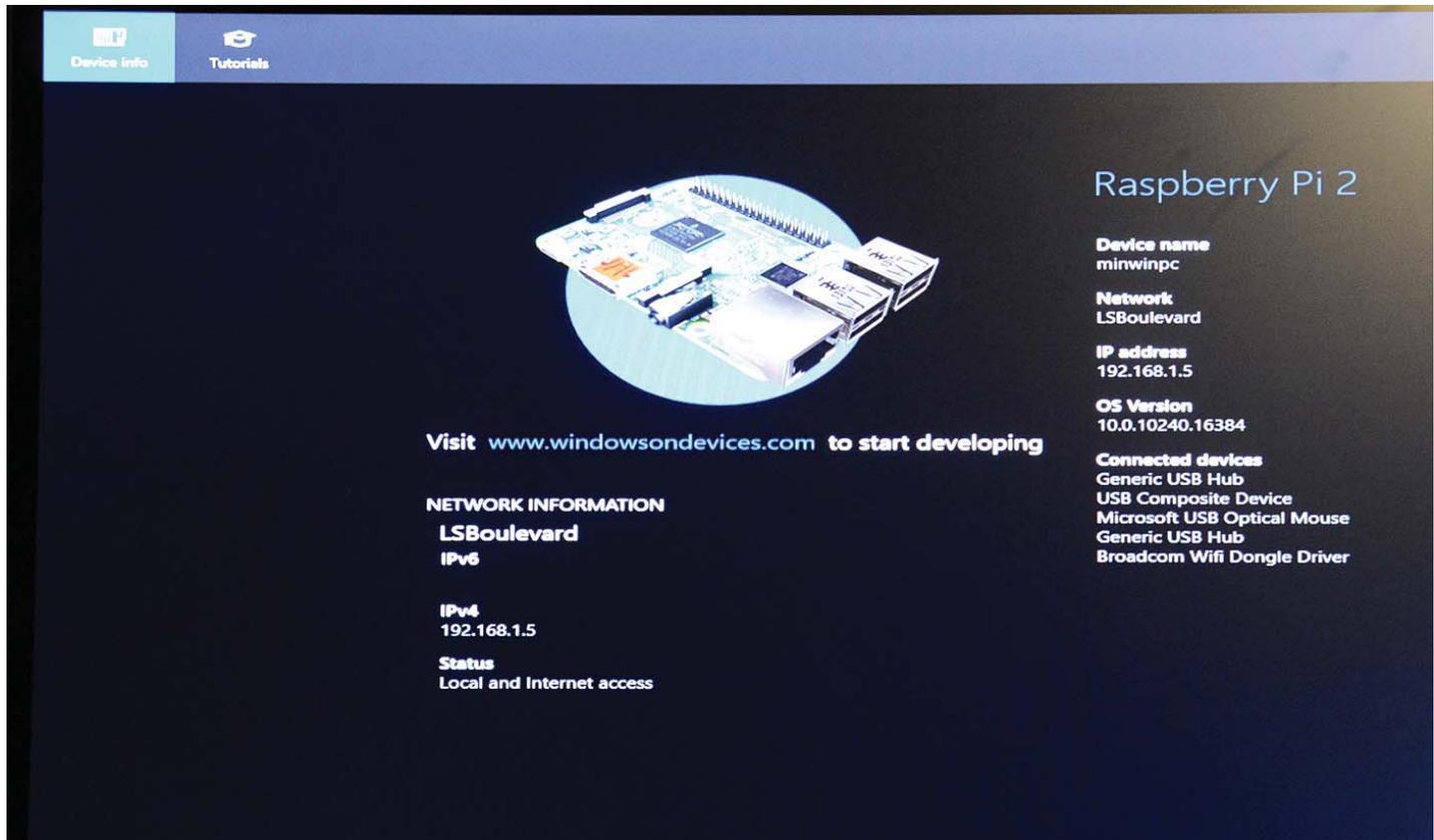
Profiles

LSBoulevard (all users)

Available networks

↻

	SSID	INFRA	SIG...	SECURITY	ENCRYPTION
✓	LSBoulevard	✓	📶	WPA2_PSK	AES
	LSBoulevard-2	✓	📶	Open	WEP
	LSBoulevard-2	✓	📶	Open	WEP
	LSBoulevard	✓	📶	WPA2_PSK	AES
	Allen	✓	📶	WPA_PSK	TKIP



The screenshot shows a Windows IoT interface with a navigation bar at the top containing 'Device info' and 'Tutorials'. The main content area features a circular image of a Raspberry Pi 2. Below the image is a link: 'Visit www.windowsondevices.com to start developing'. To the right of the image, the title 'Raspberry Pi 2' is displayed. Below the title, several system details are listed: Device name (minwinpc), Network (LSBoulevard), IP address (192.168.1.5), OS Version (10.0.10240.16384), and a list of connected devices including Generic USB Hub, USB Composite Device, Microsoft USB Optical Mouse, another Generic USB Hub, and a Broadcom Wifi Dongle Driver. On the left side of the main content area, there is a 'NETWORK INFORMATION' section with the following details: Network (LSBoulevard), IPv6, IPv4 (192.168.1.5), and Status (Local and Internet access).

Comments.....Continued from page 3

couldn't get from Amazon was a USB wireless dongle. Actually I could get one. In fact, I own one already. However, I have been told that the only such dongle that will work with the Raspberry Pi 2 is the official one from Raspberry Pi – if you plan on putting Windows 10 IoT on it as the operating system. Apparently there are many such wireless USB dongles that will work if you are running whatever is the appropriate version of Linux on the Pi, but only this one for the time being if you are running Win 10 on the Pi. I ordered an official such item from the only place you can purchase one, England (the home of the Raspberry Pi), and it is coming via Royal Mail. However, since it has been shipped over a week ago at the time of this writing and I have not received it, I believe the Royal Mail is a bit slow. And 30 minutes after typing that, the Royal Mail package arrived in my mail box after a nine day journey. I inserted the dongle into one of the two empty USB ports in the Pi, and the Pi immediately saw that it had some wireless networks available.

Now, you might ask how I knew the Pi had recognized the new Wifi dongle. That information was arrived at

as follows: When I connect the Pi to a power source, it boots its operating system, which is Win 10 IoT. When the boot is finished, on the monitor is a screen that lists information about the Pi including the device name, OS Version, as in the image above with the exception that in the original image there was no IP address listed (this photo was taken after everything was set up). What you see above is a photo of the monitor after I have set up the wireless connection using the list of Wireless sources as shown in the photo at the bottom of page 3, where I have selected LSBoulevard and have put in the required password. I cannot explain why each of the two inhouse sources is listed twice.

I hope to demonstrate this little computer to you at the meeting, and having the wireless USB dongle should make things easier since to do some of the things I want to do requires that the Surface Pro 2 that I will be using as my computer at the meeting be on the same network as the PI. I am not sure that connecting the Pi to the LAN connection at Pepin will put it on the same network as the Guest Wireless network there that the

Comments.....Continued on page 6

Internet Picture of the Month



Red-Eyed Tree Frog

From the site <http://www.safarisience.com/safari-science-fun-fact-of-the-day-flash-coloration/>. I liked this photo, but there are hundreds of other sites with such images. For example, <http://animal-wildlife.blogspot.com/2011/08/tree-frog.html>.

September's Links

Tampa PC Users Group (that's us)
Windows 10 Beginners Guide
10 Reasons why Win 10 is important
The Raspberry Pi site
Capacitive Touch on the Pi
Raspberry Fruit Keyboard

<http://www.tpcug.org>
<https://www.youtube.com/watch?v=FZqKyhfD7-E>
<https://www.youtube.com/watch?v=Kfq6rbgFIVA>
<https://www.raspberrypi.org/>
<https://www.youtube.com/watch?v=Wk76UPRAVxI>
<https://www.youtube.com/watch?v=VS9qk9P21ok>

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Surface Pro 2 will be connected to.

I think that the Pi is not really meant to mostly be used with a monitor. It is meant to control electronic devices by a program that you write and install on the Pi. There are all sorts of examples of such out there on the Internet. Some examples are: Opening the dead bolt on your apartment door via your cell phone, controlling a small robot, and the simplest of all – making a LED blink at various rates.

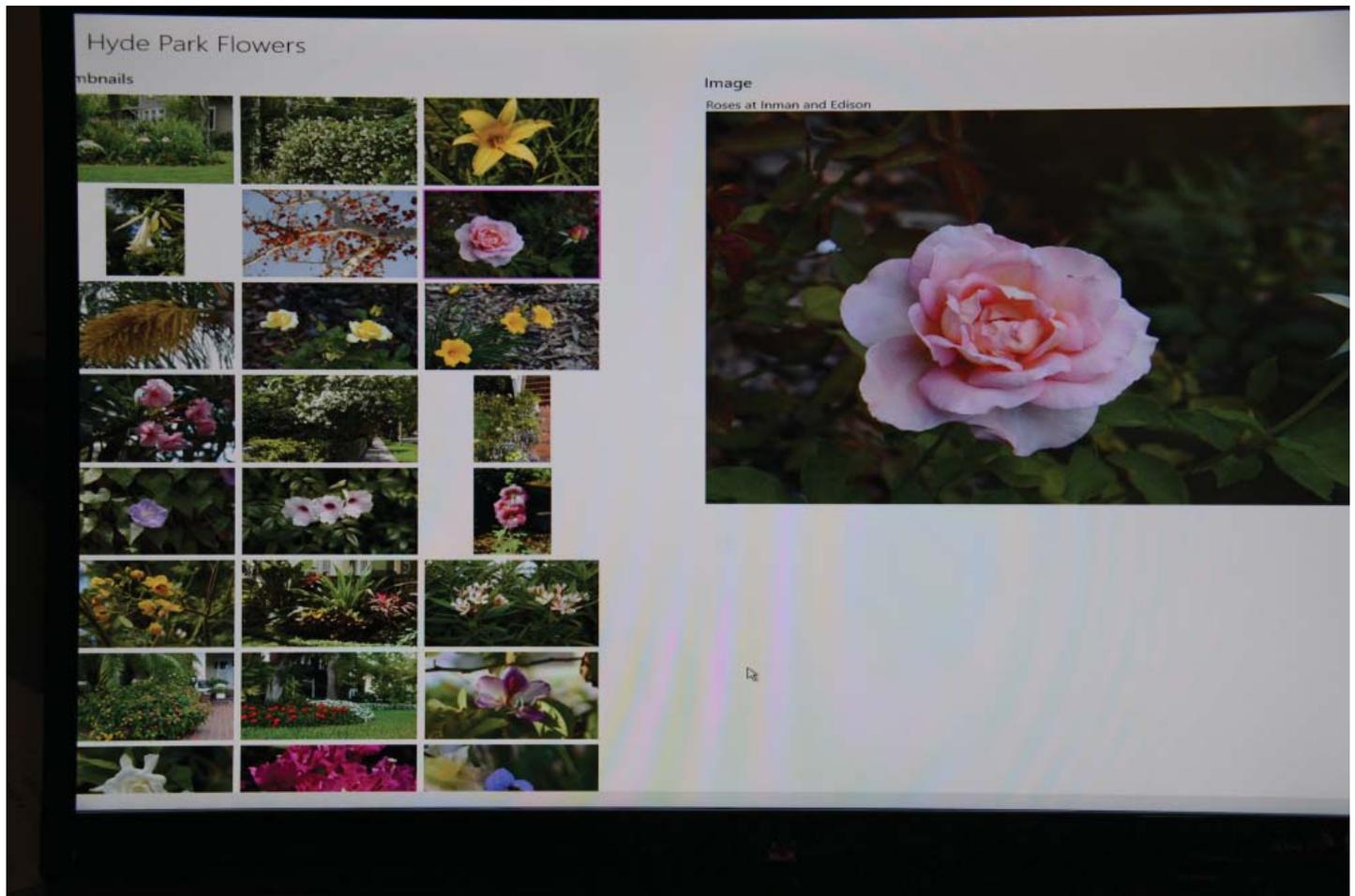
So far, not being much with electronics, I have only done two simple projects of that nature. The first is to make a LED blink at varying rates. The second uses a proximity sensor connected to the Pi to indicate when something is moved close to the sensor. Both of these apps will work without the monitor since they indicate what is happening by the use of LEDs. However, the program that controls then (written with Visual Studio) can also put output to a monitor such that the

rate of the blinking LED is controlled by a slider on the monitor and we have a red dot on the screen that blinks on and off in unison with the actual blinking LED. And for the proximity sensor, we can also have our program output information to the monitor where it displays Close when something moves close to the sensor and Far when the sensor detects nothing.

So much for blinking LEDs. I am not really an electronics person. Although I am going to try to learn how to do more with sensors and the Raspberry Pi 2. To that end, I have bought quite a collection of sensors sold by SunFounder and available at Amazon. What I want to discuss last is what makes Windows 10 so special as an operating system.

If I write what is called a Windows 10 Universal app, and if I take care to consider the different screen sizes that are available in my layout part of the app, that app will run and display properly on all Windows 10

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Comments.....Continued from page 6

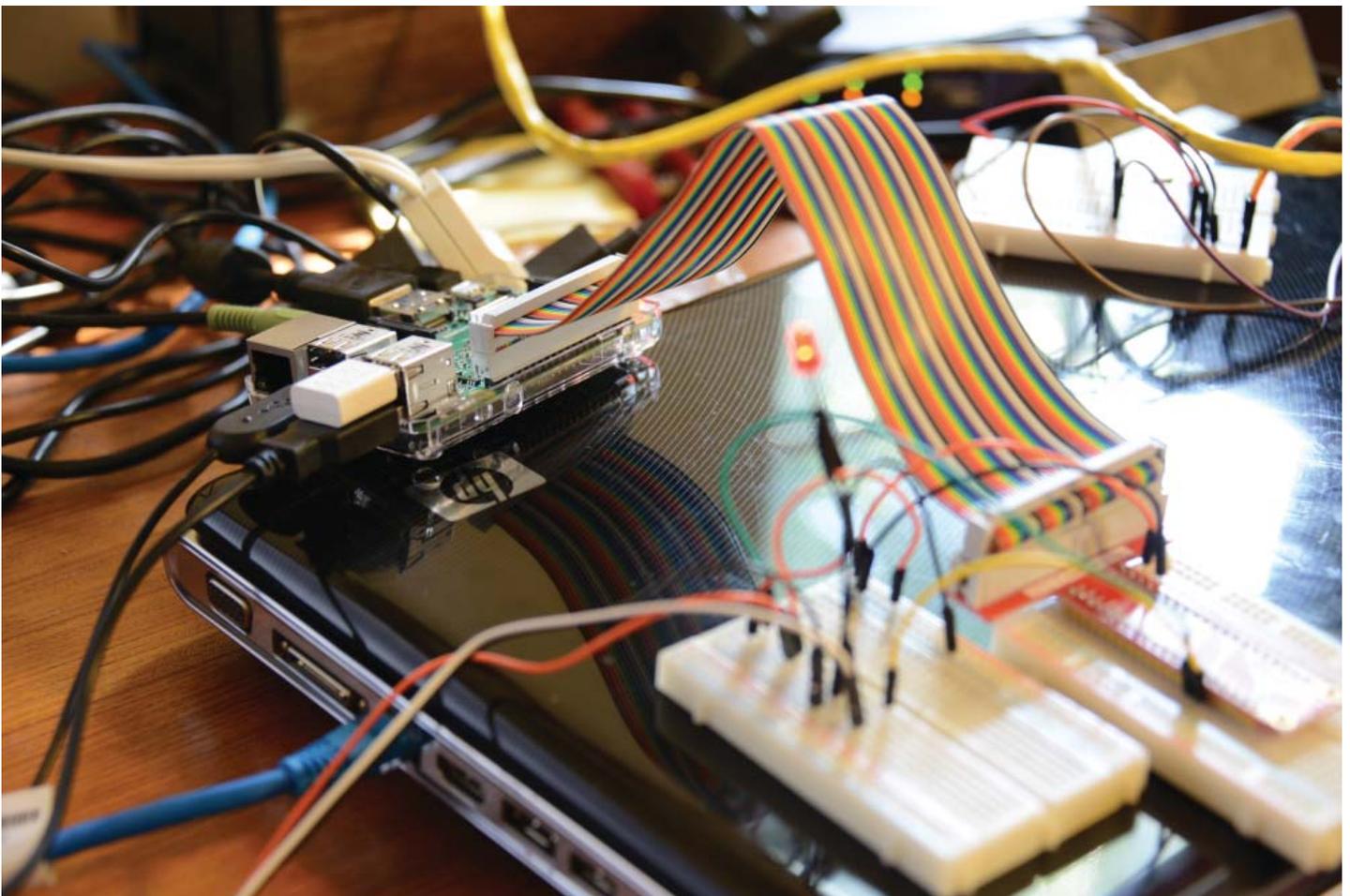
devices: A Microsoft Surface Hub (<http://www.microsoft.com/microsoft-surface-hub/en-us>), a Windows 10 desktop computer, a Windows 10 laptop computer, a Windows 10 tablet, a Windows 10 phone, and – here is the surprise – a Windows 10 IoT device's monitor. And I have done it, since my Window 8 Store app Hyde Park Flowers, which I have ported to Windows 10, runs perfectly all the devices listed. The photo at the bottom of page 6 is the Hyde Park Flowers app running on a Raspberry Pi 2 and displaying on the connected monitor. Admittedly it runs a lot slower on the Pi than on any other of the devices since the Pi's processing power is much less. But it runs with only one thing missing: I cannot share a selected image via email since the Pi has no email program.

In the meeting this month, I hope to demonstrate Windows 10 running on all the above mentioned devices except the Surface Hub which is not yet available and which I will not own when it becomes available due

to its high price and a desktop computer since I don't want to bring one to the meeting. But I will bring a laptop, my phone and the Raspberry Pi 2 with a monitor for it.

We can talk about Windows 10, in general, and compare our experiences with it since it has now been available for about one month. I know some of you may be holding back on installing Win 10, so perhaps this will give you a bit more information and make you more comfortable with installing and using it. My sister solved a lot of the problems she was having with her five year old Windows 7 computer by moving up to win 10. And she is nine years older than I. So you know that makes her somewhat advanced in years. As I said in last month's newsletter, the only problems you may encounter would be drivers for old scanners and printers. And I gave you the solution for scanners: View Scan by Hamrick software.

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Comments.....Continued from page 7

To finish, the photo on page 7 lets look at a completely decked out Raspberry Pi. Everything is sitting on top my old HP laptop computer. The Pi is to the left, and you can see the empty top left USB port where a LAN cable was connected but which was disconnected when I added the wireless USB dongle that you see in the top right USB port. In the bottom two USB ports, the two black cables connect to the mouse and the keyboard. The sound connection is the green item plugged into the Pi on the far left, and beside it is the HDMI cable to the monitor.

The colorful ribbon cable contains 40 wires that connect to the 40 pins on the Pi and which then terminate in a 40 pin connection to the breadboard on the lower right corner. That bread board is then connected to another breadboard to its left and then jumpers connect it to the proximity sensor out of sight, and the blinking red LED is connected to it and is standing upright to the left of the ribbon cable.

It will all be much clearer when you see all this in person at the meeting.



To end this, here is a video of my proximity app in action: <http://www.lamartin.com/Videos/RaspberryPi2AvoidanceSensor.mp4>. ◆