Linux On The Go: Beyond the Laptop

SCALEX 2011

Agenda

- Introduction
- What is Linux On The Go
- Traits
- Pieces
- Hardware Considerations
- Software Considerations
- Other Considerations
- Conclusions
- Questions

Introduction

- Surrounded!
- Different from laptop and desktop
- Linux everywhere
- **Green**

What is it?

- Smart Phones/PDAs
- Tablets
- E-book reader
- Gaming platforms
- Car computers
- Netbooks(?)

Traits

- Battery Operated
- Integrated display
  - LCD
  - eInk, ePaper, etc
  - OLED
  - HMD
- Input mechanism
  - Keyboard
  - Touch screens
  - Others (accelerometers)
- Connectivity
- Storage

Linux Features

- Power Management
- Display drivers
- Touch screen controllers
- GPIO input drivers
- WiFi drivers
- USB device and host drivers
- SD/MMC
- I2C/SPI foundation

Compared to Desktop

- Smaller Screen, <10"
- Non-x86 common, ARM SoC
- Slower Clock, <2GHz
- Less Memory, <1G
- Lighter
- More form-factor
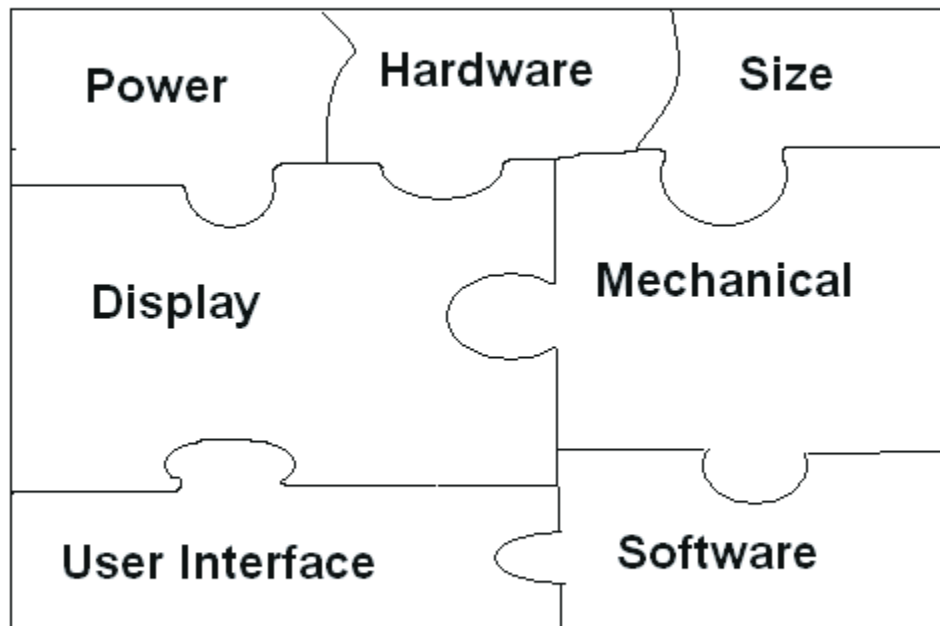 - Slider
  - Tablet
  - Hyrbid

Pieces

Hardware Considerations

- non-x86, slower(?)
- ARM SoC dominated
- Limited Memory
- Not as expandable
- USB Host and Device
- Solid state storage

Software Considerations

- Bootloader
- Kernel image formats
- Userland (and UI)
- Power Management
- Build system
- Cross compilation
- Limited Resources

Other Considerations

- User Interfaces
  - Andorid
  - Maemo/MeeGo
  - QT
  - Custom
- Web Browser
- Mechanical Details
- USB Host/Client vs OTG
- Form Factor

Conclusions

- Linux OTG - Evolution of Linux
- Software/hardware must cooperate
- Can leverage open source
    - Needs tweaking

Questions?