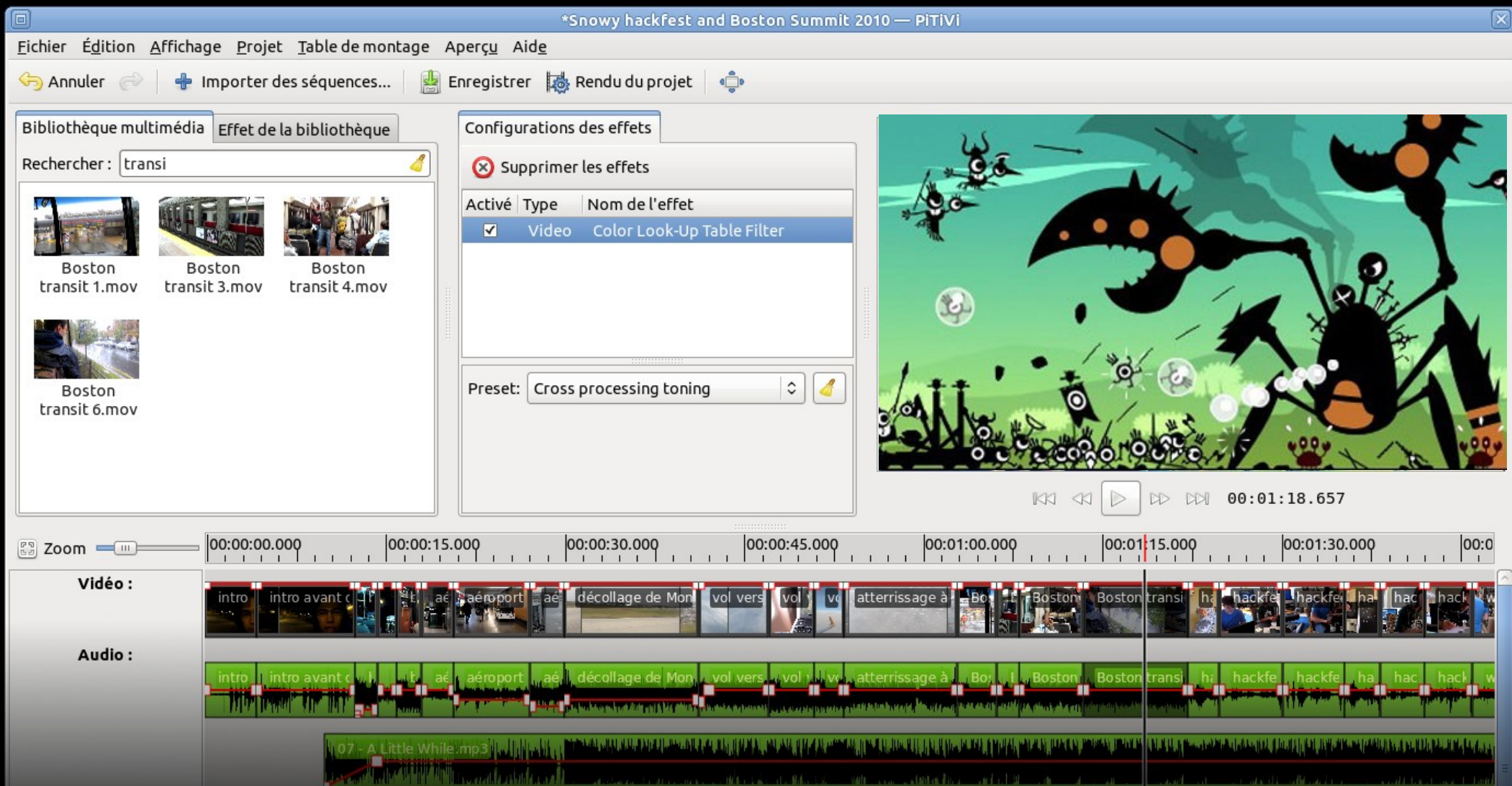


PiTiVi

The state of video editing with GStreamer on Linux



Jean-François "neko" Fortin Tam, jeff.ecchi.ca

2009 is so last-last-year.



<http://river-valley.tv/pitivi-an-overview-of-a-foss-video-editors-history-and-design/>
(if you like pain or use a dvorak keyboard layout)

<http://jeff.ecchi.ca>
(if you are human)

Menu du jour

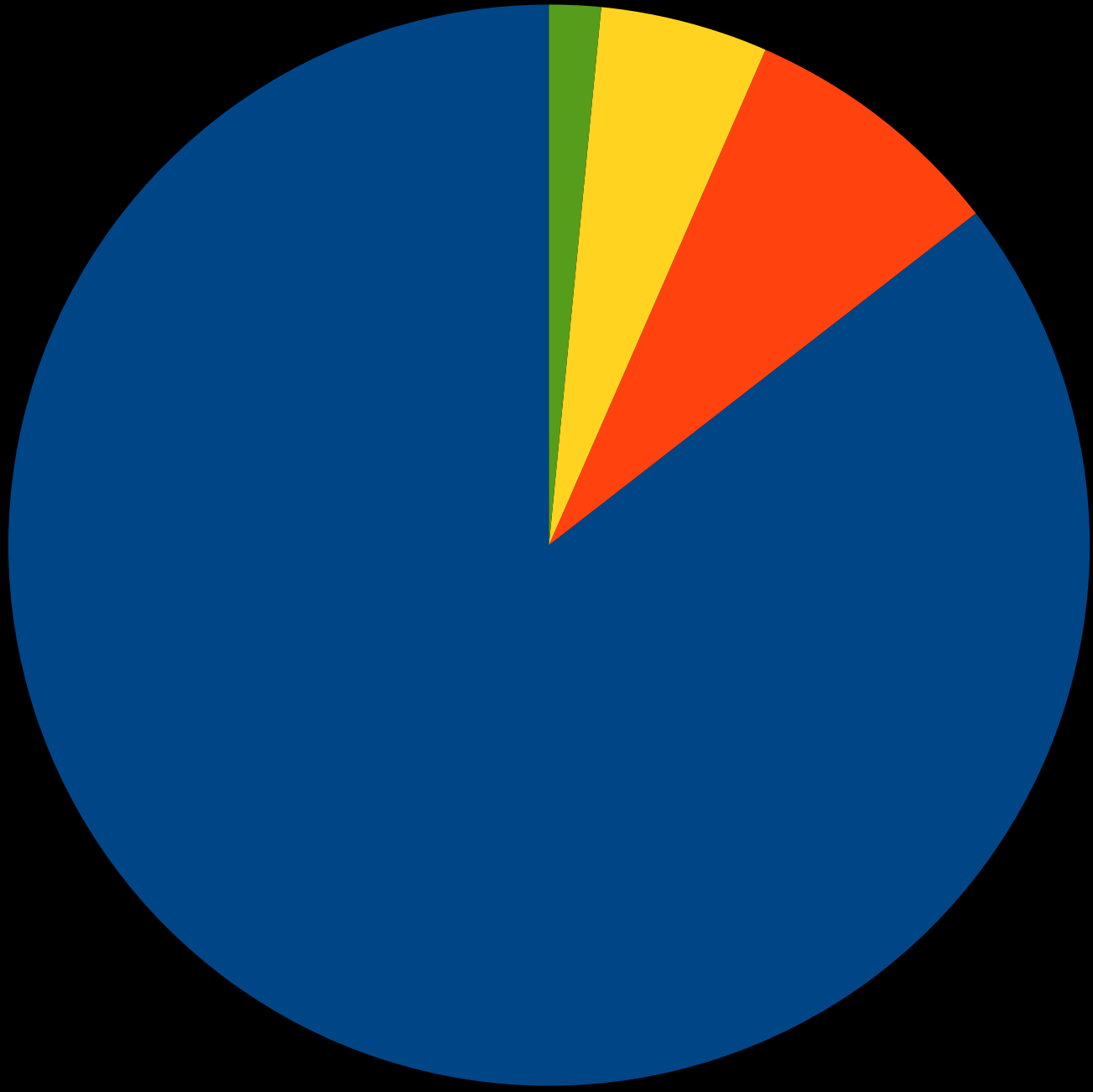
1. The state of libre video editing
2. Challenges
3. Why PiTiVi?
4. What's new in PiTiVi since 2009
5. Back to the Future
6. ???
7. PROFIT!!!

In A.D. 2011 War was Beginning.



Welcome to the real world



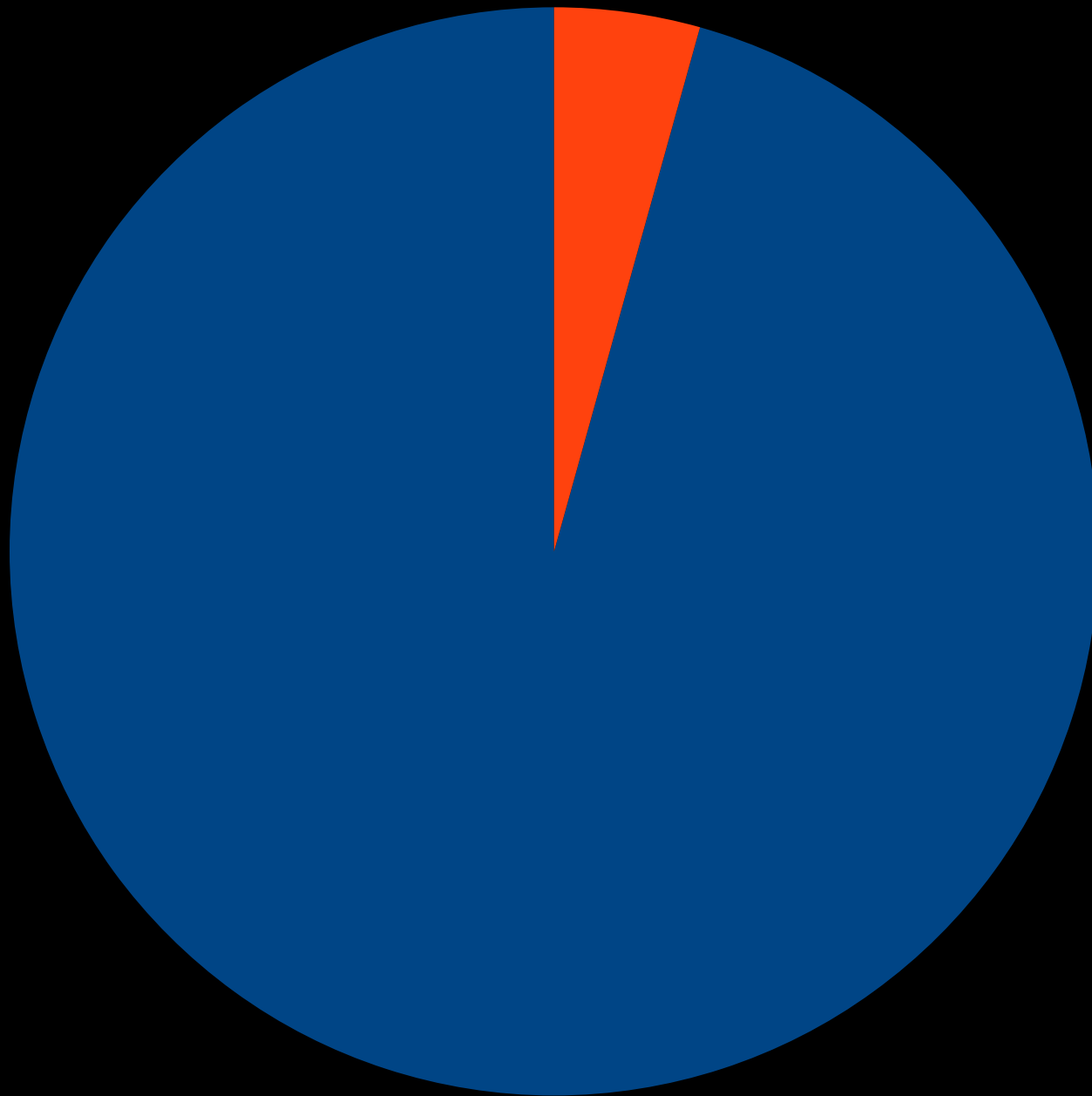


■ Windows ■ Mac OS ■ smartphones ■ Linux

Users of Personal Computers

Linux
users

Filmmakers



■ Ubuntu users

■ Ubuntu users who also use PiTiVi

You are here



Graphique récapitulatif

Évolution sur les 30 derniers mois



Rapport



13650 visites



11353 visiteurs uniques



35556 actions (pages vues, téléchargements et liens de sortie)



2,6 actions par visite



2 min 22s durée moyenne de la visite



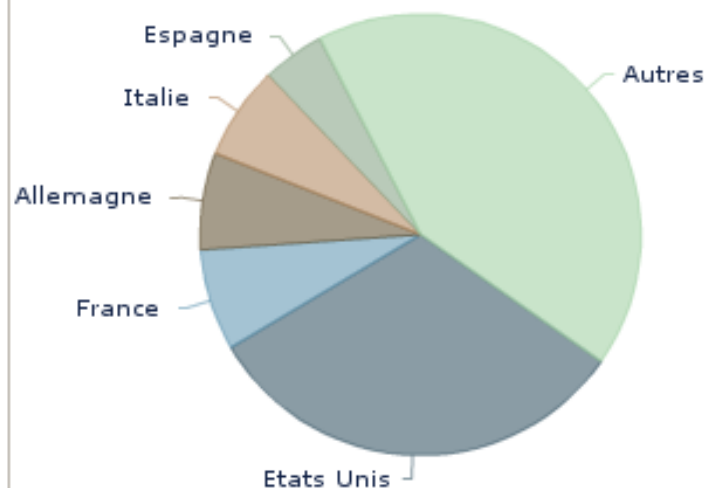
37% visiteurs ont survolé (quitté le site après une page)



43 actions maximums en une visite

Navigateurs du visiteur

Pays des visiteurs



Pages

Url de la page	Vues	Vues uniques ▼
/index	13962	11186
/?go=download	5954	4306
/?go=screenshots	4955	4172
/?go=documentation	3828	2718
/?	1498	1101
/?go=features	1101	956
/?go=showcase	688	604
/?go=bugs	412	319
/?go=contributing	389	302

SIR! THERE SEEMS TO BE
A LARGE OBJECT
IN THE PATH
OF OUR-

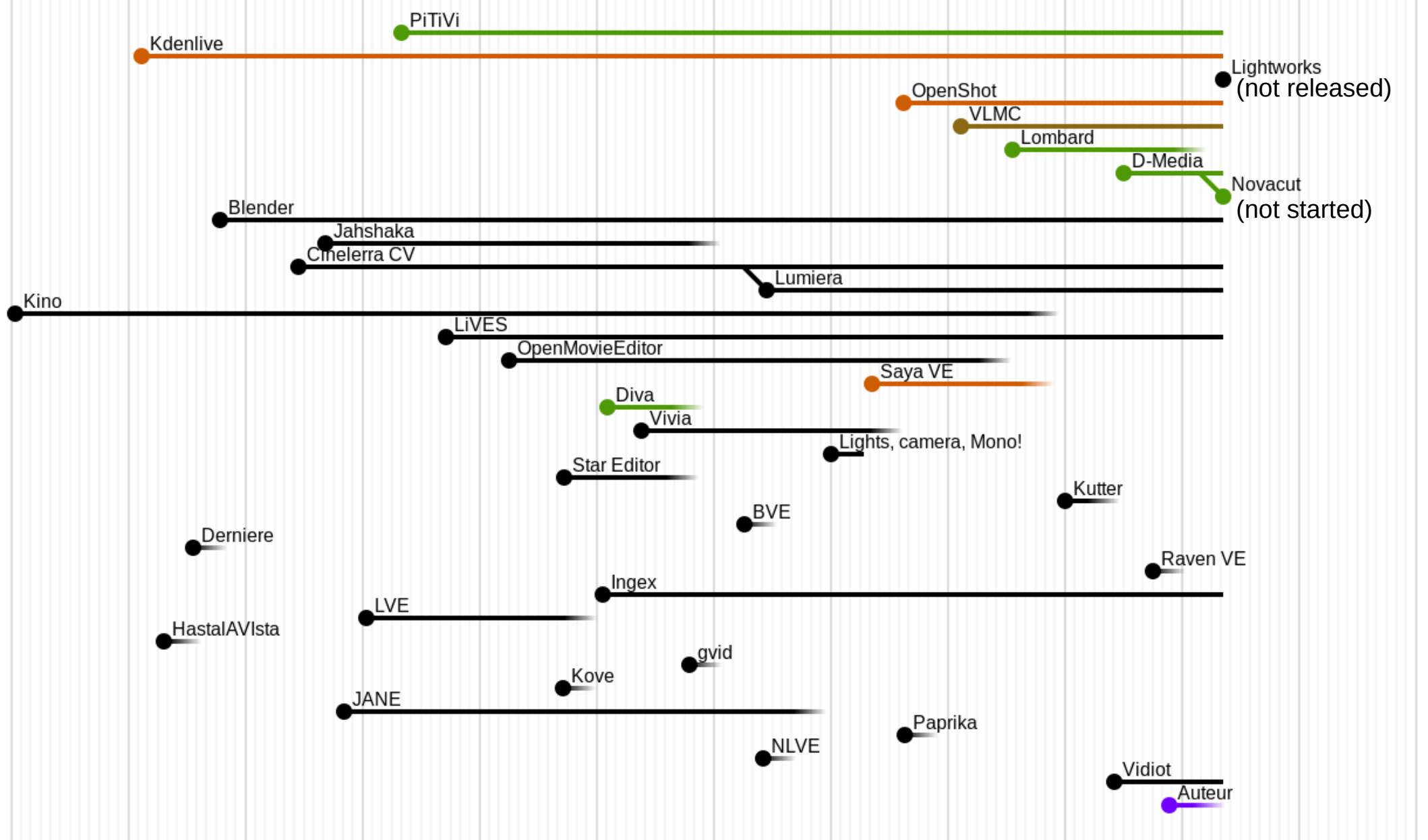


SIR! THERE SEEMS TO BE
A LARGE OBJECT
IN THE PATH
OF OUR-



Today 

2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012



2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012

Key factors of failure

- Targetting Windows and Mac users
- Starting a new project just because you dislike a UI toolkit or programming language
- Writing your own multimedia engine
- Thinking development will be easy
- Thinking attracting contributors is easy
- Using Adobe Premiere as a source of inspiration

Key factors of success



Shotwell is a handy photo manager that is ready for your gadgets. Connect a camera or a phone to transfer your photos, then it's easy to share them and keep them safe. If you're feeling creative, you can try lots of photo apps from the Ubuntu Software Centre.

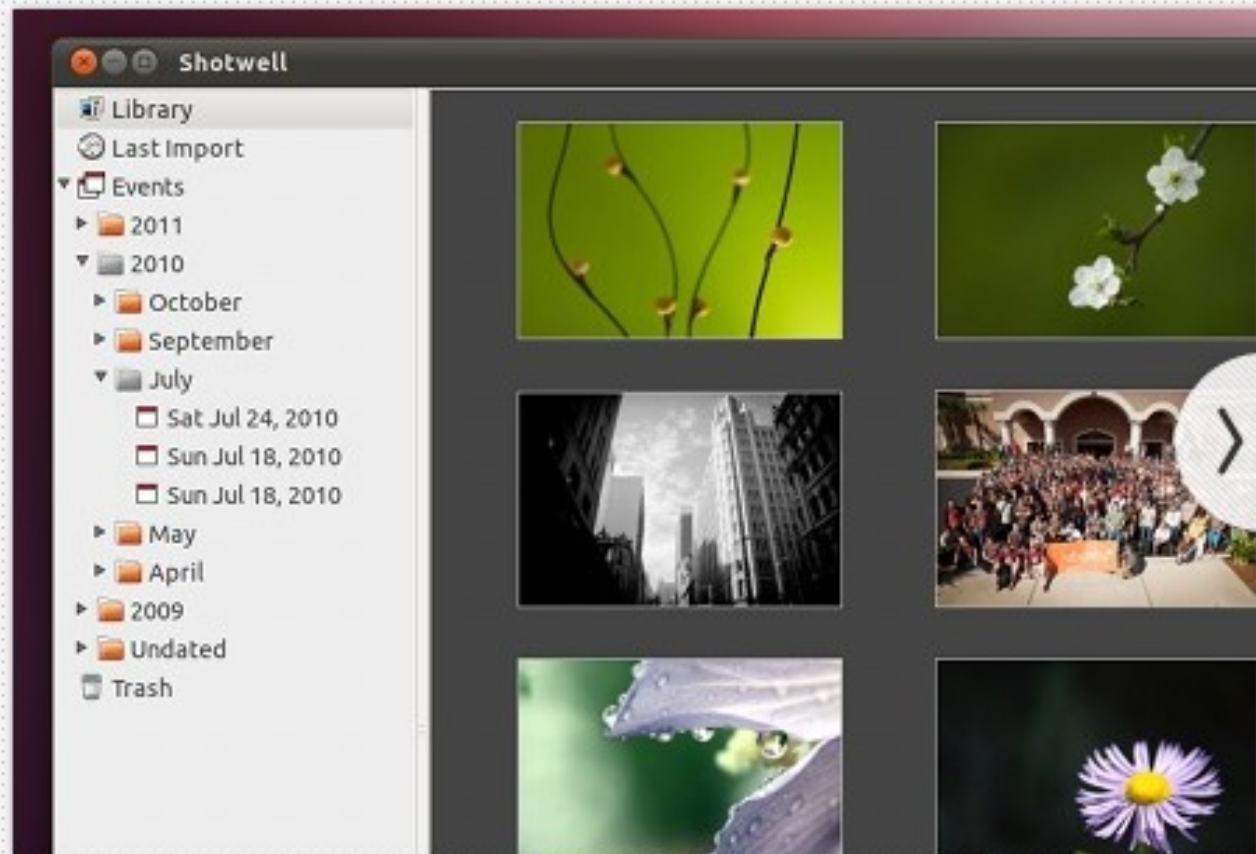
Included software

 Shotwell Photo Manager

 PiTiVi Video Editor

Supported software

 GIMP Image Editor





Why PiTiVi?

- Standard technologies (GStreamer torture test)
- *Upstream first* policy, no dirty hacks
- Best of breed UI design
- Here to stay
- Various strategic advantages. More at <http://www.pitivi.org/?go=contributing>





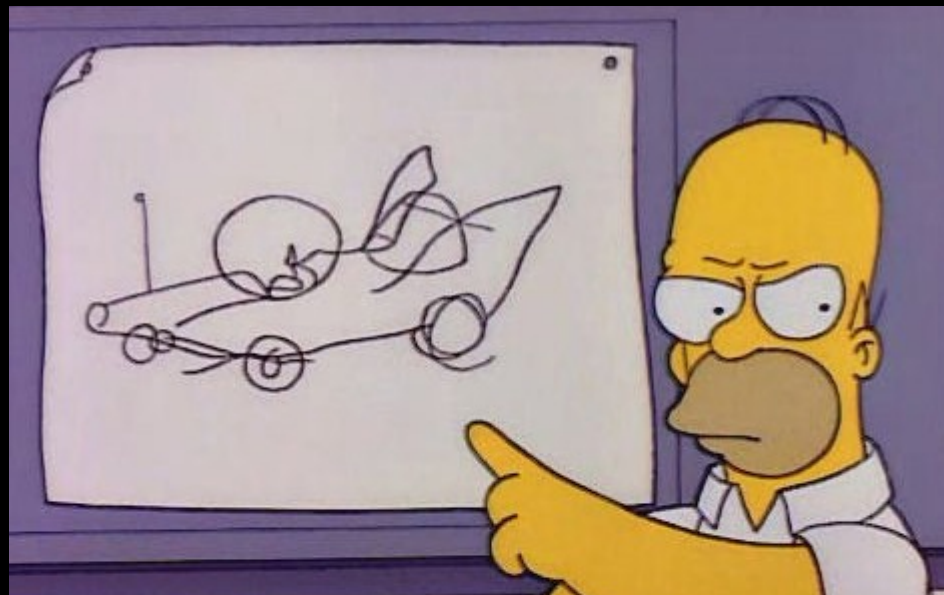
221+ plugins

1102+ features



Mi equipo Fotográfico, by Carlos Ardila

Design



Preferences



- Editing
- Display
- CD Settings
- Sync
- External Control & Automation
- General
- Video
- Preview Device
- Audio
- Audio Device
- MIDI
- VST Effects

General preferences:

- Show logo splash screen on startup
- Animate video frames in Trimmer
- Prompt to keep files after recording
- Create undos for FX parameter changes
- Confirm media file deletion when still in use
- Double click on media file loads into Trimmer instead of preview
- Show trimmer history with filename first, then folder
- Automatically save trimmer markers and positions with media
- Show progress in Video Preview window when rendering
- Save active prerenders on project close
- Close media files when not the active application
- Close audio and MIDI ports when not the active application
- Render large Wave files as Wave64
- Allow Wave renders to be processed in parallel
- Ignore fact chunk when processing compressed Wave files
- Automatically name rendered files and metadata when rendering
- Ignore third party DV codecs
- Use Microsoft DV codec
- Strictly conform to AVI2 specification

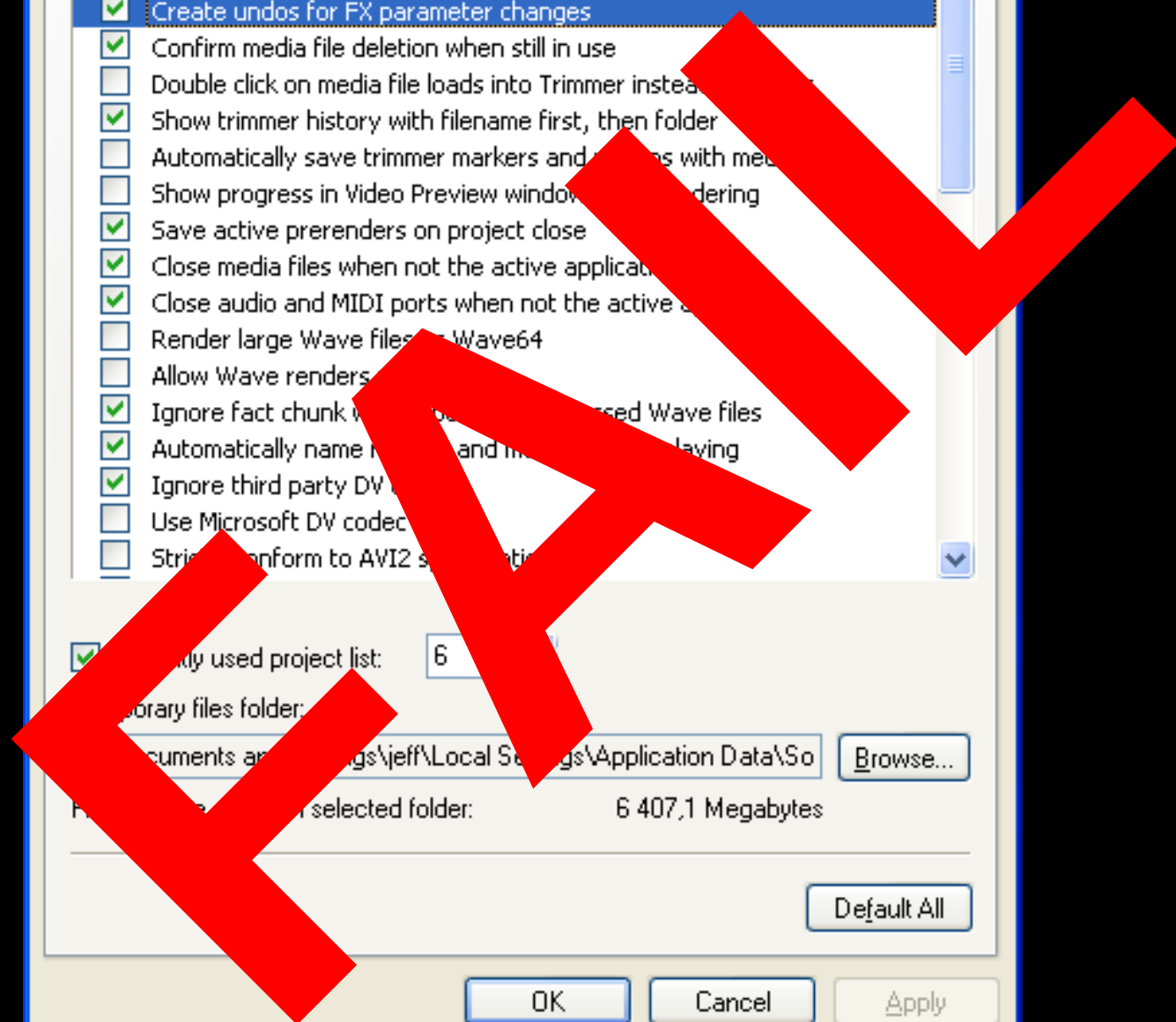
Recently used project list:

Temporary files folder:

Hard disk space in selected folder: 6 407,1 Megabytes

Default All

- OK
- Cancel
- Apply



Bibliothèque multimédia Effet de la bibliothèque

Rechercher :

07 - Pulse.mp3

FILE0004.MO V

FILE0007.MO V

FILE0008.MO V

FILE0010.MO V

FILE0012.MO V

FILE0016.MO V

FILE0018.MO V

FILE0020.MO V

Configurations des effets

Vous devez sélectionner une séquence sur la table de montage pour configurer les effets associés

Supprimer les effets

Activé	Type	Nom de l'effet

00:01:49.163

Zoom 00:00:00.000 00:00:15.000 00:00:30.000 00:00:45.000 00:01:00.000 00:01:15.000 00:01:30.000 00:01:45.000 00:02:00.000

Vidéo :

Audio :

07 - Pulse.mp3



The main monitor displays a video editing software interface. At the top, there is a 'Bibliothèque multimédia' (Multimedia Library) window showing a grid of video thumbnails labeled FILE001.MOV through FILE013.MOV. To its right is an 'Effects configurations' dialog box with a yellow header that reads 'You must select one clip on the timeline to configure its associated effects'. Below this is a table with columns for 'Remove effect', 'Assigned type', and 'Effect name'. On the far right is an 'Effect Library' window with a search bar and a list of video effects.

Nom	Description
AgingTV	AgingTV adds age to video input using scratches and dust.
Alpha Filter	Adds an alpha channel to video - uniform or via chroma-key.
Aspectratiocrop	Crops video into a user-defined aspect ratio.
Balance	Adjusts brightness, contrast, hue, saturation on a video stream.
Box Filter	Resizes a video by adding borders or cropping.
Bulge	Adds a protuberance in the center point.
Burn	Burn adjusts the colors in the video signal.
Chromium	Chromium breaks the colors of the video signal.
Circle	Warps the picture into an arc shaped form.
Color Look-up Table	Color Look-up Table filter.
Crop	Crops video into a user-defined region.
Dicebv	"Dices" the screen up into many small squares.
Diffuse	Diffuses the image by moving its pixels in random directions.

The main workspace shows a multi-track timeline with 'Vidéo' and 'Audio' tracks. The video track contains several clips labeled FILE001.MOV through FILE013.MOV. A green bar highlights a specific clip on the timeline. The interface includes various toolbars and a 'Rendu du projet' (Render Project) button.



“[...] don't expect people to jump in and help you. That's not how these things work.

You need to get something half-way useful first, and then others will say 'hey, that *almost* works for me', and they'll get involved in the project.”

– Linus Torvalds, 2004











Microsoft

Microsoft

Word

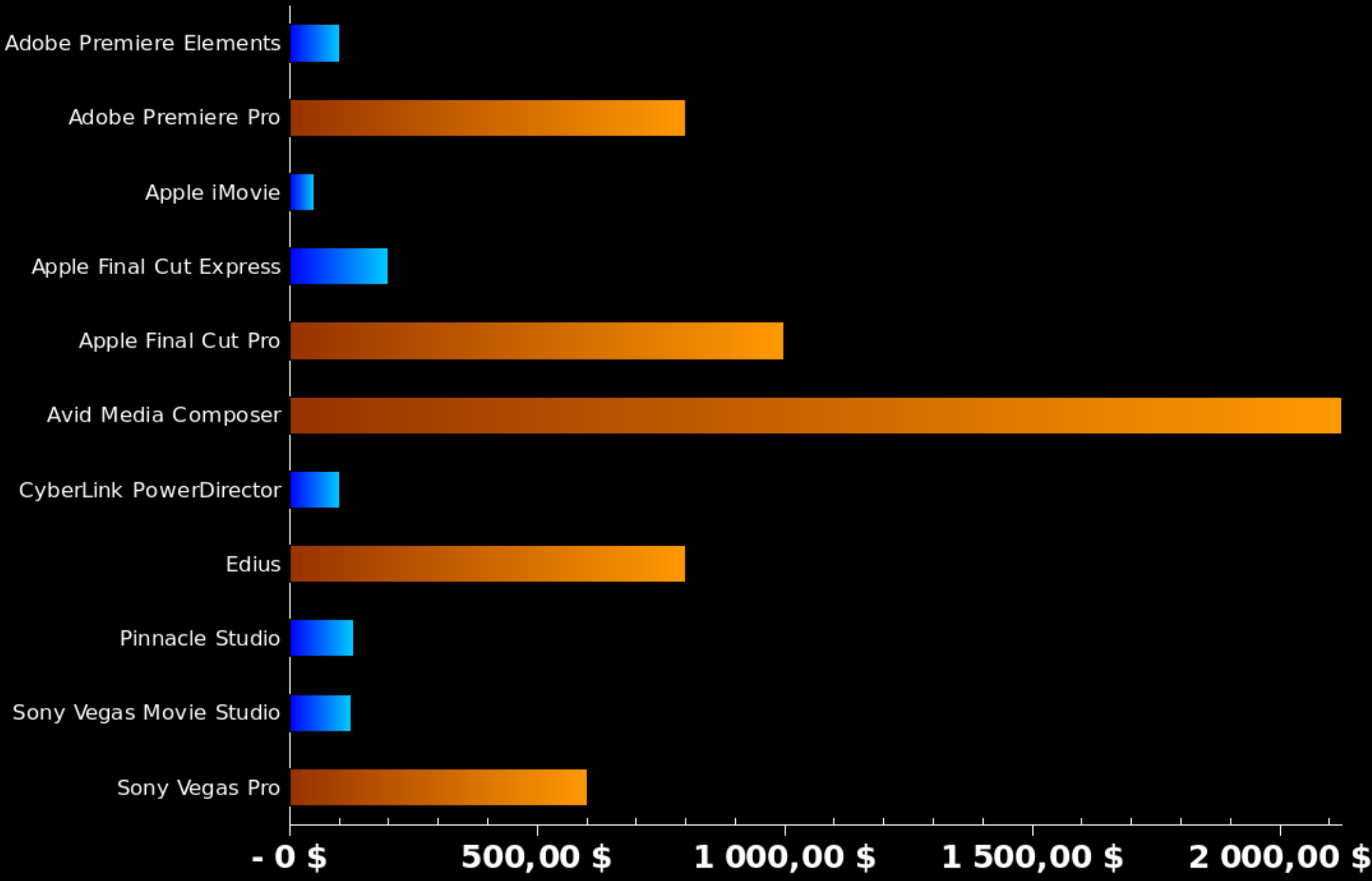


Microsoft
Word.



Write letterz n shit, yo.

Version 2002



“This is **not a one-man job**, neither a buddy-created application. It requires **at least 10 engineers who know what the hell they are doing**, and they are sitting next to each other. [...]

It will take 2 years to get there,
 $\$100,000 \times 10 \times 2 = 2$ million USD. That's the minimum you need to develop such an app [...]

– Eugenia Loli Queru, 2008



Pick any two :

- Cheap to develop
- Fast development
- Good (stable and featureful)



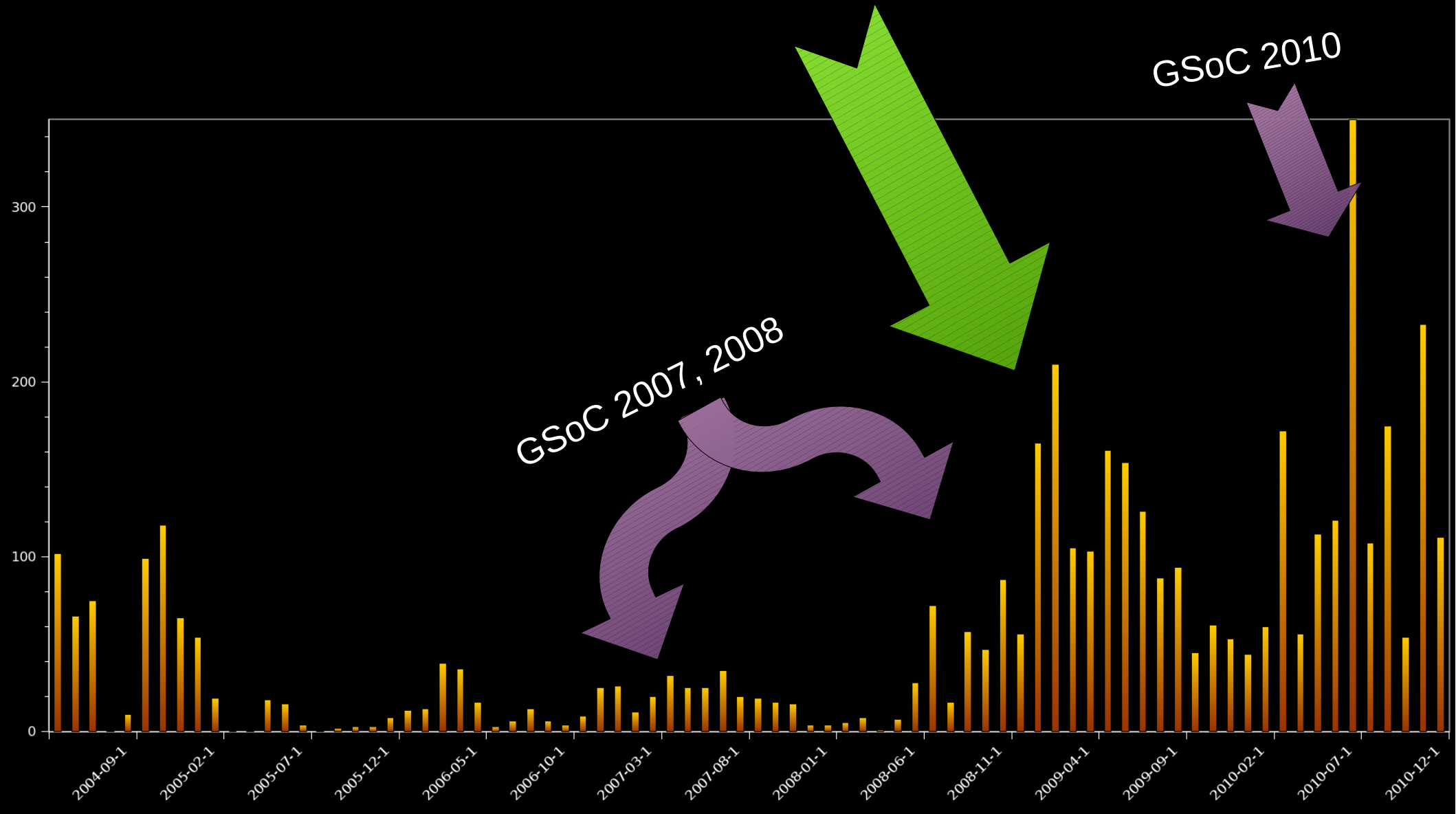
TONY

1/1/2014

...PROFIT !!!

- Fluendo (until 2007)
- Google Summer of Code
2007, 2008, 2010, 2011
- Collabora (since December 2009)

Collabora employees working on PiTiVi





David Jordan



Mathieu
Duponchelle

Lubosz
Sarnecki



Feroze Naina

This summer's blockbusters

- Implementing GES in PiTiVi
- Animated effects, clip transformation and titles
- Render profiles, video uploading
- Automated compositing using optical flow
- Various GUI enhancements

Example Uses for Filmmakers:

Currently you have to manually select your layers for every frame in the video like this:

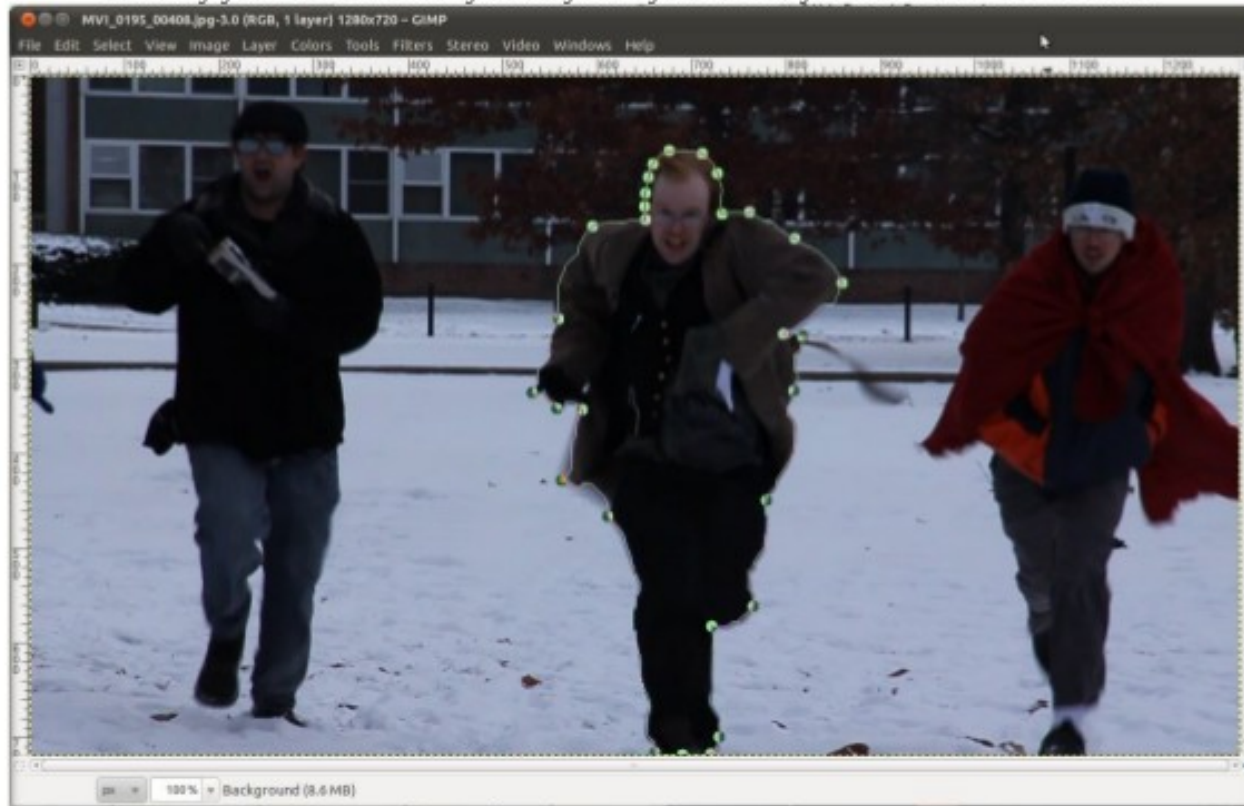


Figure 1: Manual Cutout Example.

...to one like this:



GStreamer editing services

[GES] is a library to simplify the creation of multimedia editing applications.

Based on the GStreamer multimedia framework and the GNonLin set of plugins, its goals are to suit all types of editing-related applications. [...]

Bunch of plugins

```
graph TD; A[Bunch of plugins] --> B[GStreamer]; B --> C[GNonLin]; C --> D[PiTiVi]
```

GStreamer

GNonLin

PiTiVi

Why?!

“Because writing audio/video-editors is a lot of work,

and we should **make it as easy as possible for people to write such applications** while being able to leverage the power of GStreamer and **not requiring a PhD in nuclear engineering.”**

– Edward Hervey, 2009

<http://blogs.gnome.org/edwardrv/2009/11/30/the-result-of-the-past-few-months-of-hacking/>



Executive summary

- Video editing on Linux still sucks, but is slowly getting better
- Interesting times ahead
- Stay tuned for this year's GSoC projects
- If you need help to get involved, come see me



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Website: jeff.ecchi.ca

Yes, this presentation was made entirely
with LibreOffice Impress.

(and I liked it)