

# Integration of VistA into Debian

The effort of Debian Med team to establish Debian in hospitals

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Debian

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# Structure

- 1 General introduction
  - History
  - What is Debian Med
  - Blends
  
- 2 Hospital Information Systems
  - How to make a choice
  - The VistA packaging

# History @ LSM 2001, Bordeaux



# History @ LSM 2001, Bordeaux



# What is Debian Med?

practice management system

Debian Pure Blend for medical care and microbiological  
research

# Motivation

- Free Software in medicine not widely established yet
  - Some subareas well covered
  - Medical data processing more than just practice and patient management
  - Preclinical research of microbiology and genetics as well as medical imaging
- Pool of existing free medical software

# Debian prepared for medical care

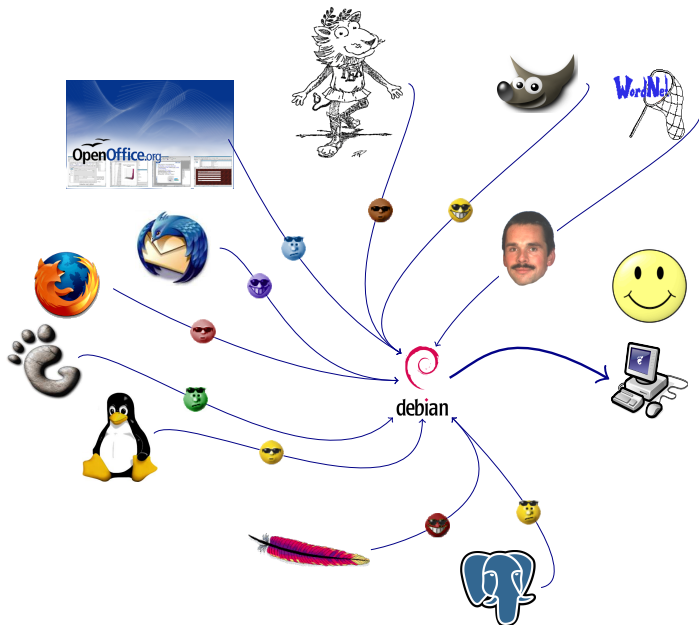
- Debian 7.0 > 20.000 binary packages
- Focus on *medical subset* of those packages
- Packaging and integrating other medical software
- Easy installation and configuration
- Maintaining a general infrastructure for medical users
- General overview about free medical software
- Propagate the idea of Free Software in medicine
- Completely integrated into Debian - **no fork**

# Medical Software sustains inside Debian

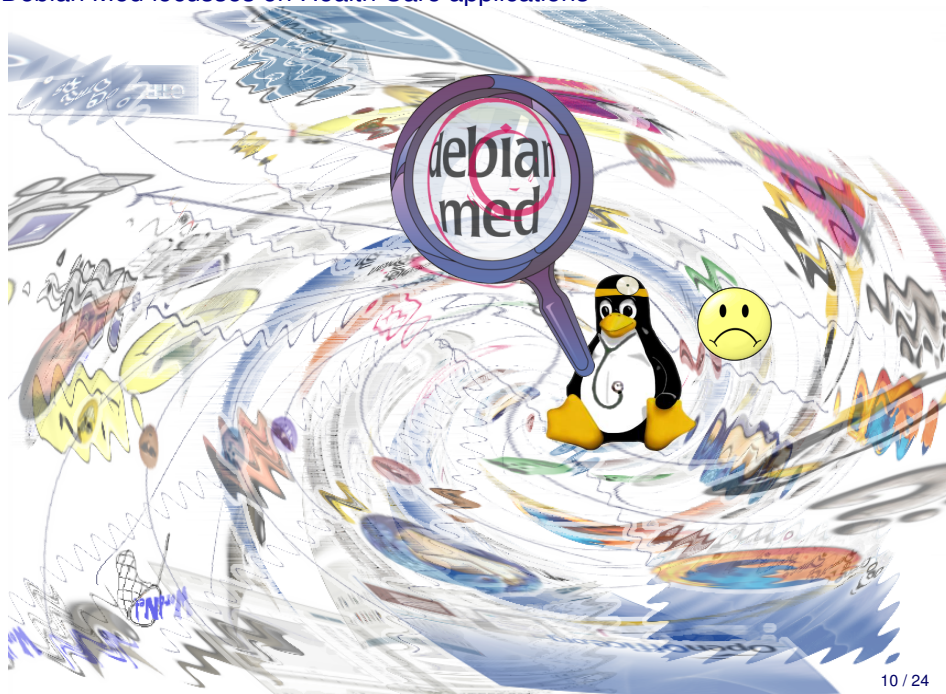
- Making Free medical Software a part of Debian
- Some code is upstream dead and only available in Debian
- Several projects with goal to collect medical FLOSS are orphaned
- Debian Med will survive inside Debian even if early protagonists might stop working on it
- Fedora and OpenSuSE recently took over the concept

→ *Debian Med is a sustainable way to distribute medical FLOSS to the user*

# Debian



## Debian Med focusses on Health Care applications



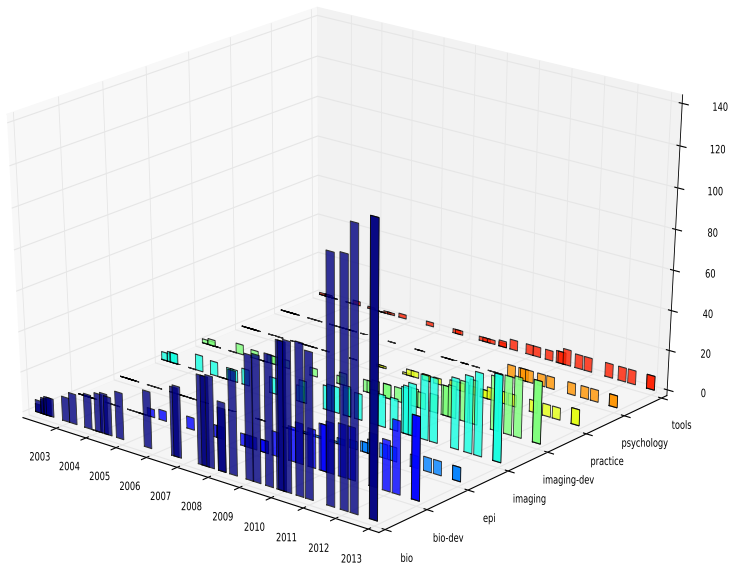
## Basic ideas

*Do not make a separate distribution but  
make Debian fit for medical care*

*No development of medical software - just  
smooth integration of third-party software*

*Debian-Developer = missing link between  
upstream author and user*

# Selected metapackages of Debian Med



# Debian Med needs a HIS

- VistA was in Debian Med focus from the beginning
- Debian Med needs a HIS system to fullfill its mission
- Complexity of such systems goes beyond the knowledge of a "random" Debian developer
- Precondition: strong connection to upstream developers and users.

# Selecting an appropriate HIS project

Preparation in Debian Med SVN done for:

**Vista** Comprehensive software suite for hospitals (U.S. Department of Veterans Affairs)

**Care2x** Web based hospital management system  
(upstream development somehow stalled, unfinished packaging exists but very aged)

**GnuHealth** centralised Electronic Medical Record and Hospital Information System  
(just in Debian experimental)

**OpenMRS** enterprise electronic medical record system framework  
(upstream started with packaging but maintainer left project – stalled)

There exist a lot more projects in different development states

# Cooperation with other projects

- Developer meetings to join forces
- Debian derivatives
- Training of upstream developers in packaging
- Every medical FLOSS project is invited to join the effort

# Training upstream

- OpenMRS - member of upstream team started but changed work
- *Mentoring of Month (MoM)*
- Train upstream in Debian packaging according to a strict procedure

# Getting the ball rolling ...

On Wed, Jan 18, 2012, Luis Ibanez wrote:

**Subject:** Looking for a Debian packager for  
FIS-GT.M: Change the History of Healthcare!!

Dear Debian packagers:

We are looking for one of you to help  
us change the history of Healthcare

We are working at OSEHRA (<http://www.osehra.org/>)  
on building an Open Source environment for VistA,  
the Electronic Health Records system of the US  
Department of Veterans Affairs.

VistA is the best proven EHR, and it has been used  
for the last 30 years at the VA. It currently runs  
about 170 VA hospitals and about 1,000 ambulatory  
facilities.

...

## Helpful precondition: MoM

On Wed, Thu, 19 Jan 2012, Andreas Tille wrote:

**Subject:** Happy birthday Debian Med and  
announcement of MOM

...To ensure that this development of a strong  
team will continue I would like to propose a  
new effort I would like to call

"Mentoring Of the Month" (MOM)

In this program I would like to dedicate a part of  
my spare time to a newcomer (the "student")  
providing any packaging knowledge I have to enable  
him working more or less independently on packaging  
after passing this MOM period. I like to guide the  
student kindly into all secrets of Debian packaging  
at the example of a specific program which is in  
the focus of the Debian Med team. The student is  
free to pick the package however, ...

# Start with the precondition first

- Package GT.M (a MUMPS implementation)
- First challenge: You need a GT.M installation to build GT.M (bootstrapping)
- First approach: Build gtm-initial package use this to create gtm-final package
- Second approach: Try to circumvent the bootstrap process by sneaking preprocessed files in
- Final approach: Rewrite the aged build system to something new: cmake enables avoiding the bootstrap process
- Common sprint between GT.M upstream developers and Debian developer brought things forward a lot
- Package is close to ready - some minor issues remaining

→ *Cooperation with upstream is essential*

# Tackle the final target

- After working hard on GT.M Luis started with VistA
- Main problem: rather organisational how to structure the package(s) for VistA
- Discussion whether to package single modules (in VistA jargon "KIDS")
- Final step for

`apt-get install vista`  
is at the horizon

# Service providing using Debian Med

- Need for commercial support
- Needs specific knowledge of medicine computer scientists
- Business model: Service providing for medical Free Software
  - Software free of charge
  - Merits for
    - Consulting
    - Installation
    - Support
    - Updates

# Prospectus

- Packaging effort for VistA is in promising state
- Base for service providers in health care
- Turning Debian into the distribution of choice for hospitals

This talk is available at  
<http://people.debian.org/~tille/talks/>  
Andreas Tille <tille@debian.org>