Outline

- Origins and philosophy of Moblin (design and purpose)
  - Target applications and platforms
  - Atom
- Software Architecture of Moblin 2.0
  - Contrast with Android
- Designing Applications with Moblin
  - MID, IVIS etc
- Future of Moblin
  - Future MID and Netbook platforms
  - “Intel lets go of Moblin” (news)
Origins and philosophy of Moblin
Moblin Insights

- Provide a light-weight Linux OS that runs on Atom-based (IA32) platforms.
- Make it easier to port/run desktop applications on Atom-based platforms
  - Give a head-start to the software vendors in the MID, IVIS, UMPC market.
- Help Intel penetrate MID, IVIS, UMPC market with Atom
Intel Atom

- Intel's smallest and lowest power processor 1.6 GHz (TDP 2.5 W)
- The Intel® Atom™ processor enables the industry to create pocket-sized and low power Mobile Internet Devices (MIDs), and Internet-focused notebooks (netbooks) and desktops (nettops).

- Newly designed from the ground up and incorporating 47 million transistors
- Based on the hafnium-infused 45nm process, the Intel Atom processor delivers the power and performance needed for full Internet capabilities
- Idle power may be as low as 30 mW
Atom-based platform architecture

This used to read “Intel Celeron Processor”
Reading: “The Moblin vision”
Moblin: Industry Open Source Project

- **MID**: Usage Model MW, Apps
- **Netbooks/Nettops**: Usage Model MW, Apps
- **Auto**: Usage Model MW, Apps
- **future...**: Usage Model MW, Apps

Platforms based on Intel® Atom™ processors

Moblin = Optimized Linux SW Platform for clients based on Intel® Atom™ processor technology
Moblin Working Model

- **Moblin.org**
  - Image creator
  - MID browser
  - Moblin media player
  - Etc.
  - Integration
  - Validation

- **3rd Party Closed Source**
  - (e.g. Adobe Flash*)

- **Intel Closed Source**
  - (e.g. HW accelerated codecs, etc)

- **Moblin Compatible Linux Distribution**
  - Platform integration
  - Customization
  - Support

- **Other Open Source Apps**

- **OSVs are the commercialization and support path for Moblin technologies**

- **ISV Apps**
  - (e.g. RealPlayer*, Skype*)
Moblin differences with Android

With respect to:
- Target platforms
- Target usages
- Supported Applications
- Development/Software Vendor model
- Business (revenue) model for Intel
- Other?

Results
- (Atom) MIDs, IVIS, UMPCs
- Internet-oriented computing
- Desktop apps
- Reuse desktop applications
- Sell more Atom platforms
Moblin v.2 Software Configuration and Architecture
Moblin Features/Benefits

- Optimized for Power, Performance and Footprint
  ➔ Improved Battery Life, Responsiveness and Reduced BOM Cost

- Optimized for Faster Boot and Resume Times
  ➔ Improved Responsiveness

- Support for full browser/plug-ins and Media formats/codecs
  ➔ Deliver a full Internet and Media Experience

- Standardized Linux Core Stack
  ➔ Ensure Application Compatibility across Moblin distros

- Multiple Distributions Across Geos
  ➔ Multiple OSVs to Choose From

Moblin Delivers on the netbook/nettop Value Proposition ➔ Support for Internet-centric Usages with Significant Benefits to OEMs
Moblin v2 Features Overview - 1

- **Advance power management – Power Policy Manager**
  - layered, system-wide power policy framework (lesswatts.org)

- **Optimized startup from cold boot & shutdown times**
  - Optimized suspend & resume times for non-MID platforms
  - Improved system responsiveness to support consumer usages

- **Advanced UI Support**
  - Optimized App/UI framework (3D, physics and effects) based on Clutter
  - Input via Touch/keyboard/mouse
  - Translucent windows user experience
Moblin v2 Features Overview - 2

- Support for both Gstreamer and Helix MMF
  - Greater flexibility for OxsMs/OSVs to deliver targeted solution stacks
  - Optimized set of codecs for Atom-based platforms

- Connection Manager for WiFi, BT and WiMax
  - Support Intel comms included; extensible framework to support TPV solutions including 3G data

- Enables Internationalization with UI guidelines for translation
  - Support i18N Backward compatible with existing moblin applications

- Adding kernel driver development guidelines for all drivers
  - Intel drivers will follow this spec
  - All drivers will be in the kernel.org kernel
Moblin v2 Features Overview - 3

- Extend Moblin Compatibility guidelines to all Intel Atom Processor based platforms supported by moblin (MIDs, Netbooks, Nettops, IVI)
  - Common core capability across moblin distribution to support application compatibility

- Extend Intel Tools Support to all Intel Atom Processor based platforms supported by moblin (MIDs, Netbooks, Nettops, IVI)
  - Intel Compilers, Application Debuggers, Vtune Performance Analyzers, IPP libraries

- SDK - Development Tool → A standard Moblin development environment on Linux machine (using Linux KVM virtualization) as well as the image creator to generate the target OS to install to target device

- Several new applications provided as part of Moblin stack (open source)

  Moblin v2 is a software platform for building visually rich, dynamic, and connected applications
Moblin v2 Core Reference Applications

- Browser
- Contacts Management
  - Managed information about friends, family and business contacts. Uses Evolution Data Server (libeds)
- Media Player
  - Plays and manages video, audio, and photos Email Client
- Instant Messaging
  - Uses “Telepathy” backend
- Settings
  - Application for configuring Connection management, power and other system systems. Uses Gnome Settings. Displays current status of connection, and power.
- Email Client
  - Moblin shall provide an email client shall have the ability to sync with mail server using POP and IMAP, based on “Modest” client (modest.garage.maemo.org), and “Tinymail” backend (www.tinymail.org)
- VoIP
  - Moblin shall provide a VoIP application to enable voice and data over IP by integrating an existing VoIP frontend for Telepathy.
- File Browser
- Utilities
  - Calculator
  - Clock (basic)
  - Weather Station
Moblin vs Android
Moblin Demos

- Moblin on MID
  http://www.youtube.com/watch?v=AYGp6iBmCyM

- Moblin on Netbook
  http://www.youtube.com/watch?v=HhdGFoSrjl
Moblin and MIDs

Mobile Internet Device
Application User Interface Design Guide

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Note: This document is forward-looking and still under revision. It is provided as a preliminary guide for developers creating applications for Mobile Internet Devices.

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Moblin and IVISs
Moblin and Netbooks

- Hard to find guidelines for this…
  - Why?
- What guidelines would you give?
The future of Moblin

- Intel turns Moblin over to the Linux Foundation

- Linux Foundation takes over Stewardship of Intel’s Moblin OS

- Intel lets go of Moblin
Discussion

- News articles provide some reasons behind Intel’s decision to “give away” moblin.org.
  - Do you agree with them?
- What is Intel’s risks for doing so?