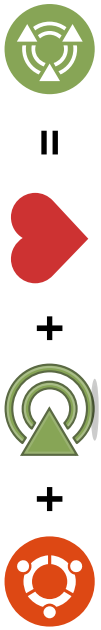
Another (better!) Computer Operating System

Linux - Using Ubuntu Mate as an Example

Craig Rhombs

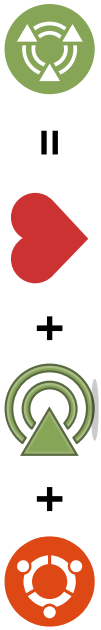
Outline



You do not have to settle for the common operating systems from Microsoft and Apple. A Linux operating system distribution such as those based on Ubuntu can be an effective, low-cost alternative for you to consider. This presentation will show you how to acquire, install, and use the Ubuntu Mate operating system distribution.

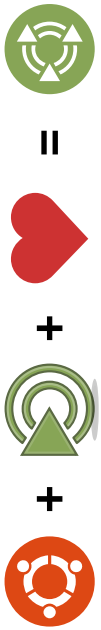
- Background – operating systems; free/open software versus black-box software
- Linux – Commercial versus non-commercial; non-commercial “distros” of Ubuntu (various flavors)
- Who makes it, Where do I get it, How do I try it
- What about hardware
- Where do I find help
- Ubuntu Mate walk-through; Desktop & navigation
- Security, firewall, anti-virus, system updates
- repositories: popular applications, the Mate boutique
- Backups and administration, new releases
- Compatibility with other universes (MS, etc.)

Why Bother?



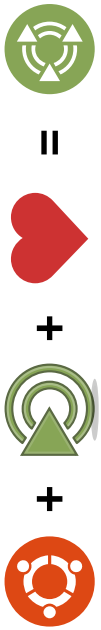
- How might Linux benefit me? What are its important characteristics?
  - Powerful (used to drive many of the large cloud services)
  - Efficient (makes good use of hardware)
  - Flexible (used in big installations as well as in small devices (e.g., IoT))
  - Open (nothing hidden, peer reviewed)
  - Secure (openness contributes to this; regular updates)
  - Non-commercial (no badgering)
  - Backed by community (vitality, participation possible)

Who is this guy?



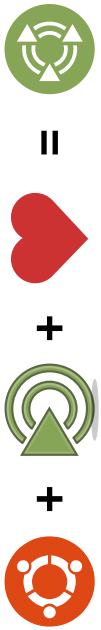
- Craig Rhombs
- Background:
  - Retired technical guy
  - Training in physics & astronomy, computing, solar energy
  - Made a living doing software and project management
- Why this presentation?
  - Giving back
  - A strong feeling that there is a better desktop operating system for many people.
- Contact: 281connections@gmail.com

How do YOU use a computer?

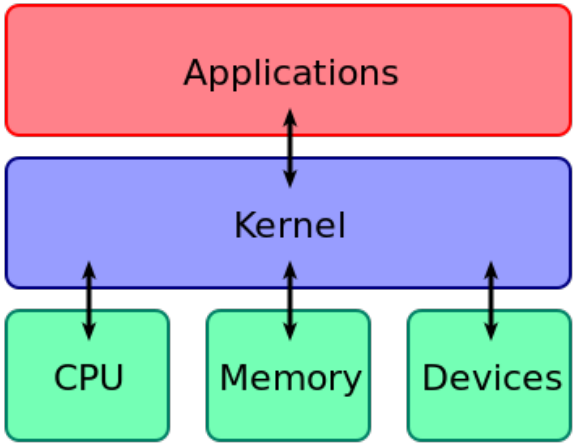


- Connect to wifi networks; Connect to bluetooth devices
- Browsing
- Email (email client versus web-based email)
- Create documents (text docs, spreadsheets, presentations, etc.)
- Read books
- Special communications (e.g., video/audio sessions)
- Run special purpose software locally (e.g., financial, scientific, hobby, etc.)
- ?
- Are you willing to take control of your computer??

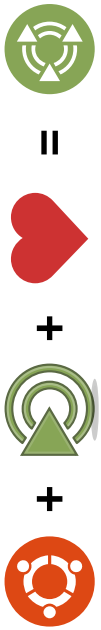
Operating System (OS)



- Software that manages computer hardware and software resources and provides common services for computer programs. Sometimes referred to as the “kernel.” (source = paraphrased from https://en.wikipedia.org/wiki/Operating_system)
- Sketch:

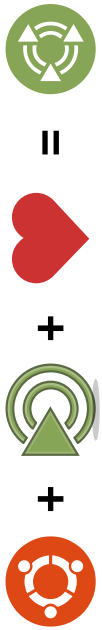


Examples of Operating Systems

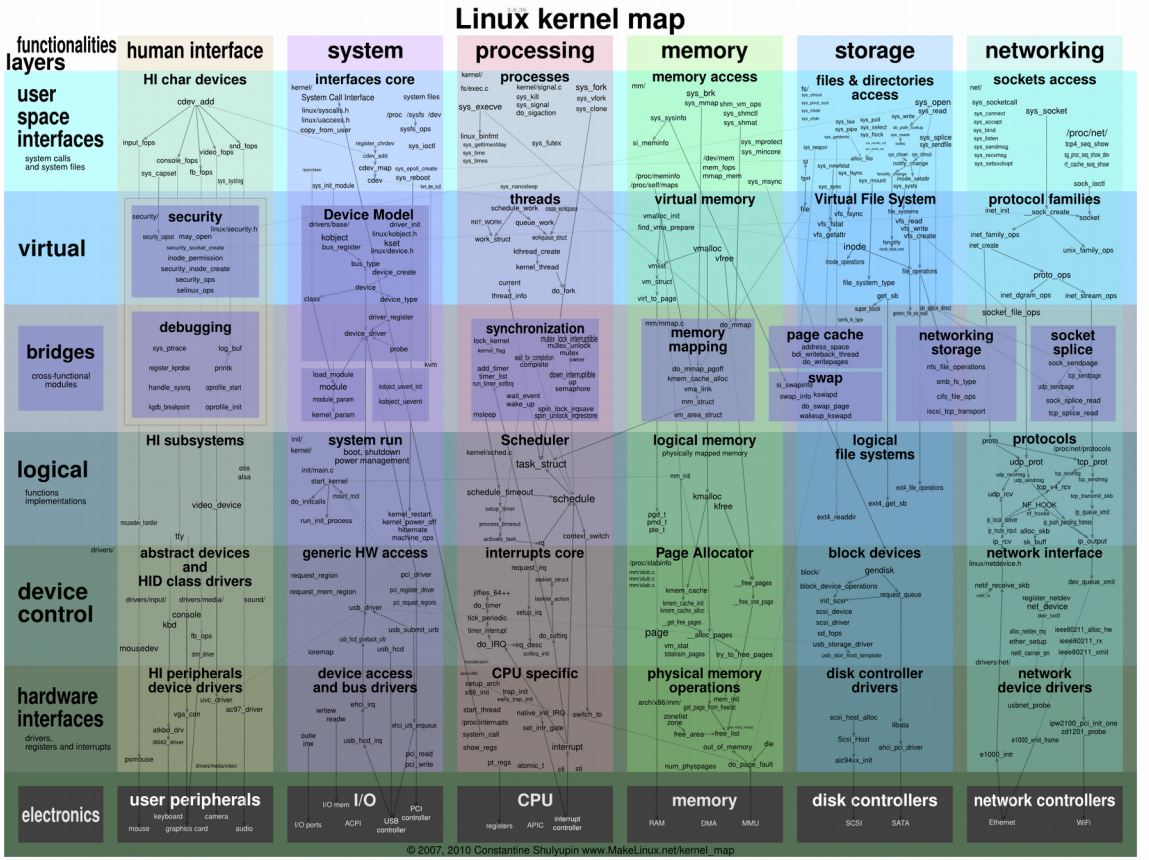


- For desktop and laptop machines . . .
- Apple (Mac) OS X
- Windows 7, 8, 10
- Linux (assorted flavors – concentrating on Ubuntu Mate distribution here)

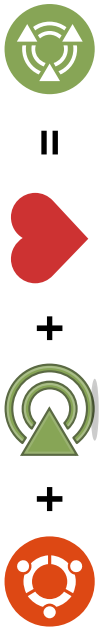
Details (just a taste)



- Kernel may include user interface (UI) or the UI may be an “application”
- UI is separate in Linux
- The nature of the UI is a differentiator with regard to Linux distributions.

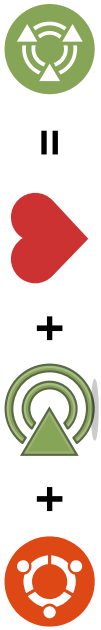


Linux Distributions



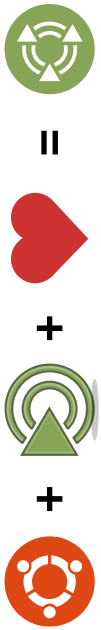
- Kernel plus . . .
- User interface(s)
- Applications, made available via curated “repositories”

User Interface (UI)



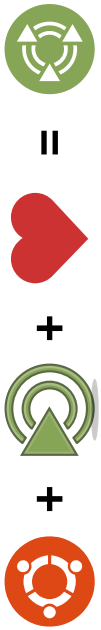
- Defined: The user interface (UI), in the industrial design field of human–computer interaction, is the space where interactions between humans and machines occur. The goal of this interaction is to allow effective operation and control of the machine from the human end, whilst the machine simultaneously feeds back information that aids the operators' decision-making process. Examples of this broad concept of user interfaces include the interactive aspects of computer operating systems, hand tools, heavy machinery operator controls, and process controls. The design considerations applicable when creating user interfaces are related to or involve such disciplines as ergonomics and psychology.
- In the Linux world of distributions, you can choose a a User Interface with a “look and feel” that satisfies you rather than accepting what satisfies Microsoft or Apple or Google.

Non-commercial Linux Distributions



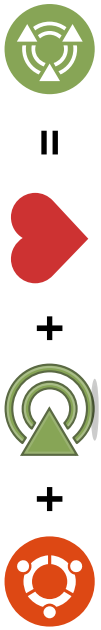
- Ubuntu (“proper”, stock); periodic releases (e.g., 18.04, 18.10, etc)
- Ubuntu derivatives:
  - Ubuntu Mate (why am I focusing on this one?)
  - Xubuntu
  - Kubuntu
- Red Hat derivative: Fedora
- Solus
- ElementaryOS
- And so on . . . . (there are scores!)

Free/Open Software



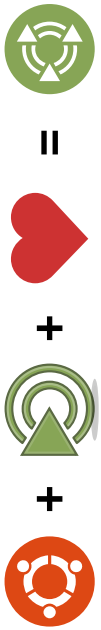
- Free as in “liberty”
- Source code open to review by all willing parties.
- Modifications can be made; subject to license (e.g., GPL); handles reuse and liability issues.
- Leads to collaboration and well-reviewed products. Peer review.
- Windows and MacOS are black boxes and not “free” in any sense of the word.
- Here we focus on an example of free / open source software (FOSS)
- There are many “distros” based on the Linux kernel and the principle of free and open software. (“Distro” is short for distribution.)

Ubuntu Mate



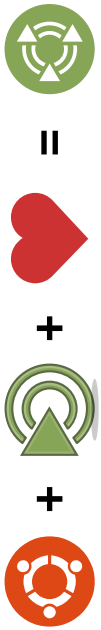
- FAQ: https://ubuntu-mate.org/faq/
- Who
- What
- Where
- How
- What is that stuff on the left?

Ubuntu Mate - “Who”



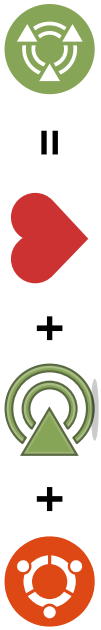
- International team of people: coders, writers, testers, etc. http://ubuntu-mate.org/team/
- Many are volunteer; some are paid
- Led by Martin Wimpress; based in the UK; day job is with a company named Canonical
- Encourage community involvement
  - https://ubuntu-mate.org/community/
  - https://ubuntu-mate.community/
  - You can help if you want – participation/$

Ubuntu Mate - “What”



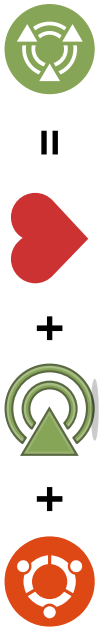
- Details at https://ubuntu-mate.org/
- Modern; Based on a standard Linux base operating system (Ubuntu - http://www.ubuntu.com)
- Provides interface “drivers” for compatibility with many types of hardware
- Office Software (LibreOffice)
- Email (Thunderbird)
- Photo management (Shotwell); photo editing (Gimp)
- Play videos (VLC)
- “Social” applications – Skype, Empathy
- The software “boutique”
- Easy installation; long term support versions every 2 years; maintenance releases; on-line help from the community

Ubuntu Mate - “Where”



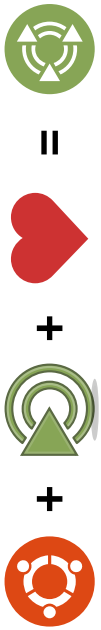
- Everywhere!
- Truly international in terms of development and use.

Ubuntu Mate – “How” topics



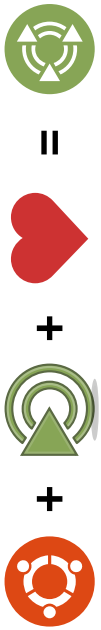
- Hardware
- User help & documentation
- Walk through
- Example install

What About Hardware?



- Prefer Intel-based CPUs
- That old windows machine that you have or that you buy . . .
  - Local: www.techdump.org and http://techdiscounts.org/
  - Frequently you will notice that old hardware performs quite well!
- Dell – www.dell.com - new; pre-loaded with stock Ubuntu
- System 76 – www.system76.com - pro quality new; pre-loaded with stock Ubuntu
- Entroware – if you are in Europe; pre-loaded with Ubuntu Mate

What if I Need help?



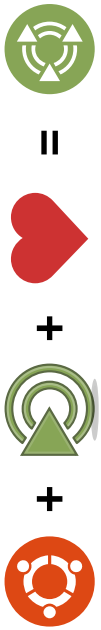
- Documentation at the Wiki:

  https://ubuntu-mate.community/t/tips-tutorials-and-guides-index/14519

- Community support (website, Google+, Twitter, FB, etc.)

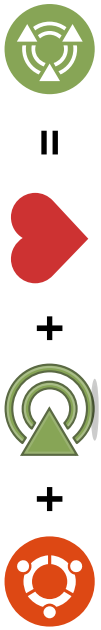
  https://ubuntu-mate.org/community/

A Walk-through



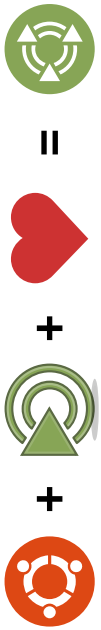
- Let me show you . . .
- Desktop & navigation (multiple layouts)
- Commonly useful software (email, browsing, office apps, etc.)
- Repository: curated popular applications; the Mate “boutique”
- What interests you?

Administration



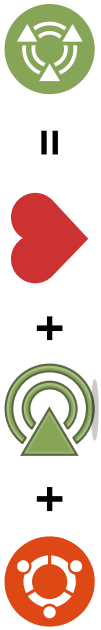
- Security (encryption, accounts, etc.)
- firewall
- anti-virus
- system updates
- users
- backups

Notes on Compatibility



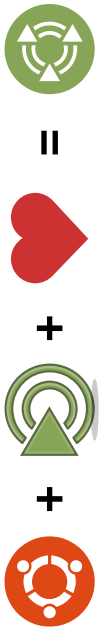
- Files; Productivity suites
- Not all peripherals from all manufacturers are supported – most are supported (e.g., https://help.ubuntu.com/community/Printers)
- Really old machines are not supported – most that are more recent than 2007 should be OK
- Your hardware will likely operate much better
- Some application software vendors only support Mac and Windows operating systems. (e.g., Quicken) – There is a possible work-around.
- Remember to employ the expertise of the community!

Perform an Example Installation



- From ISO file
- To a virtual machine
- Note that you can try without installing to disk! (from cd/usb)
- Dual boot
- Other options if you are uncertain

References



- Ubuntu Mate: https://ubuntu-mate.org/
- Podcast example: http://ubuntupodcast.org/
- On-line sources (example): http://www.omgubuntu.co.uk/
- Hennepin County Library:
  - Linux Administration: A Beginner's Guide, Wale Soyinka https://hclib.bibliocommons.com/item/show/4733251109
  - Ubuntu Unleashed, Matthew Helmke https://hclib.bibliocommons.com/item/show/4730951109

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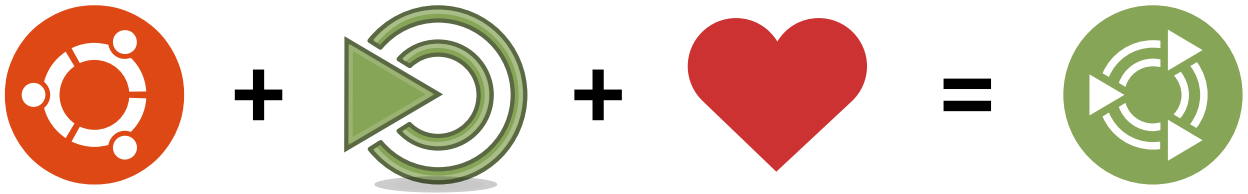

ubuntu MATE