Android-x86 Project

http://docs.google.com/present /view?id=dd7z9dh6_11fmdtdpf4

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Agenda

- Introduction

- What we contributed?

- Current status

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What's Android-x86 ?

- An open source project to provide a complete solution for Android on x86 platforms.

- Currently we use ASUS Eee PC as the reference platform. Other platforms like Samsung Q1U, Viliv S5 are ported by developers from the community.

- Not a live CD project.

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History (2009)

- Mar: Not maintained, need patches
- Apr: Patch hosting for android x86 support by Yi Sun <beyounn at gmail.com>
- May: Hard to maintain and sync with upstream
- Jun: Need a common, complete code base
- Jul: android-x86.org, release v0.9
- Aug: Build 20090820
- Sep: Build 20090916
- Oct: Build 20091024
- Nov: Android-x86 1.6 released
- Dec: Eclair 2.0 porting

History (2010)

- Jan: Build 20100115 (Android 2.0)
- Feb: Create eclair-x86 branch (Android 2.1)
- Mar: Android-x86 1.6-r2 released
- Apr: Eclair-x86 updated to 2.1-update1
- Jul: Working on froyo-x86
- Aug: A test iso for vm released

Features in 1.6-r2

- Android 1.6 (Donut) based
- Kernel 2.6.29, KMS enabled, support netbook native resolution
- Live CD & disk installer, support ext3/ext2/ntfs/fat32
- Hardware 3D acceleration (i915 chipset)
- Bluetooth and Audio support
- Camera support (port from android-m912), recording works
- 3G USB modem support
- SD card/USB disk automount
- Auto-detect drivers
- Wifi and Ethernet support witi GUI configuration
- Configurable keyboard layouts
- Software mouse cursor and mouse wheel support
- Battery status
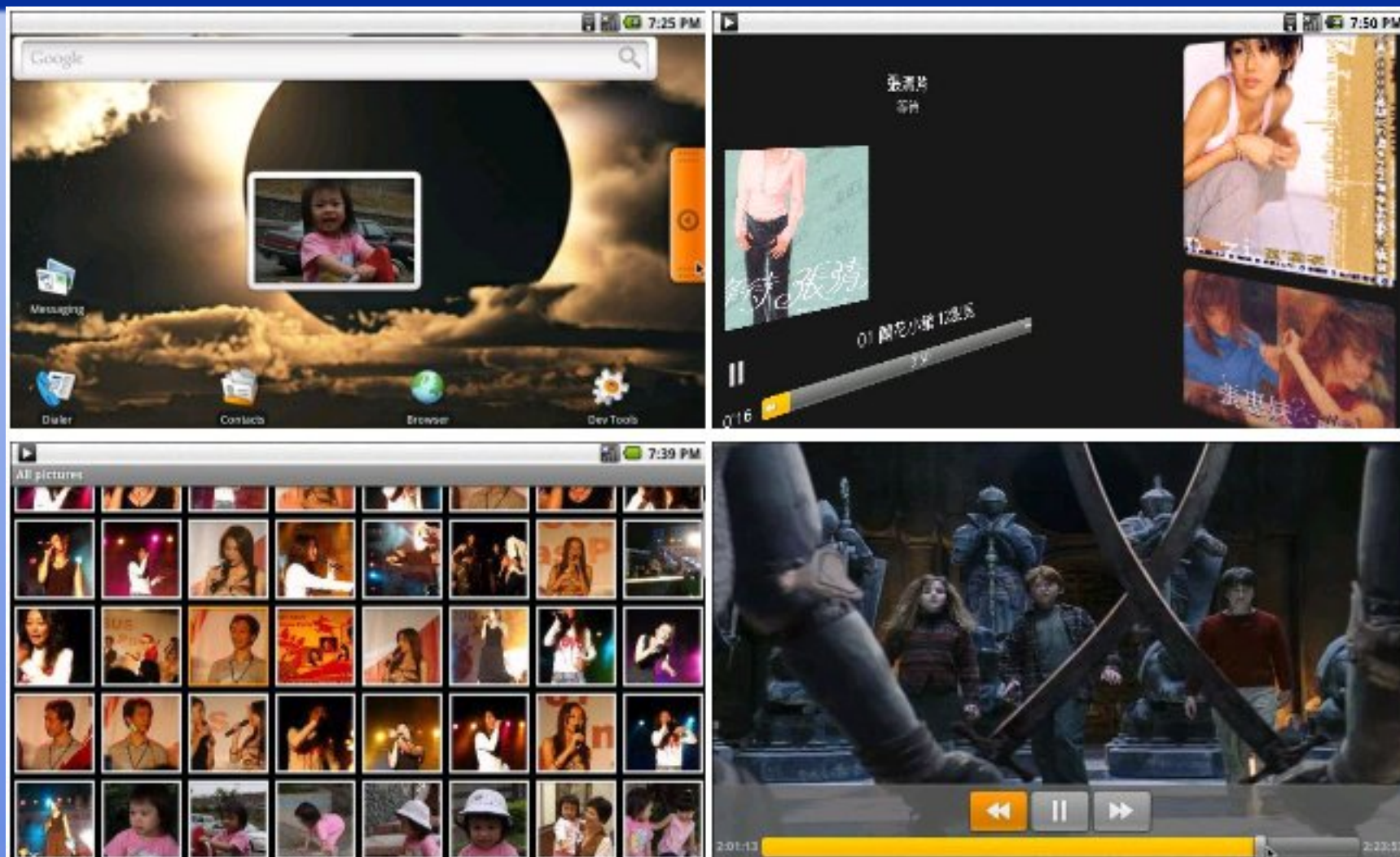- Suspend to RAM and wakeup

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Features 1.6-r2 (cont')

- Touchscreen support, including calibration
- Add mksh to replace dumb sh
- Android busybox porting
- Limited ACPI hotkeys
- Larger screen size (> 1024x768)
- Hotplug for loading firmware
- Keyboard support improvement, including externl USB keyboard
- Shutdown and reboot dialog
- Proxy setting
- Enable video player
- Compressed filesystem (squashfs)
- Debug mode
- Support virtual machine like Virtual Box, Qemu and VMware
- Add third party applications (OI FileManager, ConnectBot, LimeIME)

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Screenshots

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What we contributed?

- Modified build system to customize kernel

- MMC/SD/USB auto-mount

- Ethernet status tracker

- Software mouse cursor

- Configurable keyboard layouts

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Customize kernel

- `build/core/kernel.mk` added

- Can be used on both x86 and arm

- Each target product can specify its own kernel config

- Kernel image and modules are built on compiling AOSP

- Build kernel solely:

  ```
  make kernel
  ```

- Output:

  - out/target/product/$TARGET/kernel
  - out/target/product/$TARGET/system/lib/modules/

MMC/SD/USB automount

- Vold is used as the mount daemon since 1.6, but
    - ○ Needs a predefined config vold.conf
    - ○ Does not support USB mass storage
- What Android-x86 did
    - ○ Devices are auto-configurable (eliminate vold.conf)
    - ○ Add scsi events handler for USB devices
    - ○ Add USB bootstrapping
    - ○ Support ext2/ext3/ext4

Ethernet & Software cursor

- Ethernet status tracker (like Wifi status tracker)

  ○ Monitor the ethernet status

  ○ Configurable via GUI (Settings)

- Handle mouse events and draw cursor on Canvas

  ○ Support wheel for scrolling

  ○ Hardware cursor?

- Unique features developed by Android-x86 project, and adopted by other forked Android projects: 0xdroid, rowboat, odroid, ...

Keyboard improvements

- Add more keycodes for PC keyboards
    - PageUP, PageDown
    - Ctrl key
- Configurable keyboard layouts
    - Settings -> Locale & text -> Keyboard layout setting
    - Ten languages are supported

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Current status

- Android 2.2 (Froyo) porting
  - Hardware acceleration
  - Video and camera issues
  - Wake and sleep issues
  - Performance tuning
- Multiple x86 platform support
- Kernel 2.6.32
- Froyo-vm-20100812.iso released

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Open source partner

- 0xdroid

- OESF

- CyanogenMod

- Rowboat

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We are not

- www.androidx86.org

- www.androidx86.com

- live-android

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Summary

Web   http://www.android-x86.org

Git server   http://git.android-x86.org

Blog   http://blog.android-x86.org

Join us

- Google group: Android-x86

  http://groups.google.com/group/android-x86

- IRC channel at irc.freenode.net

  #android-x86

- Issue tracker

  http://code.google.com/p/android-x86/issues/list

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