



CE Linux Forum

Android Bird's of a Feather Meeting

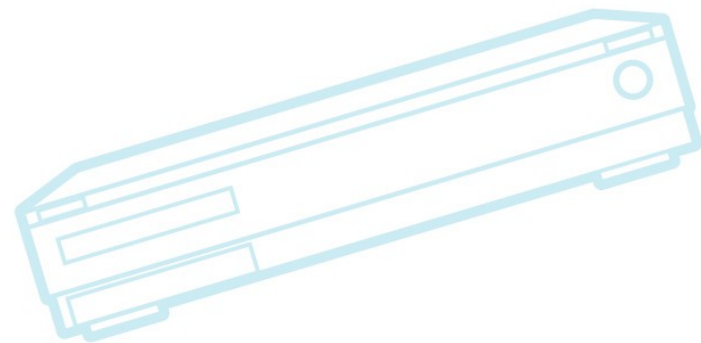
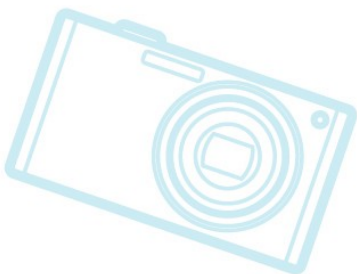
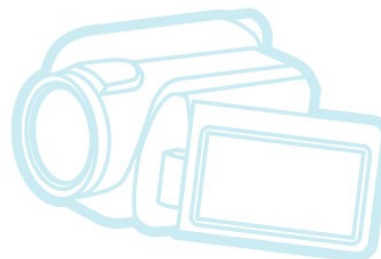
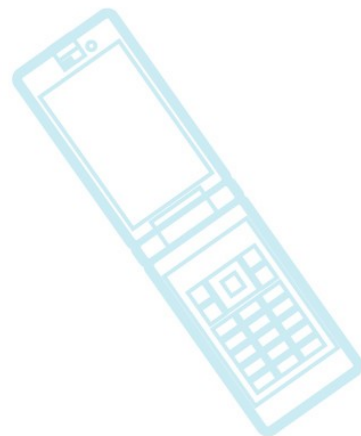
Tim Bird

CELF Architecture Group Chair



Agenda

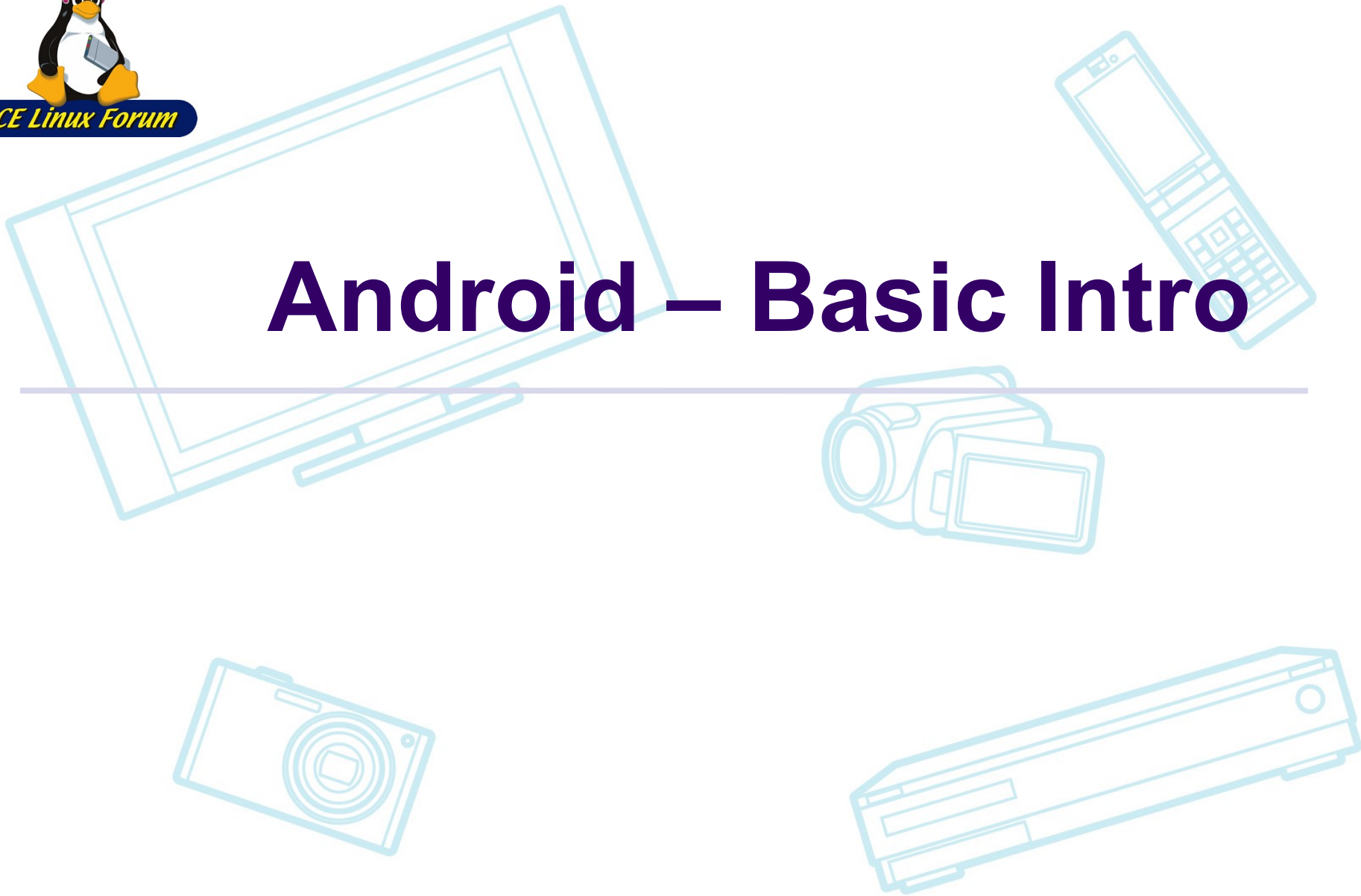
- Android - basic intro
- Hot or Not
- Questions
- How to collaborate
- References





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Android – Basic Intro





Android – Basic Intro

- Android
 - Linux-based OS mainly developed by Google, now deployed in mobile phones worldwide
- Is a new platform, not based on any existing Linux distribution
 - Kernel + Google stuff
 - Bionic libc
 - Dalvik JVM
 - Class libs galore



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Hot or Not?

What interesting features of Android should we adopt as an embedded Linux community?



Kernel stuff

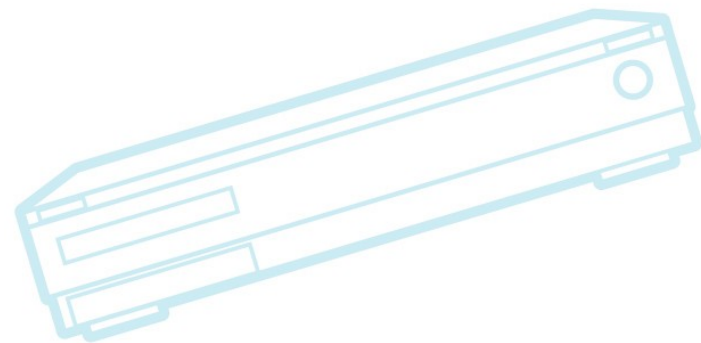
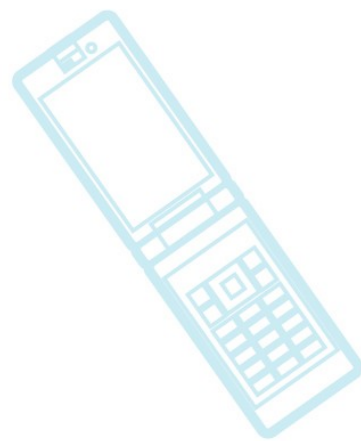
- Binder – new IPC mechanisms
- Wake locks – ability to hold the machine “awake”
 - Turns power management on it’s head
 - Default state of machine is off, and apps have to assert a lock to keep it awake
- amem



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User-space

- Init
 - New
- Bionic
 - Small footprint, custom-purpose, C library
 - Has it's own threading model
 - No support for multi-user
- Native libraries
 - ???





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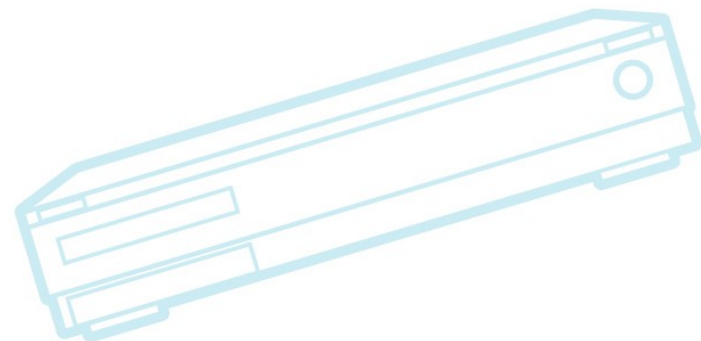
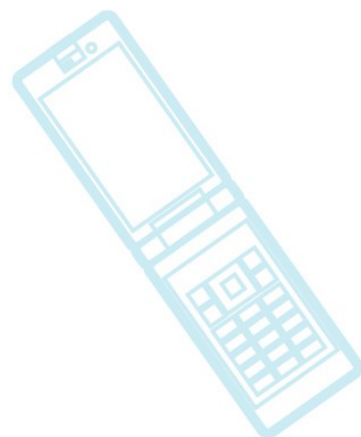
Build system

- Repo
 - Multi-project source management tool
 - Wrapper for 'git' for 100 repositories
- Build system (Android makefiles)
 - Doesn't build kernel!!
 - Doesn't keep patches separate
- Pre-built toolchains



Development tools

- Adb – Android Debug Bridge
 - Host/target control program
- Emulator
 - Can develop and test some applications prior to device availability
- Eclipse integration
- Logger

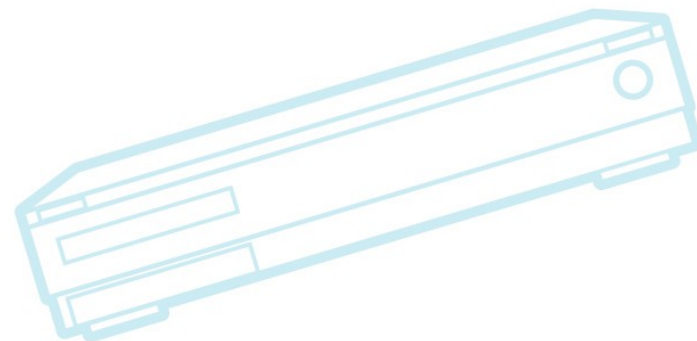
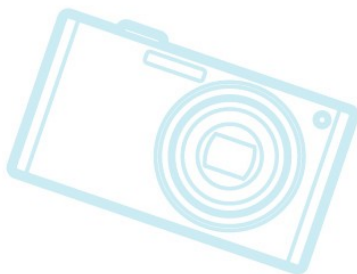
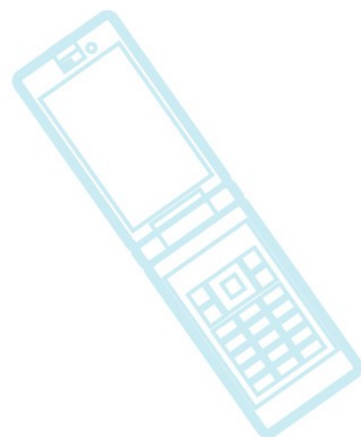




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File system layout

- Recovery
- System
- Data
- SDcard

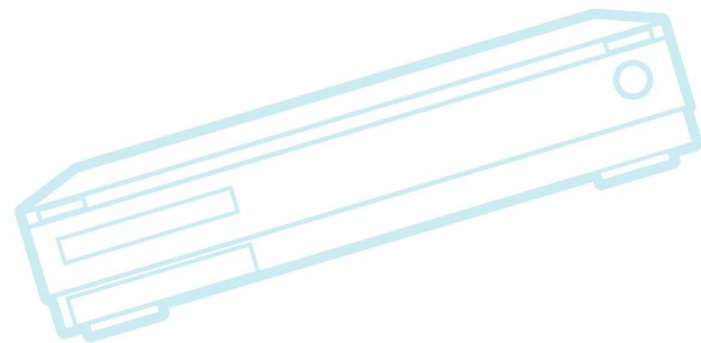
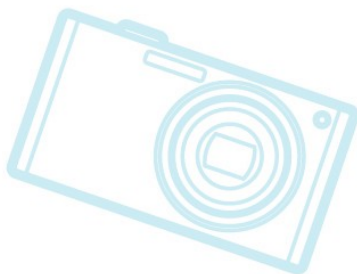
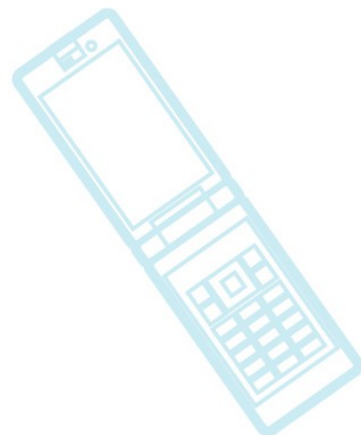




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Java

- Dalvik

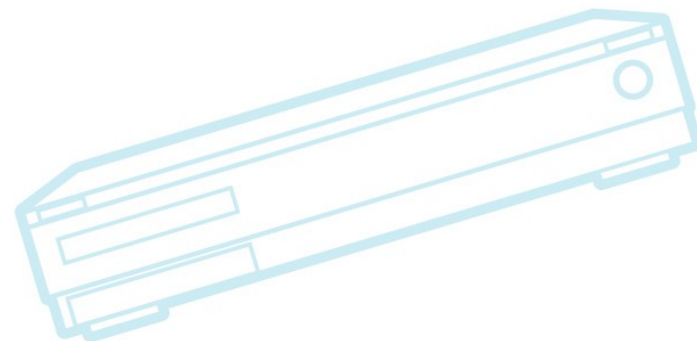
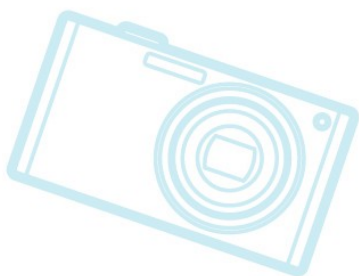
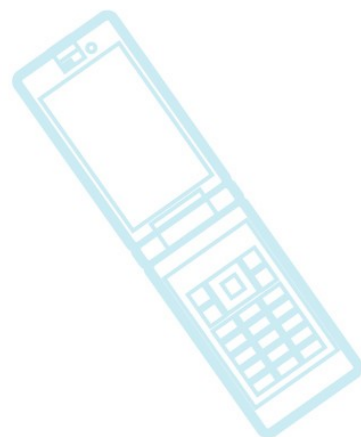




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User-space pieces

- OpenGL
- App Manager
 - Application lifecycle
- Flash support?

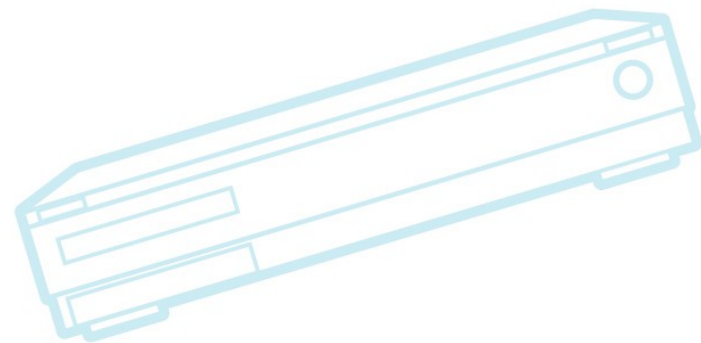
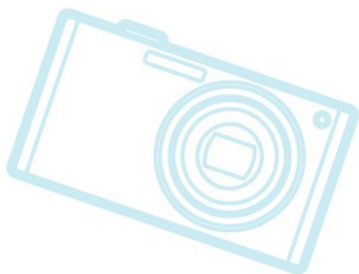
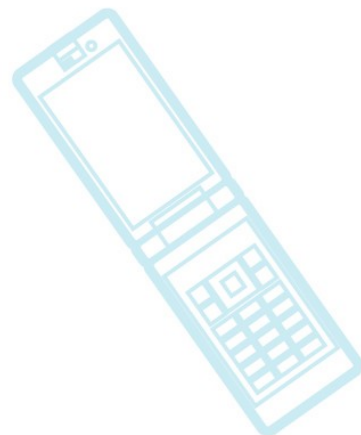




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Apps

- Market
- Browser (webkit?)
- Maps
- YouTube





How to collaborate

- Google doesn't always welcome contributions
 - Ex: I haven't signed their license agreement
- My suggestion:
 - Use e-linux wiki for non-Google sanctioned information and patches
- Can use existing Google lists, unless google people complain (?)



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Questions and Discussion

