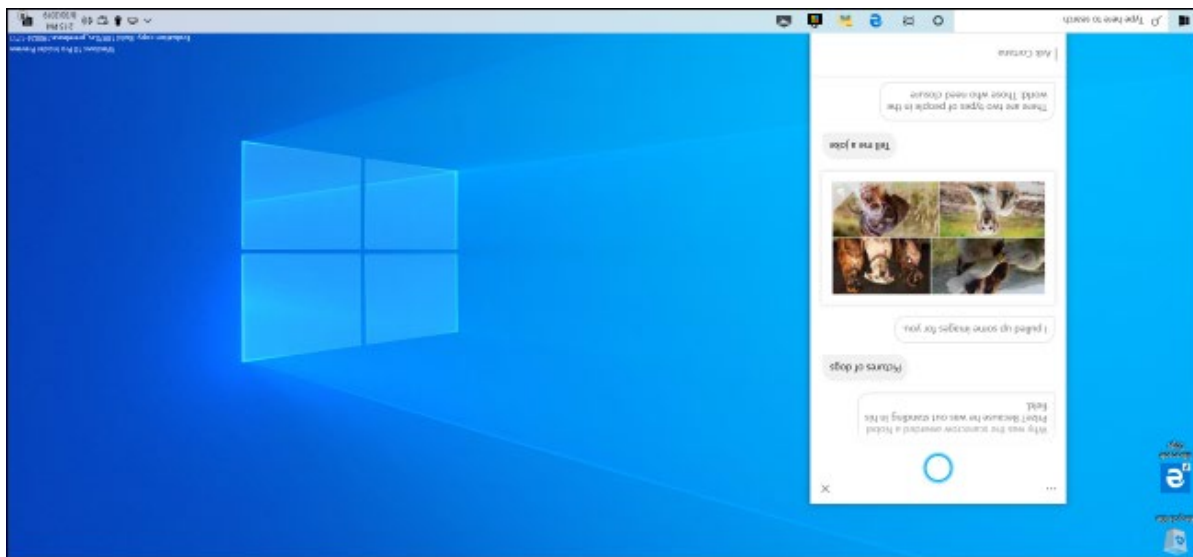




NEWSLETTER

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A New Wireless Standard: What Is Amazon Sidewalk?



Windows 10 20H1 Update arriving April 2020

In the Spring of 2020 windows 10 is going to change how it looks and operates. It will give laptops and desktops more of a cell phone feel by utilizing apps to emulate many of its current functions. Here are some of the bullet points we can look forward to with a link to the full article written by Chris Hoffman for the website How-To-Geek.

A New Wireless Standard: What Is Amazon Sidewalk?

**JOSH HENDRICKSON @canterrain
SEPTEMBER 29, 2019, 6:40AM EDT**

Abbreviated listing:

A New Cortana Experience (With Typing)

1. You can now type queries to Cortana rather than say them out loud.
2. The history of your conversation with Cortana will appear as if it was a chat window
3. significantly improved performance” of the voice assistant. It supports both Windows 10’s light and dark themes, too.

Cloud Download for Reinstalling Windows

1. Rather than reinstalling Windows 10 from the files on your local system, Windows will download the most up-to-date version of Windows 10 and install it on your system.
2. This will save time on updates afterward. Previously, the only way to do this was to either update Windows 10 before “resetting” your system or by creating new Windows 10 installation media.

Online File Search in File Explorer

1. File Explorer has a new search experience. When you type in the search box, you’ll see a dropdown menu with a list of suggested files. It will also search for files in your OneDrive account online—not just files on your local PC.
2. You can still access the more powerful, classic search experience by pressing Enter.

Bandwidth Limits for Windows Update

1. The Settings app now gives you more control over how much bandwidth is used for downloading Windows updates.
2. Windows 10 20H1 will let you set a precise “Absolute bandwidth” limit in Mbps for more accurate throttling of downloaded updates. This option was previously available in Group Policy but is now available to everyone in Settings.

WSL 2 With a Linux Kernel

1. The new Windows Subsystem for Linux (WSL) is probably the most important feature in Windows 10 20H1. Web design: Web design is a profession where a person designs a web page or a web site.
2. WSL 2 promises “dramatic file system performance increases” and “full system call compatibility.” That compatibility means support for technologies like Docker that wouldn’t run on the original WSL 1.

Disk Type in the Task Manager

1. Windows 10's Task Manager now displays your disk type—SSD or HDD. This makes it easier to see what hardware is in your computer, and it can help you tell which disk is which if you have multiple disks in your system.

A New "Tablet Experience"

1. When you're using a 2-in-1 PC with a touch screen, and you have no keyboard or mouse connected, it can make the traditional desktop interface a bit easier to use. For example, the taskbar icons will be further apart, File Explorer will be optimized for touch, and you can use windows on your desktop.
2. Microsoft says this isn't a replacement for Tablet Mode, but convertible PCs will no longer automatically enter Tablet Mode when you remove the keyboard or flip them around. Instead, they'll enter this new touch-optimized experience. Microsoft is backing off on Tablet Mode on 2-in-1 devices and making the classic Windows desktop easier to use on a touch screen.

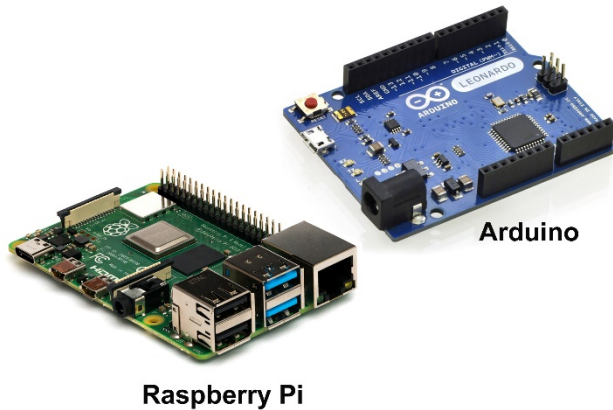
Notepad Updated Through the Store

1. In a surprising change, Microsoft has moved Notepad to the Store. It will now be automatically updated through the Store, allowing Microsoft to update Notepad more frequently than once every six months. You can uninstall Notepad, too.

Other features include:

1. A Header in Windows 10's Settings App
2. Text Cursor Indicator
3. Drag-and-Drop With Your Eyes
4. Language Settings Improvements
5. Other Changes
 - a. Mouse Cursor Speed in Settings
 - b. Better Account Picture Settings
 - c. Optional Features Gets Better
 - d. Wi-Fi Warning Redesign
 - e. Windows Search Speedup
 - f. Accessibility Improvements
 - g. Install MSIX Files Without Sideloads

To read the entire article follow this link: <https://www.howtogeek.com/438830/whats-new-in-windows-10s-20h1-update-arriving-spring-2020/>



What are the Differences Between Raspberry Pi and Arduino?

Raspberry Pi and Arduino are quite different boards. Each board has its own advantages and disadvantages. If you want to decide between the two, then it depends on the requirement of your project. Let understand these two boards in detail.

Arduino was invented by Massimo Benzi in Italy. Arduino was a simple hardware prototyping tool. While raspberry pi as invented by Eben Upton at the University of Cambridge in the United Kingdom for improving the programming skills of his students.

These both teaching tools are suitable for beginners, hobbyists. The main difference between them is Arduino is microcontroller board while raspberry pi is a mini computer. Thus Arduino is just a part of raspberry pi. Raspberry Pi is good at software applications, while Arduino makes hardware projects simple.

Below table gives you some differences between them.

Raspberry Pi	Arduinno
It is a mini computer with Raspbian OS.It can run multiple programs at a time.	Arduino is a microcontroller, which is a part of the computer. It runs only one program again and again.
It is difficult to power using a battery pack.	Arduino can be powered using a battery pack.
It requires complex tasks like installing libraries and software for interfacing sensors and other components	It is very simple to interface sensors and other electronic components to Arduin
It is expensive	It is available for low cost.
Raspberry Pi can be easily connected to the internet using Ethernet port and USB Wi-Fi dongles.	Arduino requires external hardware to connect to the internet and this hardware is addressed properly using code.
Raspberry Pi did not have storage on board. It provides an SD card port.	Arduino can provide onboard storage
Raspberry Pi has 4 USB ports to connect different devices.	Arduino has only one USB port to connect to the computer.
The processor used is from ARM family.	Processor used in Arduino is from AVR family Atmega328P

Raspberry Pi	Arduinno
This should be properly shutdown otherwise there is a risk of files corruption and software problems.	This is a just plug and play device. If power is connected it starts running the program and if disconnected it simply stops.
The Recommended programming language is python but C, C++, Python, ruby are pre-installed.	Arduino uses Arduino, C/C++.

These two boards run on very low power. But power interruption for raspberry pi may cause damage to the software and applications. In case of Arduino if there is any power cut it again restarts. So raspberry pi must be properly shutdown before disconnecting power.

Raspberry Pi comes with the fully functional operating system called Raspbian. It has all features of a computer with a processor, memory and graphics driver. Pi can use different operating systems. Although Linux is preferred android can also be installed. Arduino does not have any operating system. Its firmware simply interprets the code written to it. It is very easy to execute simple code.

Input and output pins allow these boards to connect to other devices. Raspberry pi2 has 2 packs of input/output pins while Arduino Uno has 20 pins.

Pi is faster than Arduino by 40 times in clock speed. Pi has ram 128000 times more than Arduino. So Raspberry Pi is more powerful than Arduino.

Arduino has 32kb of storage on board. This is used for storing the code. This code decides the functions of the Arduino. Raspberry pi does not have any onboard storage. But it provides micro SD port.

Arduino can be expanded using external hardware like Wi-Fi, Ethernet, touchscreens, cameras etc. These boards are called shields. These shields are easily installed for Arduino. While raspberry is self-constrained board. Pi can also add some hats to add hardware like Touchscreen, GPS, RGB panels etc. but does not have many options like Arduino board has.

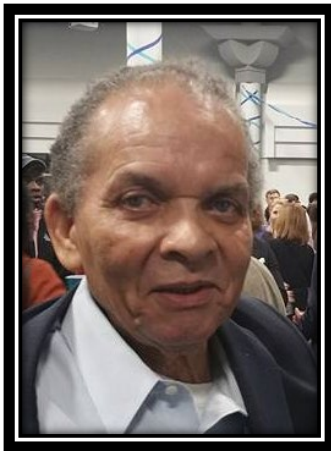
Arduino uses Arduino IDE for developing the code. While Raspberry Pi can use Scratch, IDLE anything that supports Linux.

HOW TO DECIDE BETWEEN RASPBERRY PI AND ARDUINO

So to decide between the two, first you should know what you want to do in your project.

- From above discussion we can understand that Arduino is good for repetitive tasks such as opening the garage door, switching the lights on and off.
- While pi good for performing multiple tasks, driving complicated robots.
- For example, if you want to monitor the soil moisture and mail me if it is necessary to water the plants. For this application, arduino can be used.
- But if you want to monitor the moisture, mail me when the plants need to be watered and check the weather report from online. If there is rain do nothing. For this application Raspberry pi required.
- In simple Arduino is used for beginners projects and some complicated projects can be easily handled by pi.

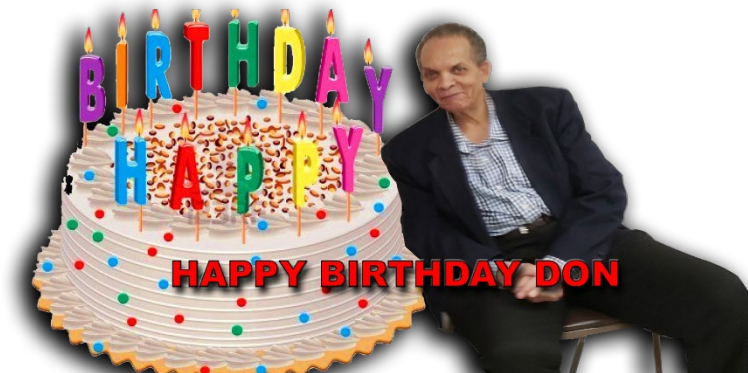
For more information about these computer formats go to <https://electronicshub.org> for projects, tutorials, courses and kits information



Computer Village
Executive Director - Don Holt

Don has been on the battle field for youth development and education for over 30 years. Retirement from Xerox only gave him more time for his passion. Don Holt is an “Unsung Hero” and advocate for youth, education and the black community.

“Don continues to stress the importance of IoT as a major component for the growth of young people associated with job stability and economic success in our community.”



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