Raspberry pi 3 android tv black screen

When the original Raspberry Pi was released in 2012 it launched a whole movement of hobbyists, developers and educators who used the platform to create, hack and teach. Raspberry Pi succeeded for three important reasons. First, it was a full computer on a small board, it had a desktop and you could write computer programs on it; Second, it had a set of GPIO pins similar to those found on microcontroller platforms like Arduino; Third, it only cost $35.Three years after the initial launch, the Raspberry Pi Foundation considered the issue of performance by releasing the Raspberry Pi 2.If there was one complaint about Pi, it is about its overall performance when launching desktop applications. Now, three years after the initial launch, the Raspberry Pi Foundation has addressed the issue of performance by releasing the Raspberry Pi 2. It has a quad-core processor and double the RAM Raspberry Pi 1.I ordered the Raspberry Pi 2 just a few days after launch and since its arrival I have been taking it through its paces and that's what I learned. Raspberry Pi is not the only SBC on the market today and in terms of performance and features many alternative SBCs beat the Raspberry Pi 1 quite easily. However, with the possible exception of the ODROID C1, the Raspberry Pi has always won by price. With the launch of the Pi 2, the Raspberry Pi Foundation has retained the same sweet price point, but has managed to boost the productivity of the board. Here is a detailed look at how the Raspberry Pi 2 compares to some other SBCs:DeviceRaspberry Pi 2Raspberry Pi 1HummingBoard i2eXCreator CI20CPU900MHz quad-core ARM Cortex-A7 CPU from Broadcom700MHz ARM11 Broadcom CPU1GHz i.MX6 dual-core Cortex-A9 CPU1.2GHz dual-core Imagination MIPS32 CPUGPUVideocore IVVideocore IVGC2000PowerVR SGX540Memory1GB512MB1GB1GBStorageSD card slotSD card slotSD card slot8GB onboard flash, SD card slotConnectivity4 x USB, HDMI, Ethernet, 3.5mm audio jack4 x USB, HDMI, Ethernet, 3.5mm audio jack2 x USB, HDMI, Ethernet, 3.5mm audio jack, infra red remote control receiverEthernet, 802.11 b/g/n Wi-Fi, Bluetooth 4.0, 2 x USB, HDMI, 3.5mm audio jackOSLinux, Windows 10LinuxLinux, AndroidLinux, AndroidConnectorsCamera interface (CSI), GPIO, SPI, I2C, JTAGCamera interface (CSI), GPIO, SPI, I2C, JTAGCamera interface (CSI-2), GPIO, UART, SPI, I2C, PCI-Express Gen 2, mSATA II , RTC with batteryCamera backup interface (ITU645 controller), 14-pin ETAG connector, 2 x UART, GPIO, SPI, I2C, ADCPrice $35 /24 $35 /24 $110$65/50 Raspberry Pi 1 and Raspberry Pi 2Like the Raspberry Pi 1, Pi 2 can run in various Linux distributions. The easiest way to install an OS for Pi is to use a new out-of-the-box software (NOOBS) package. This package boots Pi and then lets you choose which operating system you want to install. You can even install multiple operating theatres and double download through the download menu. NOOBS for Pi 2 is still maturing. At the moment, it only provides Raspbian (Debian Wheezy-based Linux distribution) and OpenELEC. All other OS such as RASPBMC, Pidora and RISC OS currently only operate on RPi 1. However, things are moving fast and I expect more support for the Pi 2 will come soon. One of the big announcements that were made during the launch of RPi 2 was that Microsoft would release a version of Windows 10 that supports the Raspberry Pi 2. This Release of Windows 10 will be free through the Windows Developers program for IoT.What is not yet known is what will be included in this version. This will obviously shorten the version, but how to cut it will remains to be seen. Microsoft is looking at the emerging IoT market and the release announcement clearly says that Microsoft sees this community of developers as an amazing source of innovation for smart, connected devices that represent the basis for the next wave of computing. In other words, don't expect Microsoft to give away a free equivalent version of Windows, so you can sell your old computer and replace it with the Raspberry Pi. I can be wrong, time will tell. One of the main operating systems that RPi 2 does not support is Android. RPi 1 has not supported it, and at the moment there is no news that the situation will change with Pi 2. The Raspberry Pi Foundation does not see Android as a priority, and there seems to be some difficulty porting due to some missing drivers from Broadcom. However, all this may change. Like CuBox and HummingBoard, the Raspberry Pi 1 and 2 are the official platforms for OpenELEC. Open Embedded Linux Entertainment Center (OpenELEC) is a small Linux distribution that turns RPi 2 into a Kodi Media Center (formerly XBMC). Installing it is simple enough through NOOBS or through an image file available on the OpenELEC website. The distro boots are fast and the interface is sleek and responsive. I could use it with Yatse, XBMC/Cody Remote app without any problems. The app found RPi2 right away and I was able to control Cody easily. In terms of performance, I tested the power of the RPi 2 processor and GPU by playing two HD video files. Both files were encoded in H.264, the first at 4429 kbps, and the second at 15038 kbps. Both were full HD resolution. The good news is that both videos played well. There was no stuttering or artifacts, and the sound played through HDMI. The only downside was that the user interface was slow when the videos were played. Bringing up the on-screen controls to pause, stop, etc., causing the mouse to twitch and jump, however the user interface still actually worked. By comparison, the same files on CuBox played the same way, as well as, The user interface remained responsive. One of the attractions of the Raspberry Pi (and in fact the other others is able to connect the equipment (LEDs, engines, servos, sensors, etc.) directly to the board and monitor/control that equipment in the computer program. Pi's advantage over a microcontroller, such as Arduino Due or mbED board, is that GPIO (General Purpose Input/Output) contacts can be controlled from different programming languages, not just with C or C. In a video review I demonstrate how a Raspberry Pi 2 can be used to flash LED. Of course, this is a very simple scheme, but it demonstrates the ability of the Raspberry Pi 2 to interact with the outside world. For those interested in getting this job done with RPi 2, here is the Python program I used: importing RPi.GPIO as GPIO being imported by GPIO.setmode (GPIO). BOARD) GPIO.setup(7, GPIO. OUT) while (1): GPIO.output (7, GPIO. HIGH) time.sleep(1) GPIO.output(7, GPIO. LOW) time.sleep (1) The first part imports the modules needed to work with GPIO contacts and the module needed to work.) function. The next bit sets contact 7 as a output, and then the loop simply sets the contact 7 HIGH (i.e. on) and then LOW (i.e. off) with one second delay between each action. Since RPi 2 is fairly new, I need to manually update the RPi.GPIO before it will work. However, I think the latest version of Raspbian has an updated GPIO module. But for those interested, you can find more help with the RPi.GPIO update on Adafruit's How to Fix the Bug Downloading RPi.GPIO Python Library on your new Raspberry Pi 2. There is also a useful primer for the construction of the LED circuit. If you liked the Raspberry Pi 1, then you'll love the Raspberry Pi 2. The performance go from Pi 1 to Pi 2 is excellent, and the extra memory really helps desktop performance. Because the Raspberry Pi Foundation has managed to keep the price the same, that is little to complain about. Android support would have been good, but Pi has thrived so far without it, so it's not a deal breaker by any means. The promise of Windows 10 is intriguing and the current support for Linux is excellent. So, go buy raspberry Pi 2, you won't be disappointed. There are a few key things that have helped make the Raspberry Pi such a success. These include a feature set (such as GPIO contacts), ease of access and price. And it seems that this last moment is the main value for the Raspberry Pi fund. Over the past few years, the fund has either made new boards that are even cheaper (such as Pi zero) or it has increased the performance and functionality of the board while maintaining the same price. Raspberry Pi 3 falls into the latter category, a new board, with better performance and new features, but still at the same familiar price. Raspberry Pi 3 is a natural and progressive update from Pi Not only does it open the door to 64-bit computing because of its 64-bit Cortex-A53 processor, Cortex-A53, It also adds Wi-Fi and Bluetooth, two key features for the Internet of Things (IoT). I ordered a Pi 3 on the day it was announced and I've been playing with it ever since it arrived. Is it worth the upgrade? Now is the best time to buy your first Raspberry Pi? Let's find out. Read more:Raspberry Pi Zero reviewRaspberry Pi 2 reviewSpecificationsDeviceRaspberry Pi 3Raspberry Pi ZeroRaspberry Pi 1Raspberry Pi 2CPU1.2GHz quad-core ARM Cortex-A53 CPU from Broadcom1GHz ARM11 Broadcom CPU700MHz ARM11 Broadcom CPU900MHz quad-core ARM Cortex-A7 CPU from BroadcomGPUVideocore IVVideocore IVVideocore IVVideocore IVMemory1GB512MB512MB1GBStoragemicroSD card slotmicroSD card slotSD card slotmicroSD card slotConnectivity4 x USB, HDMI, Ethernet, 3.5mm audio jack, Wi-Fi, Bluetooth1 x microUSB, mini-HDMI, an unpopulated composite video header4 x USB, HDMI, Ethernet, 3.5mm audio jack4 x USB, HDMI, Ethernet, 3.5mm audio jackOSLinux, Windows 10 IoT coreLinuxLinuxLinux, Windows 10 IoT coreConnectorsCamera interface (CSI), GPIO, SPI, I2C, JTAGUnpopulated 40-pin GPIO header, SPI, I2CCamera interface (CSI), GPIO, SPI, I2C, JTAGCamera interface (CSI), GPIO, SPI, I2C, JTAGPrice$35/£30$5/£4$25/£20$35/£30 DesignAs with all Raspberry Pi boards What you buy is just a printed board. A versatile and fully functional computer printed board, but, nevertheless, just a printed board. There are of course plenty of accessories including cases, touch screens and cases with touch screens, but for $35 that you get is a board. To use it, you'll need a microSD card, keyboard, mouse and TV or HDMI monitor. In the middle of the board is Broadcom's Black System-on-Chip (SoC) with the HDMI port underneath it and USB ports, plus the Ethernet port on the right. Along the top edge are GPIO contacts that are fully compatible with previous Pi boards. At the bottom of the board is a microSD slot that is used to store the OS and your data. The board is powered through a 5V micro USB port, but unlike previous generations it needs a little more juice. It's now a good idea to use a 2.5A adapter if you want to connect an energy-intensive USB device to a board. Equipment There are three big changes to this new board, which means it earns the name Pi 3, not something like Pi 2. First, upgrade to 64-bit. The new board uses a 1.2GHz 64-bit quad-core Cortex-A53 ARMv8 processor from Broadcom. The new SoC, the BCM2837, retains the same basic architecture as its predecessors, so any projects and tutorials that rely on the exact details of Raspberry Pi hardware will continue to work. The BCM2835, found in the Raspberry Pi 1 processor and Raspberry Pi zero, contains one core ARMv6 processor (i.e. ARM1176) and VideoCore IV. BCM2836 retains the same GPU core, but replaces the ARMv6 processor with a quad-core ARMv7 processor New New New remains essentially the same as THE BCM2836, but replaces the four 32-bit Cortex-A7 cores with four 64-bit Cortex-A53 nuclei. Two other big changes in the wireless department. For the first time, the Raspberry Pi now has built-in Wi-Fi and Bluetooth. Both were previously available via USB keys, however, by incorporating them on the Raspberry Pi Board the fund threw away the gauntlet to all other IoT board developers. I can only hope that Wi-Fi and Bluetooth will become the standard for all future Raspberry Pi boards. Does anyone want a raspberry Pi zero with Wi-Fi and Bluetooth, even if it costs $15? Yes please! But I got distracted. As for the rest of the equipment, it's mostly unchanged from the Pi 2. You get 40 common I/O goals (GPIO) ports, a 3.5mm audio socket, a digital camera interface and a display interface (not to be confused with the HDMI port). The software operating system is the choice for all Raspberry Pi Linux boards, particularly Debian-based Raspbian. Pi 3 will also run Linux-based media center distributions like OSMC. You also get access to Windows 10 IoT Core support if that's what you like! Also, don't forget RISC OS, an OS developed in Cambridge, England by Acorn. RISC OS was first released in 1987, and its origins date back to the original team that developed the ARM microprocessor. Installing Raspbian is a breeze. You need to download the new Out Of The Box Software (NOOBS) postal archive and extract it on an empty microSD card. Download Pi 3 from the map and follow the instructions on the screen. Once completed, the board will restart on the Raspbian desktop environment. When your desktop appears, you probably want to set up a network, either Ethernet or Wi-Fi. To do this on the left, click on the network icon (near the clock in the top right to the right of the screen) and you'll see a list of all available wireless networks. Choose the one you want and enter the password. If you click on the network icon and choose Wifi Networks (dhcpcdui) Settings from the pop-up menu, you can manually enter a static IP address and/or set up a wired network. With all this talk of 64-bit processors you'd think that the software running in Pi is also completely 64-bit... unfortunately, not quite. Remember how you can install a 32-bit version of Windows or a 32-bit version of Linux on an Intel 64-bit desktop? Well, it's exactly the same with 64-bit ARM-based processors. At the moment, Raspbian is a 32-bit version of both core and userland tools (meaning that command-line tools and installed programs such as the browser). In the future, the Raspberry Pi Foundation will produce a 64-bit distro. If and when this happens, it will most likely happen in two stages, first a 64-bit core and a 32-bit userland, and then a completely 64-bit. My is that the first 64-bit Raspberry Pi dystrose will come from Arch and CentOS, not from Raspbian. However, while we wait, the 32-bit versions work perfectly. OSMCAs as well as Raspbian there are many other common Linux distributions that work with Raspberry Pi3 including Arch Linux, CentOS and many others. One of the specialized distributions is OSMC (Open Source Media Center). It's based on Debian and boots right in XBMC/Cody, turning your Raspberry Pi into a Media Center.I installed OSMC on my Pi 3 and downloaded it. I then attached an external 2TB hard drive with some Full HD video. I was able to find the files on the hard drive without any problems and I was able to watch the video easily. My main test file was the high bit-course videos that come straight from Premiere Pro. Pi 3 was able to play without any lag or stutters. So if you have a hard drive full of media and you want to access it from your gym, then you can use the Raspberry Pi 3! PerformanceBefore we look at the actual performance figures, let's look at the theoretical. Raspberry Pi 3 clocked 1.2 GHz compared to the 900 MHz Pi 2, so this is a 33% increase from the start. Plus the Cortex-A53 is a faster core processor than the Cortex-A7, so theoretically the Pi 3 should be about 50-60% faster than the Raspberry Pi 2, which is about ten times faster than the original raspberry Pi.To check the relative speed of all the different Pi boards, I ran the speed test OpenSSL Suite. These tests shoot down a lot of numbers however the data below should give you a feel for how different boards compare. Numbers are in 1000 bytes per second processed: MD5 1KMD5 8KSHA1 1KSHA1 8KRaspberry Pi 13765255612242573018 4RaspBerry 1 (reattached to 9 MHz)467967070530983387 61Pies Pi zero5429784563487848484910Raspberry Pi 2 (single-core test)6382380625382264335Raspberry Pi 2 (multi-core test)2500223091851522491727 33Raspberry Pi 3 (single-core test)880121089655694756558Raspberry Pi 3 (multi-core test)2630233474391566171458 According to these criteria, the Raspberry Pi 3 is about 35% to 40% faster than the Raspberry Pi 2. It also seems to be about 3-4 times faster than the Raspberry Pi zero (when comparing single-core results with multi-core results). As for the real-world desktop performance, the Raspberry Pi 3 has certainly pushed Pi a step closer to being a desktop alternative. Loading a web page like AndroidAuthority.com about twice as slow on a Raspberry Pi as a modern desktop, while launching a program like LibreOffice Writer is about 3 times slower. However, the achieved speeds are not painfully slow. Using Pi 3 as a desktop would not be optimal, It's definitely a make-able. However, at the moment the real purpose of the Pi 3 is not to replace the desktop too much, it is as a tool for and educators. And as such the performance is excellent. Raspbian comes pre-installed with tools such as Python 3 IDLE and Wolfram Mathematica, there are suites such as LibreOffice, and you can access C, C, Golang and Java. Unlike the Pi 1 and Pi zero, which really had to be used from the command line - if you want to maintain sanity, the Pi 3 is a nice use from the desktop. The Gallery Final Thoughts Raspberry Pi Foundation remains true to the original goals of Raspberry Pi and it continues to supply large boards at excellent prices. Pi 3 is no exception. With the best processor plus built-in Wi-Fi and Bluetooth, the Pi 3 is a worthy successor to the Pi 2. If you have a Pi 2 and use it a lot, then you should upgrade to Pi 3. If you haven't bought a Pi so far, then there really hasn't been a better time to get one. Now read: read: