

EET 2812

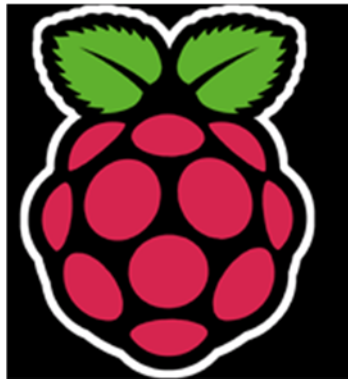
Activity 1

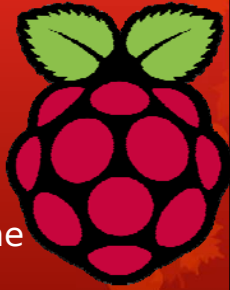
**Introduction**

**Computers/Linux/Raspberry Pi (RPI)**

Cuyahoga Community College

Youth Technology Academy





# Introduction to the Raspberry Pi OS

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## EET2812 Agenda Week 1 and 2

### Introduction to Raspberry Pi Operating System and Emulator

- Laptop login: YTACCC2011
- Take notes on RPi OS
- Can you get to Wormy?

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## OS=Operating System

- Software that makes the hardware usable
- OS Examples?



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### UNIX Origins

- 1950's Bell Laboratories , GE and MIT – MULTICS – the 'Multiplexed Information and Computing Service'
- A system that allows the computer to run more than one program at a time – but criticized for being over complicated and “bloated”
- Late 60's programmers at Bell Labs wanted a leaner version - UNIX



Massachusetts Institute of Technology

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### UNIX

- Versions of it are still used today
  - Internet
  - Corporations
  - Super Computers

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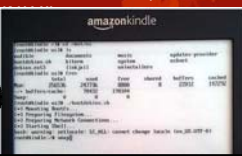
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## UNIX 2 Notable Updates

- MAC OS X - where X is used to honor UniX
- 1991 Linus Torvalds from Sweden updated and gave it away for FREE  
LINUX Kernel
- Led to - GNU/Linux (also called Linux2)  
"GNU's Not Unix!"
- Debians LINUX



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## Raspberry Pi OS



NOOBS  
New Out of the Box  
For beginners



Raspbian  
Official supported  
Raspberry Pi OS

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## QEMU - Raspberry Pi (RPI) Emulator

- Log in
- When the RPi boots up you get a  
Command Line

```
raspberrypi login: pi
Password:
Last login: Wed 5 Apr 2015 11:00:00 UTC on ttty1
Linux raspberrypi 3.1.9+ #2 Mon Apr 16 04:53:15 EST 2012 armv6l

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.

Type 'startx' to launch a graphical session

pi@raspberrypi ~$
```

The Command Prompt is a  
textual command-line

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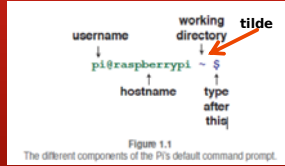
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## Command Prompt



- \$ Means:  
"type something at the command prompt and press enter"

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## Shell

- A program that prompts the user for commands, accepts them, executes them and displays the results
- Not built in

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## Processes

- Tasks performed by the Central Processing Unit (CPU) of a Computer
- Process Family Tree - new processes are thought of as the 'child' of the shell's process.

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## Directories

- The 'folders' that contain files in Unix OS



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## Files

- Things that you've created or downloaded that are placed in folders (directories)
  - Documents
  - Images
  - Movies
  - ...

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## Common Linux Commands



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pwd

- Print working directory

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cd xxx  
change to the directory named xxx

- Change directory to...
  - cd / change directory to the root directory
  - cd .. Move up (go back) one directory

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man ls

- List the manual

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sudo

- Super user Do
- sudo halt - turn off RPi

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sudo halt

- Shut down

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sudo reboot

- Reboot

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## Wormy game

- Can you get back to the wormy game?
- Find the games directory and type in name of game with an extension of py

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python wormy.py

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startx

- Start the GUI (Graphical User Interface)

When CentOS comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.

```
Type 'startx' to launch a graphical session
[~]# startx
```

Textual command line



GUI - like the Windows Desktop

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