PokyLinux: Mobile GNOME at your fingertips

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Presentation agenda

- FOSS building challenges
- Poky build system presentation
- PokyLinux as an image
- PokyLinux, Sato, and user experience

FOSS building challenges

- software sources

  - are distributed

  - use different build tools (autotools ...)

  - various storage format: tars, VCSes ...

  - change frequently

- software images

  - need support for various targets

  - need support for optional features

Poky build system

- based on OpenEmbedded

- clean architecture
  - metadata (recipe): how to build sources
    - software licences & descriptions
    - locations and patches
    - dependencies
  - task executor (BitBake): reads metadata
  - result: a binary image intallable on the target
    - tar, jffs2, ext2, ext3, tar.bz2, ...

A recipe: xv-test.bb

```
DESCRIPTION = "Simple XVideo test application"
LICENSE = "GPL"
DEPENDS = "libxv"
PV = "0.0+svnr${SRCREV}"

SRC_URI=" svn://svn.o-hand.com/repos/misc/trunk ;  \
          module=test-xvideo;proto=http"

S = "${WORKDIR}/test-xvideo"

inherit autotools
```

Launching bitbake

> **bitbake xv-test**

Results of bitbake

- binary installable packages
  - ipk, deb, rpm ...
- binary installable image

Poky metadata repository

- can be seen as a stable subset of OE
  - focused on providing a stable GMAE platform
  - configurations tested and can be supported
- contains various machine configs
  - pxa270, fic-gta-01, htcuniversal, mx31, Zylonite, qemux86, qemuarm ...
- can generate various image types
  - stripped, development, debugging ...
- over 650 recipes (OE has over 4000)

http://www.openedhand.com

Poky/OE relationship

- Poky easier to manage
  - metadata repository in svn
  - ease of experimentation
- healthy Poky & OE collaboration
  - lot of changes are being pushed upstream

PokyLinux

- result of a particular set of recipes
- optimized GMAE platform:
  - Linux kernel
  - TinyX (Kdrive Xserver)
  - Matchbox
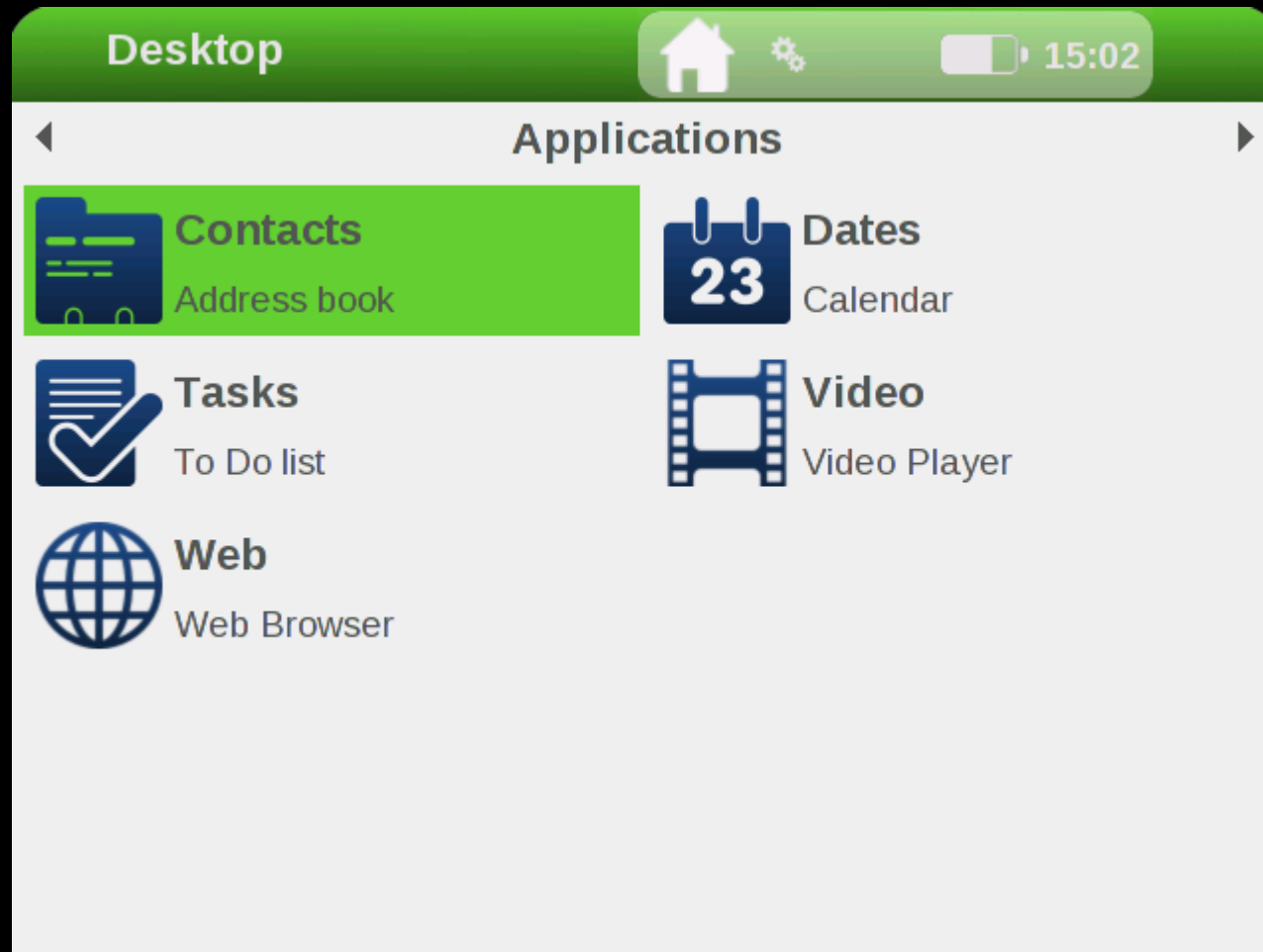 - GTK+/Cairo
  - D-BUS IPC system
  - Sato

Development support in PokyLinux

- can run in
  - QEMU ARM/x86
  - chroot on the workstation
  - on the embedded target, of course.
- well integrated with oprofile and LTTng
  - GDB (including remote GDB)
  - strace
- has touchscreen debugging/test tools

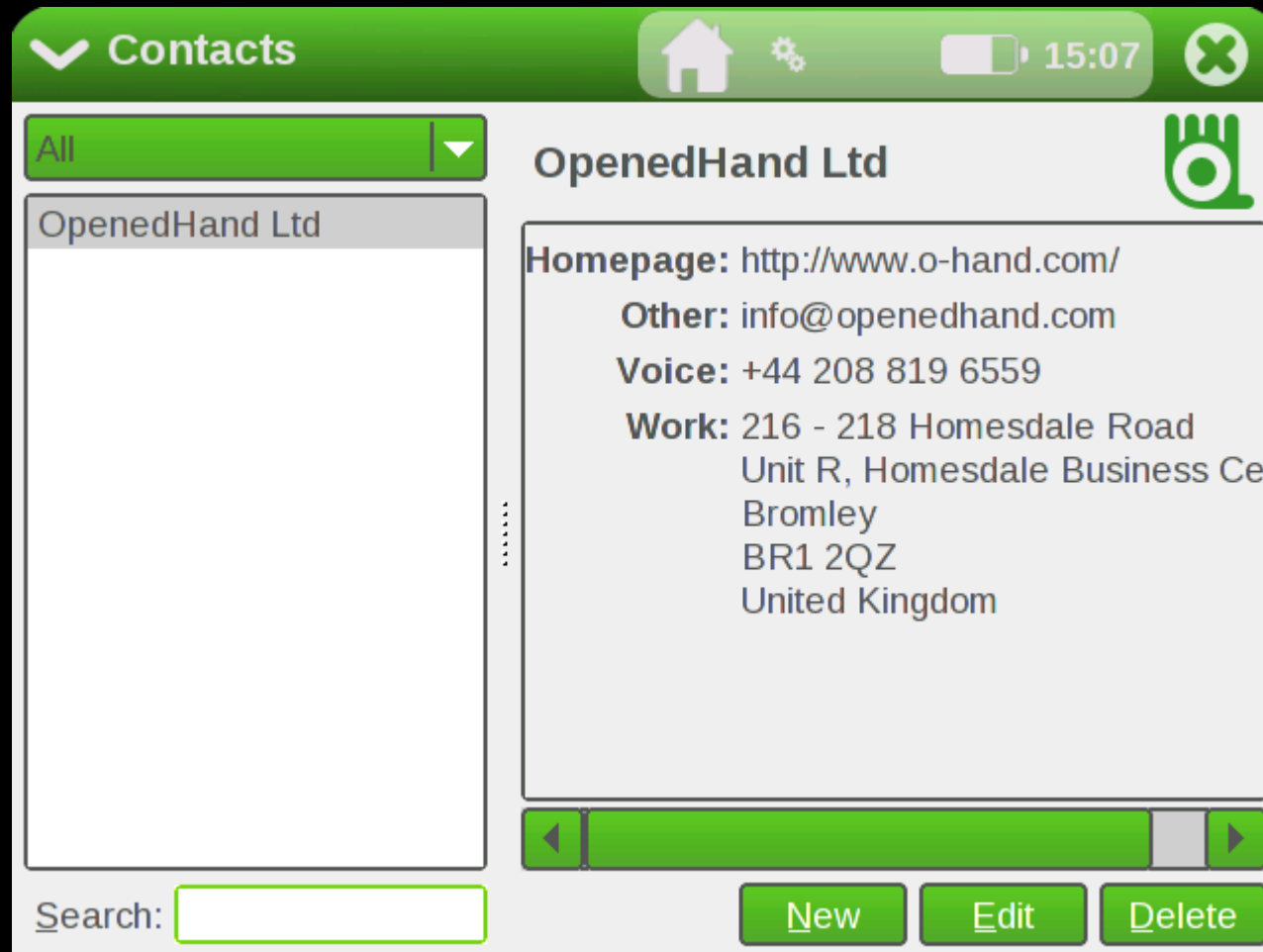# Sato desktop

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Sato at a glance

- aimed at high DPI handheld devices
- features a full PIM application suite (Pimlico)
  - contacts management
  - calendaring management
  - tasks management
  - synchronisation
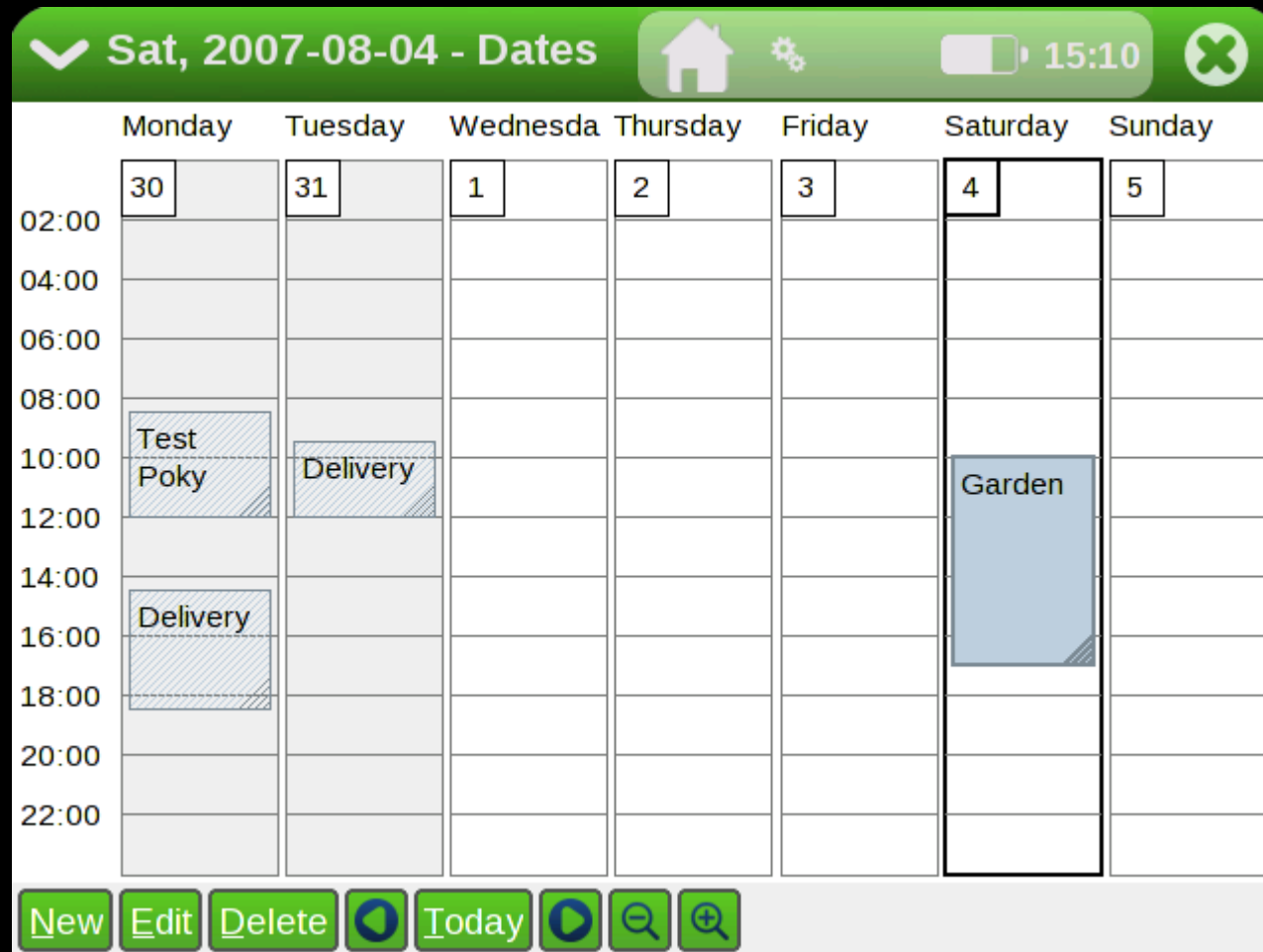- optimized for speed
  - specific GTK+ theme

Sato contacts application

http://www.openedhand.com

Sato dates application

http://www.openedhand.com

Sato tasks application

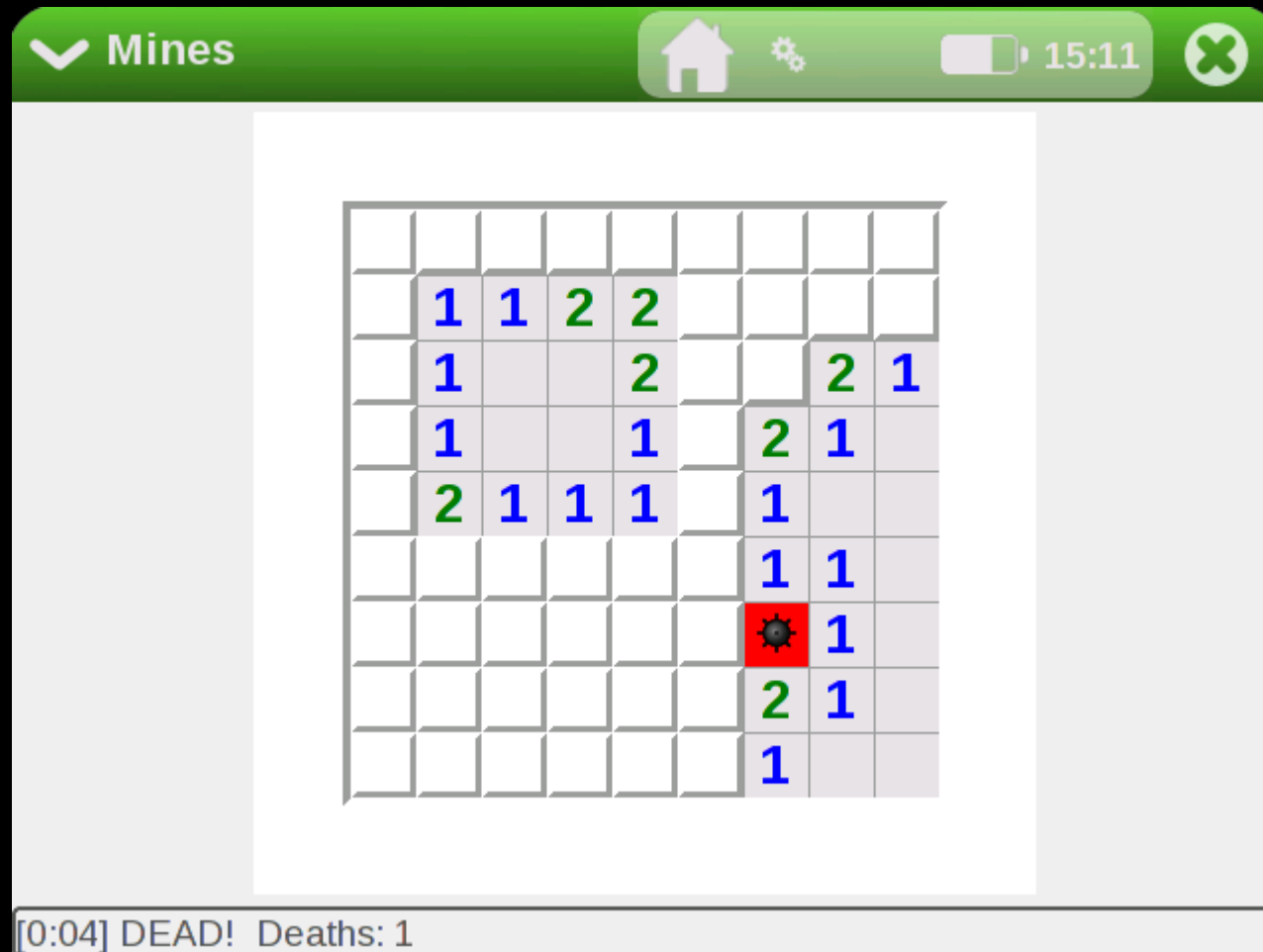http://www.openedhand.com

Sato games

Sato web

http://www.openedhand.com

Poky case study: Vernier

- data collection and analysis devices for student labs

Poky case study: Vernier

- used Poky to build the LabQuest device
  - fast development time
    - advanced build system
    - GMAE
    - use of QEMU when hardware not available yet
    - debugging/profiling capabilities
- designed a LabQuest training tool
  - runs on students PCs
  - uses QEMU ARM

Thanks !

- http://www.pokylinux.org
- http://pimlico-project.org
- http://www.openedhand.com