

ENGR 4421: Robotics II

Linux & CLI

01/19/2023



Outline

- Linux Overview
- Ubuntu Get Started
- Command Line Interface
- ROS Installation

Origin of Linux

From: torvalds@klaava.Helsinki.FI (Linus Benedict Torvalds)
Newsgroups: comp.os.minix
Subject: What would you like to see most in minix?
Summary: small poll for my new operating system
Message-ID:
Date: 25 Aug 91 20:57:08 GMT
Organization: University of Helsinki

Hello everybody out there using minix -

I'm doing a (free) operating system (just a hobby, won't be big and professional like gnu) for 386(486) AT clones. This has been brewing since april, and is starting to get ready. I'd like any feedback on things people like/dislike in minix, as my OS resembles it somewhat (same physical layout of the file-system (due to practical reasons) among other things).

I've currently ported bash(1.08) and gcc(1.40), and things seem to work. This implies that I'll get something practical within a few months, and I'd like to know what features most people would want. Any suggestions are welcome, but I won't promise I'll implement them :-)

Linus (torvalds@kruuna.helsinki.fi)

PS. Yes - it's free of any minix code, and it has a multi-threaded fs. It is NOT portable (uses 386 task switching etc), and it probably never will support anything other than AT-harddisks, as that's all I have :-).

Linux Distributions



Ubuntu Get Started

Ubuntu Installation Guide



Crash into Ubuntu Desktop

- Additional drivers
- Settings
- Software store



Command-Line Interface

- Ubuntu CLI Tutorial:
<https://ubuntu.com/tutorials/command-line-for-beginners#1-overview>
- Video resources:
 - Beginner's Guide to the Bash Terminal
 - Linux Commands for Beginners

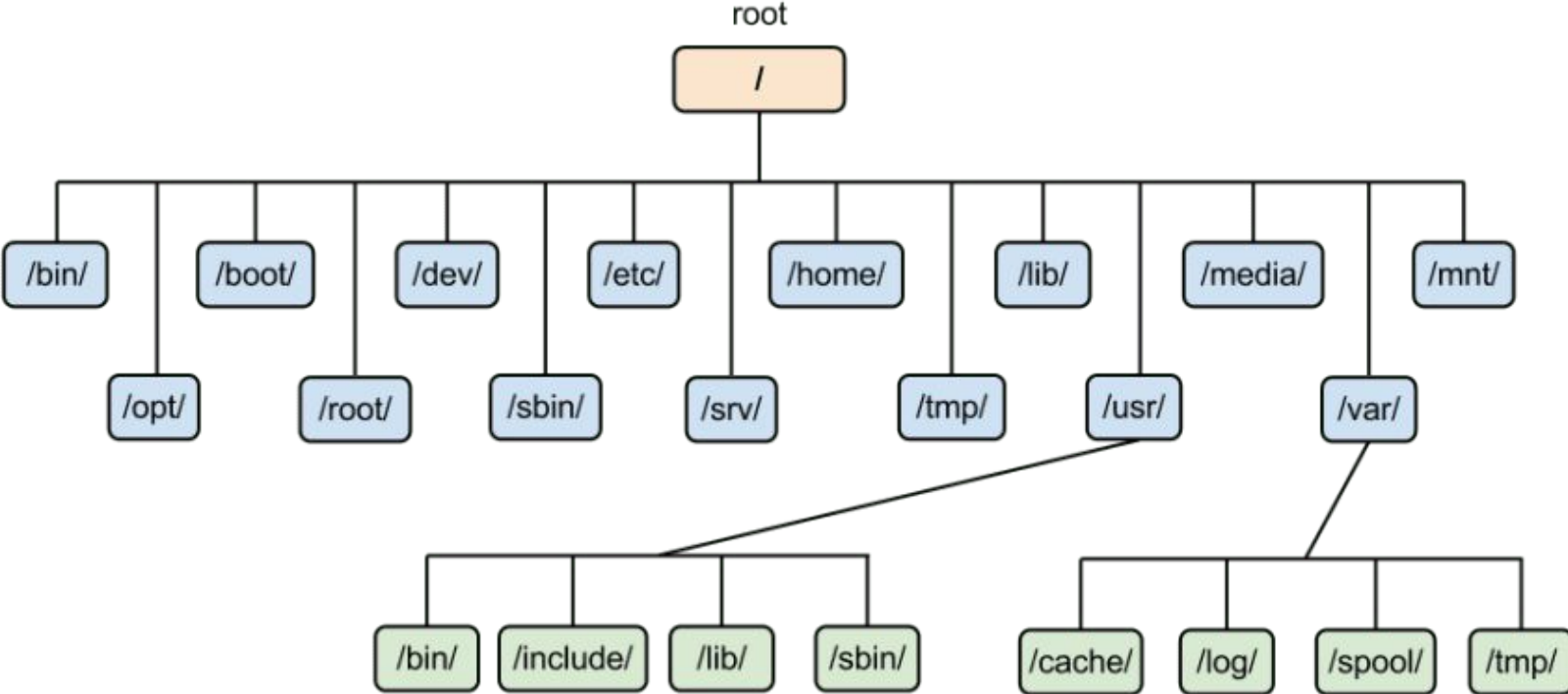
Command-Line Interface

- Prompt: <user>@<machine>:<location><user privilege>
- Basic commands:
 - ls - list contents
 - pwd - print current working directory
 - cd - change directory
 - mkdir - make a new directory
 - cp - copy contents
 - mv - move contents
- Super user: sudo
- APT package manager: apt update; apt upgrade; apt install

Shell vs. Terminal



Linux File System



ROS Installation

- Official Documentation: <https://docs.ros.org/en/humble/index.html>
- Beware of version: Ubuntu 22.04 + Humble Hawksbill
- Installation Guide (Debian Package):
<https://docs.ros.org/en/humble/Installation/Ubuntu-Install-Debians.html>