

Application Development Using Enlightenment Foundation Libraries (EFL)

LinuxCon Brazil

Bruno Dilly
Rafael Antognolli

Embedded constraints:

- Cpu
- No hardware acceleration
- Not much memory

What EFL Provides:

- Cpu:
 - Very well optimized
 - Provide helpers:
 - Preload images
 - Images cache
 - Scaling cache
 - Rendered text cache
 - Provide ways to do animations with low overhead

What EFL Provides:

- No hardware acceleration:
 - Has a very powerful software backend (X)
 - Framebuffer and directfb backends
- Not much memory:
 - Very low memory footprint
 - Images and Edje themes loaded only once

What EFL Provides:

- Other nice bonus:
 - Still has a gl backend
 - Allows to achieve a very rich UI, with fancy graphics and cool animations

EFL Basics:

- Several libraries:
 - It's possible to use a small subset
 - Some are useful even on non-graphical programs:
 - Eina
 - Eet
 - Ecore

EFL:

- Eina:
 - Data structures
- Eet
 - Data storage
- Ecore
 - Mainloop
 - Several submodules

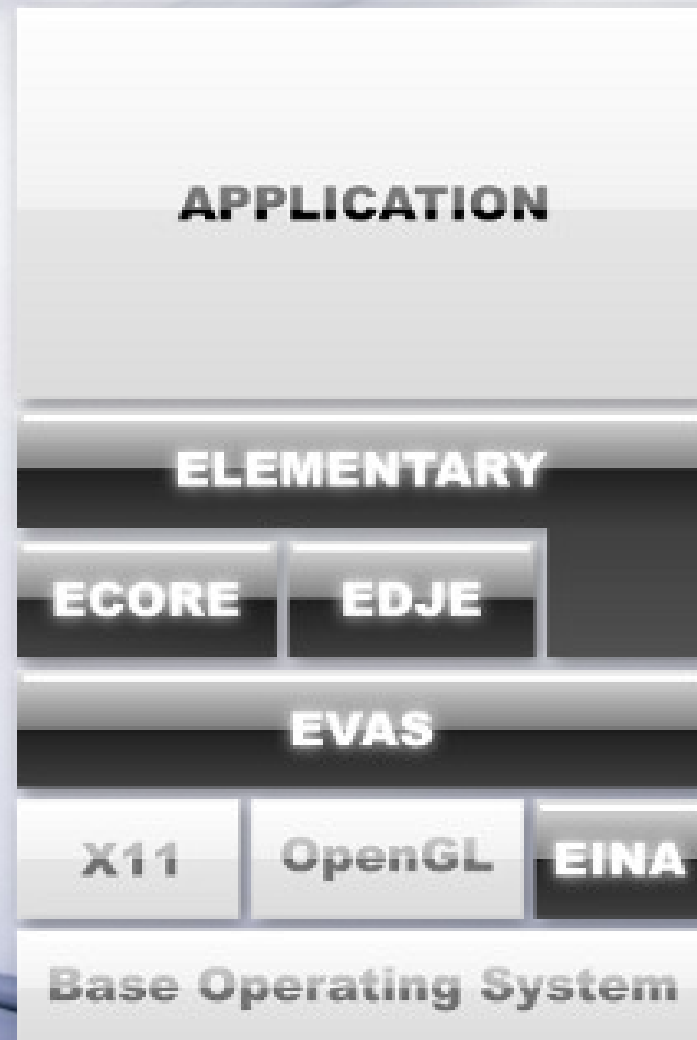
EFL:

- Evas:
 - Stateful canvas
 - Only renders what is needed
 - Can use hardware acceleration if available
- Edje
 - Powerful theming system
- Elementary
 - Widgets toolkit

EFL:

- Emotion
 - Audio and video
- Edbus
 - Dbus integration
- Ethumb
 - Thumbnails generation
- EIO
 - IO operations
- Eeze

Core libraries organization:



Webkit:

- Official port
- EFL-like API
- Uses Cairo for rendering
- Tiled backing store

Elementary:

- Toolkit for EFL
- Transitions
- Themability
- Externals
- Focused on touch interfaces

Event Oriented Programming:

```

submit_callback(object l) {
    submit_form_data();
    signal_emit(l, "submit,done", "");
}

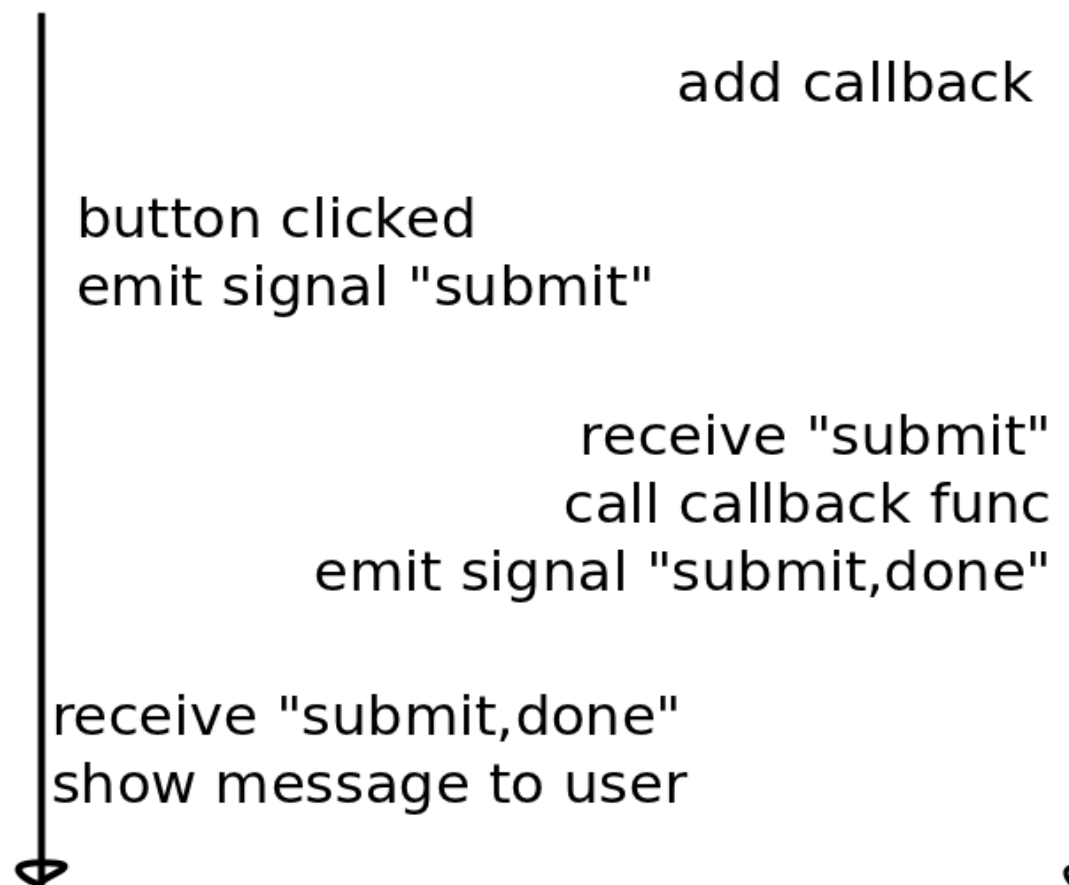
main() {
    w = window_add();
    l = layout_add(w);
    layout_set(l, "theme");
    callback_add(l, "submit", "form", submit_callback);
    elm_run();
}

```

Event Oriented Programming:

Theme

Code



Bindings:

- Python
- Javascript
- Valla
- C++
- Others

Tips:

- Use `elm_layout` instead of traditional boxes layout
- Use a well define signals interface between theme and code
- Don't hack around widgets' issues, fix upstream

Editje:

- Tool for designing Edje themes
- Can be used to add Elementary widgets
- Not complete yet



Group: main
File:

Mode: Parts

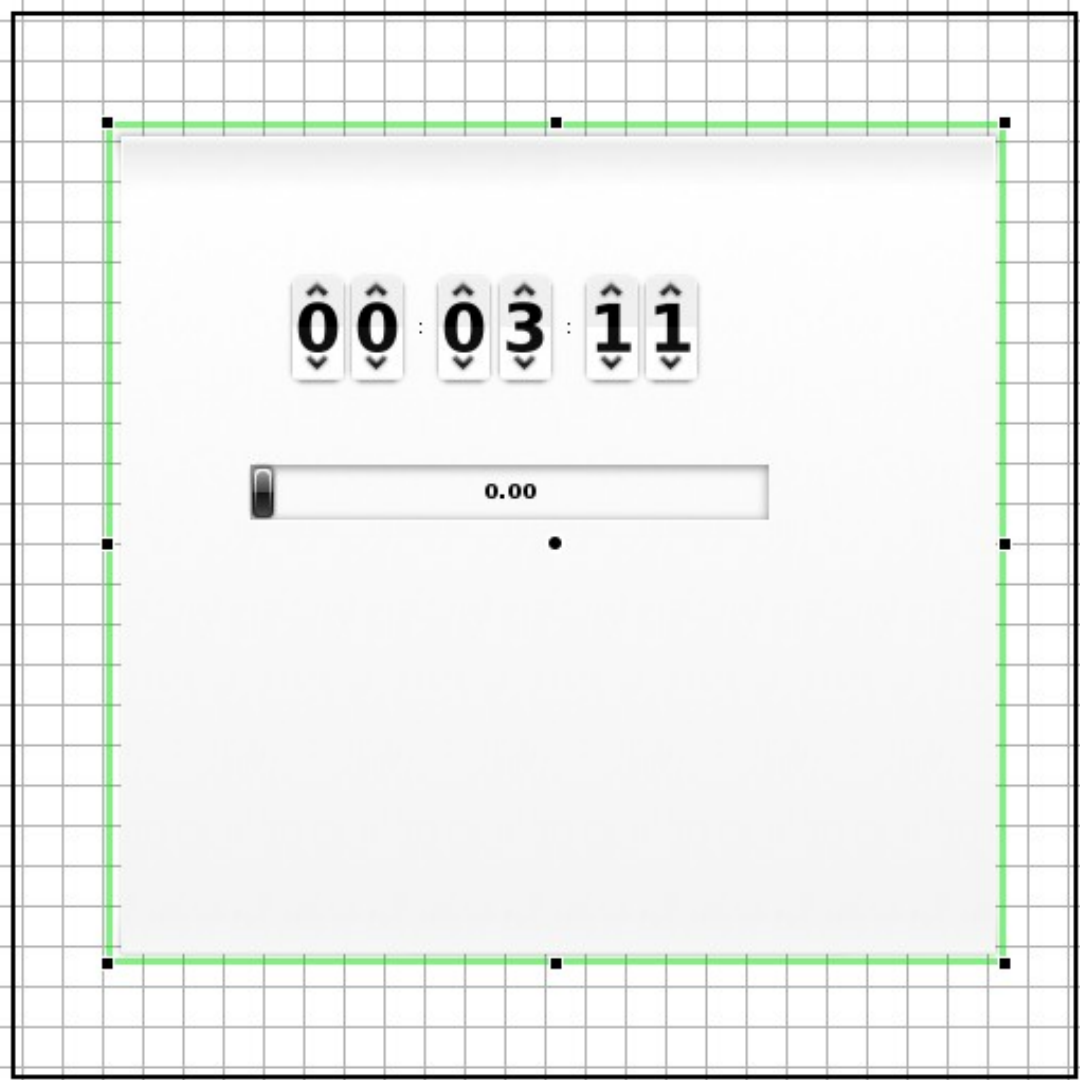
Parts

- Progressbar01
- Clock01
- Frame01**

Widgets

Elementary

- Photocam
- Progressbar
- Radio
- Scroller
- segment_control
- Slider
- Slideshow



source widget:	frame
module:	Elementary
clip to:	< None >
mouse events:	True
repeat events:	False
scale:	False
api	
export:	False
part state	
state:	default 0.00
min:	0 0
max:	-1 -1
current:	419 392
visible:	True
align:	0.5 0.5
color:	255 255 255 255
top-left	
to:	< None > < None >
relative:	0.0 0.0
offset:	46 53
bottom-right	
to:	< None > < None >
relative:	0.0 0.0
offset:	464 444
external	
style:	default
label:	
content:	

Documentation:

- Recently received a good amount of content
- Core libraries covered
- Many examples
- Very descriptive for the more complex modules

E17:

- Uses Enlightenment core libraries (except Elementary)
- Very light window manager
- Roadmap to release

Applications:

- Eve
- Ephoto
- Enjoy
- Enna
- Shotgun
- Netbook launcher (Ubuntu)




Microphone fiend

Renegades

Rage Against The Machine

02:42  05:01



 Renegades

01 - Microphone fiend.mp3

02 - Pistol grip pump.mp3

03 - Kick out the jams.mp3

04 - Renegades of funk.mp3

05 - Beautiful world.mp3

06 - Im housin.mp3

07 - In my eyes.mp3

08 - How I could just kill a man.mp3

09 - The ghost of tom joad.mp3

10 - Down the street.mp3

11 - Street fighting man.mp3

12 - Maggies farm.mp3

14 Songs

The Big Bang Theory 1x02 The Big Bran Hypothesis



720P

DOLBY DIGITAL 2.0



HDTV

20 minutes
Comedy

Leonard volunteers to sign for a package in an attempt to make a good impression on Penny, but when he enlists Sheldon for help, his attempt at chivalry goes terribly awry.

S1

The.Big.Bang.Theory.1x01.Pilot.720p.HDTV.x264.AC3-C...

The.Big.Bang.Theory.1x02.The.Big.Bran.Hypothesis.RE...

The.Big.Bang.Theory.1x03.The.Fuzzy.Boots.Corollary.7...

The.Big.Bang.Theory.1x04.The.Luminous.Fish.Effect.72...

The.Big.Bang.Theory.1x05.The.Hamburger.Postulate.72...

The.Big.Bang.Theory.1x06.The.Middle.Earth.Paradigm....

The.Big.Bang.Theory.1x07.The.Dumpling.Paradox.720p...

The.Big.Bang.Theory.1x08.The.Grasshopper.Experimen...

The.Big.Bang.Theory.1x09.The.Cooper-Hofstadter.Polar...

The.Big.Bang.Theory.1x10.The.Loobenfeld.Decay.720p...

The.Big.Bang.Theory.1x11.The.Pancake.Batter.Anomaly...

The.Big.Bang.Theory.1x12.The.Jerusalem.Duality.720p....

The.Big.Bang.Theory.1x13.The.Bat.Jar.Conjecture.720p...

The.Big.Bang.Theory.1x14.The.Nerdvana.Annihilation.7...



CD/DVD の作成
 CD と DVD の作成



Tomboy メモ
 手帳に似たアイディアを簡単に作成して作業に役立てる



gedit テキストエディタ
 テキスト形式のファイルの編集に使う



スクリーンショットの取得
 デスクトップ全体またはウィンドウの画面を保存します



ディスク使用量の解析
 ファイルとディレクトリがどのくらい容量を占めているかを調べる



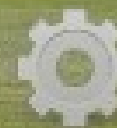
パスワードと暗号鍵
 パスワードや暗号鍵を簡単に管理します



ファイル復元
www.ubuntu.com/press/2009/09/09/ubuntu-9.10



印刷ジョブの管理
 プリンタジョブを簡単に管理します



Games:

- Ninestime (pyweek)
- Eskiss
- Echo
- Econcentration

ESKISS

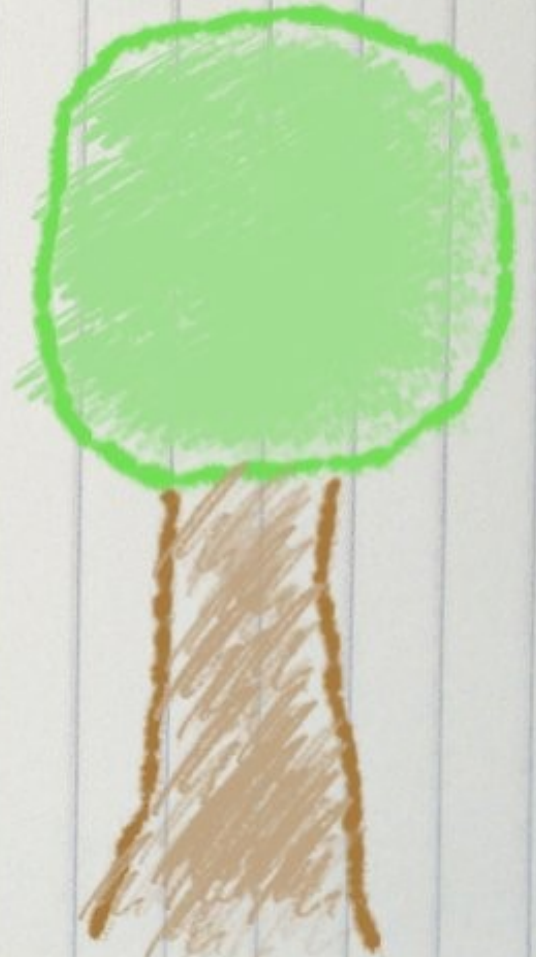


Play game

Choose level

Level editor

Quit





Start Game

Level: 0

Hi Score: 0

Cases:

- Electrolux Infinity I-Kitchen
- Endeavour (FINEP)



RECEITAS CLAUDIA®



20/10/2009
SEG

16:59

27°C

PRATO PRINCIPAL



Alcatra com cogumelo portobello



Alcatra de panela com berinjela e macarrão



Alcatra recheada à siciliana



Almôndegas recheadas ao molho de pimentão



Arroz com bacalhau e pimentão



Arroz com capa de filé e vinagre de maçã



Arroz jasmim com lentilha rosa e frango

VOLTAR

BUSCAR
RECEITA

NÃO HÁ EVENTOS PARA HOJE



BOM DIA!



LISTA DE
COMPRAS



FELIZ
ANIVERSÁRIO!



ME LIGUE HOJE.



RECADO PARA
VOCÊ



LIGAR PARA
SUA MÃE



OLÁ!



SAIR PARA
JANTAR

CONTROLES

APLICATIVOS



Future plans:

- Wayland
- E18 – elementary
- Evas render rewrite
- EWebKit – WebKit2
- Edje sound API (soon)

Community:

- Email list
- IRC
- Trac

Contacts:

- Bruno Dilly:
 - bdilly@profusion.mobi
 - bdilly at freenode
- Rafael Antognolli
 - antognolli@profusion.mobi
 - antognolli at freenode
- Enlightenment Community
 - enlightenment-devel@lists.sourceforge.net
 - #edevelop at freenode

Questions ???