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Assignment - 2.

Aim - Study of different operating system for Rasberry-Pi, understanding the process of OS installation an Raspberry-Pi.

Theory - Introduction -

The Raspberry Pi is a wonderful but powerful little computer that fits the palm of your hand. The Raspberry Pi has SD card slot for mass storage & will attempt to boot off that device from SD card when the board is powdered on 5V micro.

The rospberry is a very capable minicomputer & moreover is very inexpensive it is available at unbelievable price that you could not resist yourself to buy one, if you technocrat. It comes with 4 USB port that makes it more user friendly Many from the available lits of operating systems, each one of them are segregated based on their applications features & specifications.

Brief Discussion of Operating Systems →

No matter how good & powerful the hardware of Raspberry Pi is, without an operating system.

1. Raspbian :-

Currently, Raspbian is the most popular Linux-based operating system for the Raspberry Pi. Raspbian is an open source operating system based on Debian, which has been modified specially for the Raspberry Pi. For a beginners its a good place to start especially if you are starting with programming and are used to windows based system as it bears some resemblance to windows. This as is real treat to the Python programmer. Raspbian is a operating system which proved to be very efficient for the basic operating requirements with Pi Raspbian is designed to be easy to use and is the recommended operating system for beginners to start off with their Raspberry Pi.

2 Pidora -

After waiting for a long, Raspberry Pi users are finally getting an optimized version of Fedora, to replace the current Rasbian OS. The news caused excitement among the Raspberry Pi community, who are finally getting the opportunity to enjoy Fedora on their devices after the previous attempt to introduce Fedora Remix for Pi ended up as a failure. Coupled with greater speed and most of features of Fedora 18. The current Rasbian OS, which was a remix of open source Debian OS chip based on ARMv6 would make way for Pidora. Currently available for download on the CBOT website

Arch Linux -

Arch linux is an excellent choice for many reasons one of the greatest advanges of the Arch linux distribution is its simpicity in approach and attitude This minimizes the amount of SD card memory it takes to hold the operating System for your Raspberry Pi, leaving more Space for everything else you'll be doing. Arch has now finished its transition to System D from the old initScripts

4 OSMC

OSMC (Open Source Media center) is a free and open source media Player based on Linux. Founded in 2014, OSMC lets you play back media from your local network, attached Storage and the Internet. OSMC is the leading media center in terms of features set and community and is based on the kodi project. This OS comes with over 30000 packages from Debian repository.

5. RetroPIE

Retro Pie allows you to turn your Raspberry Pi into a retro-gaming machine. Its platform developed on the base of Rasphian, Emulation Station. Retro Pie enable you to play your favourite Arcade, home-console, and classic PC games with minimum set-up. For technocrat users it also provides a large variety of configuration tools to customize the System as per user need and purpose.

6. RISC OS

RISC OS is British operating System originally designed by Acorn Computers Ltd in Cambridge, England and was first released in 1987. It was specifically designed to run on the ARM chiped. It is fast, compact and ellicient. RIS OS is not a version of linux, nor is it any way related to windows and intresingly was developed by the original ARM team. RISC OS Pi comes with a small set of utilities and application. It includes a browser caled Netsurf a simple text editor, a scientific calculator, and it also has two Software / package managers. Packman and a Store.

It is available to download from RISC OS Open website or Raspberry Pi.org

7. Firefox OS

Firefox OS (also known interenally as Boot to Gecko / B2G) is an OS which is more associated with being a linux kernel-based open-source operating System primarily designed for smart phones and tablets Computers. It was primarily designed as a community based alternative System utilizing open Standards and HTML5 applications, Javascript and open web APIs. This OS is based on Mozilla technology. The device is affordable and flexible as it can run a number of operating System and might therefore be a very Suitable device to provide an entry level upgrade to network protection.

8 kali linux

Kali linux is a Debian based Security auditing linux distribution. It is specially designed for digital forensics and penetration testing. It is maintained and funded by offensive Security Ltd Kali Linux provides many pre-installed packages with numerous pentration-testing programs. like nmap (a port Sanner), wire shark (a packet analyzer). Recently Support for TFT touch Screen was added. If you want to instal kali on the Raspberry Pi kit you can download it from their official download page, it is freely available there. operating System have make the Raspberry Pi more popular and user friendy we have gone through 8 different operating System. Each operating has its own features.

Conclusion -

Thus, we have Studied installation for various os in Raspberry Pi

Instaming OS for Raspberry - Pi 3

Aim - To understood the OS installation for Raspberry Pi - 3

Process of OS installation on Raspberry Pi Board

1. open the website www.raspberry.org
2. click on the "Downloads" tab.
4. click on the "RASPBIAN" option.

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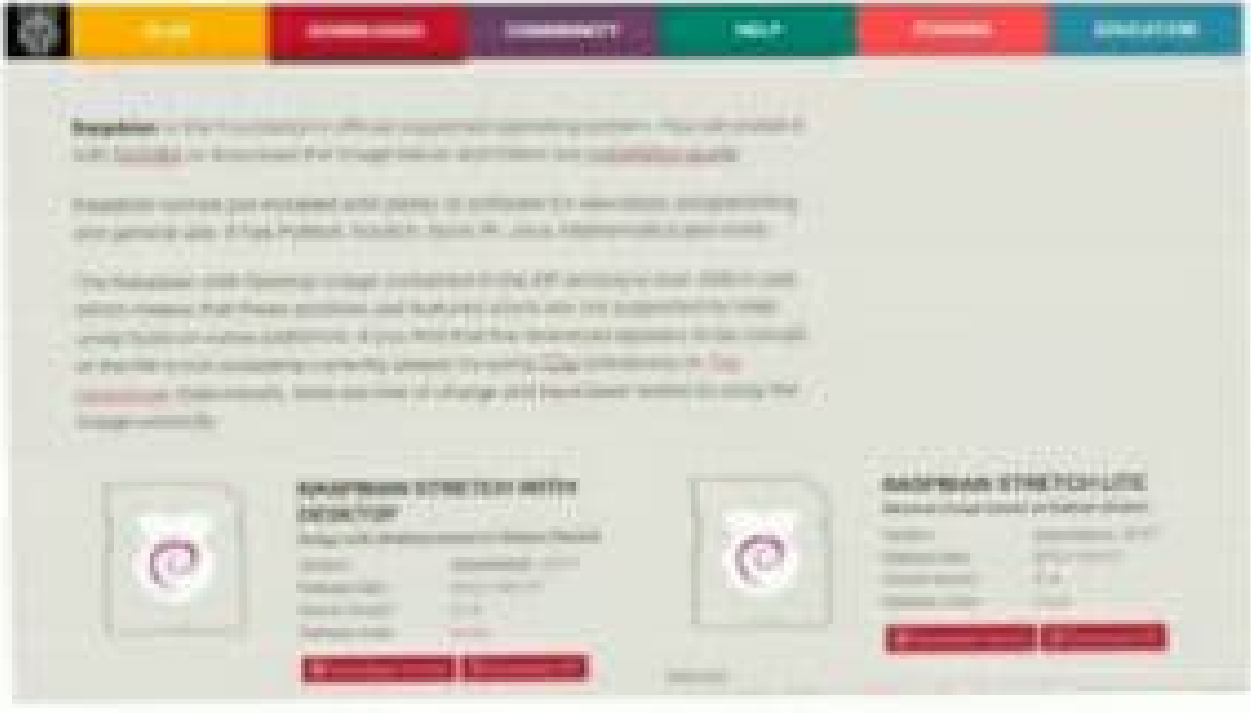


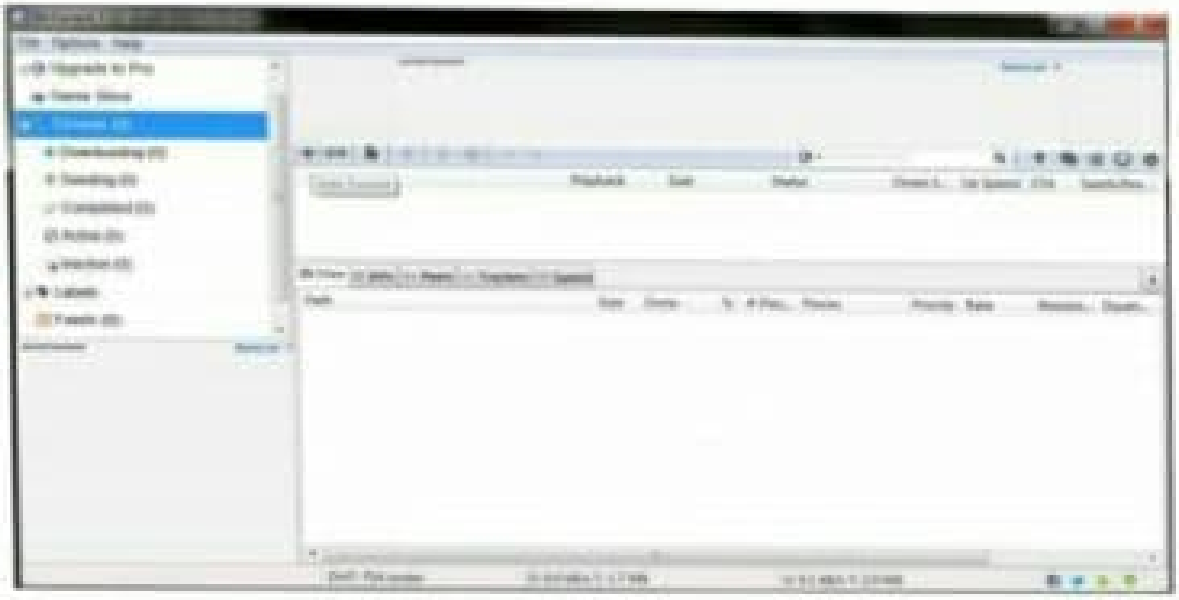
5 we require " RASPBIAN STRETCH WITH DESKTOP
So under this heading, click on "Download
Torrent" option.

6 A "Torrent file" is download.

7 But the actual os is present in the zip
file of this torrent

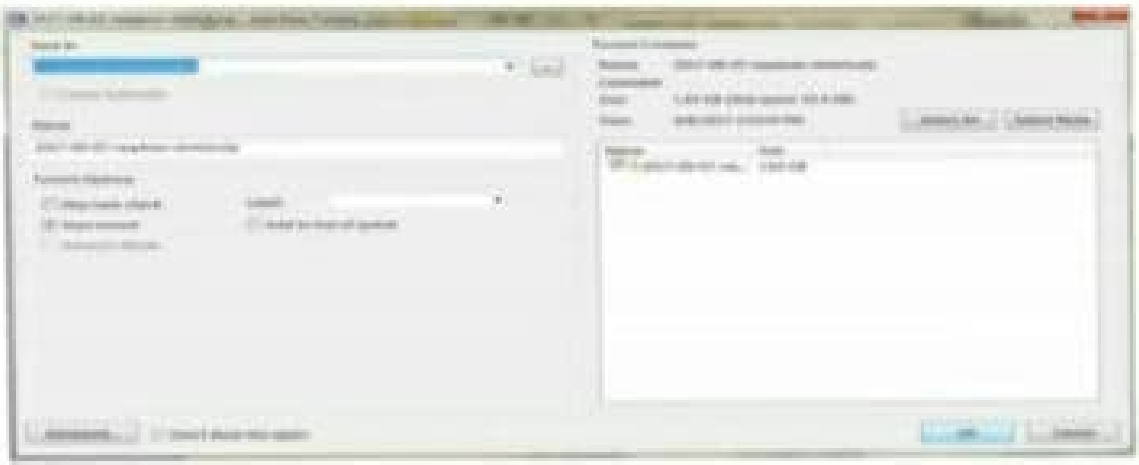
9 So download the "Bit Torrent" Software and
installed it.

10 Now open the " Bit Torrent" Software



12. Here select the path of downloaded "Torrent file".

13. After selecting the torrent file, following window appears. Here click on OK



After completion of this process, we get zip file named as "raspbian-stretch.zip"

Now we have to write this disk image on SD card After completion the following windows appear.

Here click 'Yes' and confirm the overwrite. Congratulations! Your SD card is ready with your os to work in Raspberry Pi-3 board

Insert Raspberry Pi3

18. Open the unzipped file in the "Image file" option byselecting the path from the Blue icon. The selected path is shown in the below image.
19. Now plug-in the SD card reader having SD card inside it, in the USB port of your PC.
20. Ensure that your SD card reader is having the same drive which is shown in the Device option (near the blue icon)

21. After ensuring that the "Image file path" and the "Device" are selected correctly, now click 'Write' button to write the image on the SD card.
22. After this the following window appears.