Designing with & for developers

How user experience landed in openembedded
It's not an embedded Linux distribution – it creates a custom one for you.

The Yocto Project is an open source collaboration project that provides templates, tools and methods to help you create custom Linux-based systems for embedded products regardless of the hardware architecture. Read more...
It's not an embedded Linux distribution – it creates a custom one for you

The Yocto Project is an open source collaboration project that provides templates, tools and methods to help you create custom Linux-based systems for embedded products regardless of the hardware architecture. Read more

read the
Yocto Project Backgrounder
Introducing the Yocto Project

learn about
Toaster, the Yocto Project Graphical UI

read the
SCaLE 14x intro course slides
Making custom Linux distributions for embedded computers
It's not an embedded Linux distribution – it creates a custom one for you

The Yocto Project is an open source collaboration project that provides templates, tools and methods to help you create custom Linux-based systems for embedded products regardless of the hardware architecture. Read more

read the Yocto Project Backgrounder

learn about Toaster, the Yocto Project Graphical UI

read the SCaLE 14x intro course slides
Build system
Welcome to OpenEmbedded

Welcome to OpenEmbedded, the build framework for embedded Linux. OpenEmbedded offers a best-in-class cross-compile environment. It allows developers to create a complete Linux Distribution for embedded systems. Some of the OpenEmbedded advantages include:

- adopted as the build system for the Yocto Project in March 2011.
- support for many hardware architectures
- multiple releases for those architectures
- tools for speeding up the process of recreating the base after changes have been made
- easy to customize
- runs on any Linux distribution
- cross-compiles 1000's of packages including GTK+, Qt, the X Windows system, Mono, Java, and about anything else you might ever need

Recent News:

- 2015-01-8: OpenEmbedded will have a stand at FOSDEM 2016 in Brussels. See you there!
- 2015-10-9: OpenEmbedded will have a developers meeting OEDEM 2015 in Dublin. See you there!
- 2015-03-27,28: OpenEmbedded will have a developers meeting OEDAM 2015 in San Jose. See you there!

See News Archive for older news.

Users

- Getting started
- Frequently asked questions and their answers
- Documentation
- More

Developers

- Policies
- Debugging a build
- OpenEmbedded-Core
- 2011.3 Release
- More
home/poky/build/tmp/deploy/images/raspberrypi2/
home/poky/build/tmp/deploy/images/raspberrypi2/
home/poky/build/tmp/deploy/images/raspberry-pi2/
tmp WTF!
“I saw a demo of Suse Studio when I was in Vancouver (...) It did have a really nice, smooth sort of feel to it and a lot of thought had been put into how the user interface interacted with people.

I was with a couple of other people from the Yocto Project, and we looked at it (...) We dream of having a user interface that looks a bit like that.”
The cry for design came from within
"I am the only designer in something called the Yocto Project"
THE USER EXPERIENCE TEAM OF ONE
A Research and Design Survival Guide
by Leah Buley  Foreword by Stephen Anderson
The OpenEmbedded maintainers are ...
The OpenEmbedded maintainers are ... 

my domain experts
The OpenEmbedded maintainers are ... 

- my domain experts
- my development team
The OpenEmbedded maintainers are ...

- my domain experts
- my development team
- my co-designers
The OpenEmbedded maintainers are ...

my domain experts
my development team
my co-designers
part of my user base
with and for
The OpenEmbedded maintainers are ... 

- my domain experts
- my development team
- my co-designers
- part of my user base
When designers have insufficient domain knowledge, their designs suck
Paul Eggleton
Ask questions
The OpenEmbedded maintainers are ...

- my domain experts
- my development team
- my co-designers
- part of my user base
fussy b#$%@#!
Don't tell me, show me
This is Toaster

A web interface to OpenEmbedded and BitBake, the Yocto Project build system.

To start building, create your first Toaster project

Read the Toaster manual
Contribute to Toaster
What happens when you click the 'Cancel' button

When you click the 'cancel' button for a build in progress:

1. We first show you a cancelling state: we replace the message ('Build queued', 'Checking out layers'), or the progress bar, with the string 'Cancelling the build', and fade out the 'Cancel' button.

   The cancelling state is shown for a minimum of 2 seconds, and, after that, for as long as it takes for the build to actually stop.

2. Once the build stops, we replace the cancelling build with a cancelled build.

A cancelled build has:
- the target name(s), which are not clickable
- a 'run again' button, and
- the string: "Build cancelled".

The 'run again' button of a cancelled build does the same as any other 'run again' button: when you click it, we start a new build with the same target(s) as the cancelled build.

To see the interaction visit
http://www.yoctoproject.org/toaster/project-builds.html

Start a build using the build form in the top right of the page. When the build queued appears, click the 'cancel' button.
What happens when you click the 'Cancel' button

When you click the 'cancel' button for a build in progress:

1. We first show you a cancelling state: we replace the message ('Build queued', 'Checking out layers'), or the progress bar, with the string 'Cancelling the build', and fade out the 'Cancel' button.

The cancelling state is shown for a minimum of 2 seconds, and, after that, for as long as it takes for the build to actually stop.

2. Once the build stops, we replace the cancelling build with a cancelled build.

A cancelled build has:
   - the target name(s), which are not clickable
   - a 'run again' button, and
   - the string: 'Build cancelled'.

The 'run again' button of a cancelled build does the same as any other 'run again' button: when you click it, we start a new build with the same target(s) as the cancelled build.

To see the interaction visit http://www.yoctoproject.org/toaster/project-builds.html.

Start a build using the build form in the top right of the page. When the build queued appears, click the 'cancel' button.

When you click the 'cancel' button then we display a cancelled build and remove the last build from the list.

We show you the 'cancelling' state for at least 2 seconds.

And remove the last build from the list.
Meet me where I am
belen
here is a random question for you all. In the output of bitbake -e, do you ever look at the pre-expansion value of a variable? If so, what for?

frsc left the room (quit: Remote host closed the connection).

ddom left the room (quit: Ping timeout: 256 seconds).
khem ` left the room (quit: Quit: gone to sleep. ZZZzz...).

neverpanic
yes, to see how a value ended up in a variable (e.g. via a different variable, etc)

vdehors left the room (quit: Quit: Ex-Chat).
vdehors [~vdehors@bob75–2–81–56–46–209.fbx.proxad.net] entered the room.

madisox [~madison@64–71–1–115.static.wiline.com] entered the room.

ruburon
belen: see, it's not just me and RP 😊

belen
neverpanic: good to know. Thanks!

joshuagl
belen: absolutely, yes – same usecase as neverpanic

belen
thanks joshuagl

mago_ [~mago@88.131.56.168] entered the room.
bluelightning [~paul@2001:8b0:258:7d7a:2ad2:44ff:fe40:9209] entered the room.
bluelightning left the room (quit: Changing host).
bluelightning [~paul@pdpc/supporter/professional/bluelightning] entered the room.

belen
ruburon: fine, you win 😊
On 18/12/2015 10:56, "Richard Purdie" <richard.purdie at linuxfoundation.org> wrote:

> On Fri, 2015-12-18 at 09:21 +0000, Barros Pena, Belen wrote:
> I applied the buildstats series on top of toaster-next, ran a build,
> and
> checked the build stats info. I can see time per task coming in. I
> cannot
> see cpu usage or disk i/o data in the UI because of this
> >>> https://bugzilla.yoctoproject.org/show_bug.cgi?id=8571
> >>> But there is data for both in the database, and it looks sane. So I
> guess,
> >>> from the UI standpoint, the patches are ok: things were as broken as
> they
> >>> were before ;)
> >Thanks Belén!
> >
Status: NEW (edit)

Product: Maintenance Tools
Component: Layer Index
Version: unspecified
Platform: PC Multiple

Importance: Medium enhancement
Target Milestone: 1.9 M3

Assigned To: Alex Franco (edit) (take)
QA Contact: Alexandru Georgescu (edit)

Whiteboard: GUI design available

Export

Reported: 2015-06-08 13:27 UTC by Paul Eggleton
Modified: 2015-07-15 13:54 UTC (History)

CC List: 2 users including you (edit)

See Also: (add)

Type of Regression: ---

Documentation change: No (bug/feature does not impact docs)

---

Attachments

Design - Showing blacklisted recipes (304.78 KB, application/pdf) no flags Details
2015-07-15 13:54 UTC, René Barros Pena

Attachment (confidential, do not distribute. Please submit patches to the mailing lists.) View All

Additional Comments: 

---
This patch reduces the amount of indenting, limits the width of the 'Size', 'Permissions', 'Owner' and 'Group' columns, and sets colspan to use the white space of the symlink and package names when empty.

Signed-off-by: Belen Barros Pena <belen.barros.pena@intel.com>

---
bitbake/lib/toaster/toastergui/static/css/default.css | 4 ++++
.../toaster/toastergui/static/js/jquery.treeTable.js | 2 --
bitbake/lib/toaster/toastergui/templates/dirinfo.html | 18 ++++++++++++++
3 files changed, 16 insertions(+), 8 deletions(-)

diff --git a/bitbake/lib/toaster/toastergui/static/css/default.css b/bitbake/lib/toaster/toastergui/static/css/default.css
index cce3e31.06d9976 100644
--- a/bitbake/lib/toaster/toastergui/static/css/default.css
+++ b/bitbake/lib/toaster/toastergui/static/css/default.css
@@ -164,6 +164,10 @@ table { table-layout: fixed; word-wrap: break-word; }
/* Remove bottom margin for forms inside modal dialogs */
#dependencies-modal-form { margin-bottom: 0px; }
+/* Custom column widths */
+.narrow-col { width: 8%; }
+.medium-col { width: 12%; }
+/* Configuration styles */
.icon-trash { color: #B9A4A8; font-size: 16px; padding-left: 5px; }
.icon-trash:hover { color: #943A38; text-decoration: none; cursor: pointer; }

diff --git a/bitbake/lib/toaster/toastergui/static/js/jquery.treeTable.js b/bitbake/lib/toaster/toastergui/static/js/jquery.treeTable.js
index 42e7427.794b902 100644
"
Hi, my name is Belén, and it took me 2 years to learn Git
Be flexible
The OpenEmbedded maintainers are ...

my domain experts

my development team

my co-designers

part of my user base
### Recent builds

- **core-image-sato (+3) qemu86**
  - ETA: 16:34

- **core-image-sato atom-pc (15:22)**
  - 4 warnings
  - Build time: 00:36:55

- **core-image-x11 qemu86 (12:01)**
  - 3 errors
  - 10 warnings
  - Build time: 00:27:45

### All builds (130)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Target</th>
<th>Project</th>
<th>Completed on</th>
<th>Failed tasks</th>
<th>Errors</th>
<th>Warnings</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td>core-image-sato</td>
<td>Learning YP</td>
<td>11/06/13 at 15:22</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓</td>
<td>core-image-x11</td>
<td>Learning YP</td>
<td>11/06/13 at 12:01</td>
<td>acl_2.51-r3 do_configure</td>
<td>3 errors</td>
<td>10 warnings</td>
<td>ext3, hddimg, iso, tar.bz2</td>
</tr>
<tr>
<td>✓</td>
<td>core-image-sato</td>
<td>Learning YP</td>
<td>11/06/13 at 11:54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓</td>
<td>busybox</td>
<td>Learning X8</td>
<td>04/12/13 at 10:08</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Trick them into doing critique
The OpenEmbedded maintainers are ...

my domain experts
my development team
my co-designers
part of my user base
Maintainer bias
Talking to embedded application developers exposed to Yocto Project / Open Embedded

Apologies if this discussion is off topic for this group: hopefully is not (too much).

I am doing some work to better understand how embedded application developers work with the Yocto Project and Open Embedded, where things are difficult and how they...

Vitaly Luban

OpenEmbedded is an abomination. The one who invented 'bitbake' fits the description of a hacker given by Joseph Weizenbaum in "Computer Power and Human Reason: From Judgment To Calculation" in it's worst possible interpretation. Everythi...

Alexy Rozen

Absolutely agree with Vitaly. In addition to slow performance I really don't like project footprint/size. In my case complete Freescale p3041 CPU based project was around 5 G size. Now lets assume 10-20 SW engineers need to work with such project using versioned sources. It becomes very expensive and not suitable.
Talking to embedded application developers exposed to Yocto Project / Open Embedded

Apologies if this discussion is off topic for this group: hopefully is not (too much).

I am doing some work to better understand how embedded application developers work with the Yocto Project and Open Embedded, where things are difficult and how they...

Vitaly Luban: OpenEmbedded is an abomination. The one who invented 'bitbake' fits the description of a hacker given by Joseph Weizenbaum in "Computer Power and Human Reason: From Judgment To Calculation" in it's worst possible interpretation. Everything...

Alexy Rozen: Absolutely agree with Vitaly. In addition to slow performance I really don't like project footprint/size. In my case complete Freescale p3041 CPU based project was around 5 G size. Now lets assume 10-20 SW engineers need to work with such project using versioned sources. It becomes very expensive and not suitable.
Hi Valentin,

Sorry for contacting you out of the blue. My name is Belén, and I am part of the Yocto Project team at Intel. I designed Hob (which you mentioned in a previous email), and I am now working on its successor, something we have called Toaster.

I was wondering if you would be willing to give Toaster a try to do exactly what you are trying to do: create an image for the Raspberry Pi 2 with gdb installed. We are organising a round of remote usability testing, and your Toaster trial would be part of that. It would involve giving you a URL for Toaster, and you sharing your screen with me (using Google Hangouts or Skype) and talking me through the process of building the image. The whole thing would take about 45 minutes.

Doing this kind of thing gives us information about how understandable the Toaster UI is, and what we should do to improve it.
with and for
Use your maintainers
Credits

Cell phone icon by Andrew Forrester from the Noun Project
https://thenounproject.com/search/?q=mobile+phone&i=1814

Tablet icon by Arthur Shlain from the Noun Project
https://thenounproject.com/search/?q=tablet&i=102507

Raspberry Pi icon by Tom Medley from the Noun Project
https://thenounproject.com/search/?q=raspberrypi&i=125960

Flour by Malakhi Helel - CC BY-ND 2.0
http://goo.gl/kwtpO
Thank you!

belenbarrospena@gmail.com

@belenpena

#opensourcedesign