

Lisp Infrastructure Development and Distribution

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Outline

- Where am I coming from?
- Making every developer count
- Technical barriers and overcoming them
- Social barriers and suggestions

Who am I?

- academic (boundary between Physics, Music and EEng)
- not primarily using Lisp for work (except if attending ECOOP is work)
- fallen into Lisp community “by accident”
- gentleman amateur
 - not writing Lisp to survive
 - exploring interesting (to me) ideas

What would I like to achieve?

- There are others like me!
- (e.g. SBCL developers: c. 15 amateurs;
SLIME developers: c. 40 amateurs + one or
two pros)
- work on things which interest them (us)
- how to make interesting things work well
together
 - difficult problem
 - can it be made interesting?

Developer community

- Relatively small (~ 100)
 - some names pop up “everywhere”
 - (power-law distribution expected)
- Non-uniform culture
 - multitude of implementations
 - islands of communication (#lisp, info-mcl)
 - many people doing their own thing
 - NIH syndrome

- Competition versus coöperation
 - Both have their place
 - Competition: finding long-term optima
 - Improving on interfaces
 - no backwards-compatibility to break
 - Coöperation: maximizing network effects
 - using established protocols or libraries
 - saving time and work for difficult or interesting things

(aside: the DFSG)

- Debian Free Software Guidelines
 - “What is Free Software”?
 - Free Redistribution
 - Source Code
 - Derived Works
 - No Discrimination (People or Endeavour)
 - why is this useful?
 - I know that I can do interesting things with software under a DFSG-compliant licence
 - and I know that so can other people

Maximizing what we have

- Lower barriers to entry
 - make it easy to start using/hacking
 - package-level: asdf/asdf-install
 - missing pieces: updates, parallel installs
 - whole-environment level: lispbox
 - missing pieces: true integration
 - encourage useful hacking
 - easy access to version control
 - didactic use of source
 - reusable protocols

asdf-install

- Good things
 - it basically works
- Bad things
 - no support for
 - uninstallation
 - parallel installs
 - installation from CVS (SVN, arch, darcs, ...)
 - pre-downloading documentation

lispbox

- Good things
 - it basically works
- Bad things
 - doesn't provide
 - policy
 - integration
 - granular updates

NIH syndrome

- Often easier to reimplement something than use someone's package
 - particularly in Lisp!
 - friendly language
 - (often) poor documentation
- Even use of package can cause problems
 - SLIME and Maxima both use nregex.lisp
 - but both **include** copies directly
 - ... until recently, copies of **different** versions...

Libraries

- Is it hard (or possible?) to install two versions of one library
 - on the same filesystem
 - in the same lisp image
- Pros
 - “release” branch and “development” branch
 - less requirement for large coördination
- Cons
 - “release” branch and “development” branch

Upstream

- For fast-moving (α - or β -software) every user of released versions is suboptimal
 - better than not using at all, but worse than using HEAD
 - bug reports outdated
 - patches may not apply
 - FAIRLY_STABLE compromise
 - measures internal stability
 - does not capture dependence on state of other pieces of software

Policy (coöperation)

- Decrease complexity of problem space
 - remove choice except where genuine need for choice exists
 - propagate solutions to problems (even if not optimal solutions)
 - enable integration work by providing stable platform
 - also known as “Best Practice”

Summary: technical stuff

- asdf-install enhancements
- documentation extraction and publishing
- lint-like thing to support Best Practices
- better metadata
- identify interesting potential connections

Summary: social stuff

- policy / Best Practices
- better documentation
- communication between islands
- work on the “long tail”
- user-developer transition (or Ajax “total programming”)