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- Talk: Evolvability & Robust Design
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David Moon's language

- PLOT: Programming Language for Old Timers
- Wants to do things right
- Powerful Macro language: defmacro defmacro
- Clean Object System
- ...but it's not anywhere near Lisp...
GTK+ bindings for Dylan

- Hannes Mehnert
- Dylan is a new language
  - Embraces many ideas from Lisp
- GTK bindings successful
- ...not Lisp...
The Art of the Propagator

- Alexey Radul, Gerald Jay Sussman
- Circuit-like programming model
  - Termed Propagator Network
- Good for solving constraint systems
- ...not Lisp...
System-in-a-package Design

- Cadence Design Systems – chip layout
- Uses CLOS (Common Lisp Object System) for delivering proprietary yet user-extensible chip-part definitions.
- Example – round the edges of an inductor
Actors in Mobile Devices

- Vrije Universiteit Brussel
- Lisp-based cross-device platform for Event-driven programming
- Example: instant messaging
- Example: coordinated application upgrades
CLOS Benchmarks

- Didier Verna
- Pissed that people assume Lisp is slow
- Lots of benchmarks on CLOS Object instantiation vs. C++ Object instantiation.
- Conclusion: Lisp is 30% faster than C++ for object instantiation.
CARMA: Lisp Application

- AI engine for informing farmers whether or not to spray grasshopper infestations with pesticides
- Armed Bear Common Lisp saved the day
  - Interprets Lisp in Java
  - Allowed for Java GUI while keeping Lisp core
SciCL

- John Amuedo
- Lisp Extentions for Scientific Computing
  - Support for generic operations on matrices (similar to Matlab, R) added to Common Lisp
  - Extensive use of ”Functional Objects” - functions that expose an interface to matrices
    - For example, concatenation of matrices uses no new memory, but exposes a unified view to many matrices
- Used for restoring audio and video of old films
Parallelism Library for Lisp

- University of Texas Austin
- Parallelism for a functional subset of Lisp
- Pargs, Plet, Pand, Por
- Branch if resources available
- Time-wise short circuiting of Pand and Por
Brian Ericson
- Compares Lisp to Ruby
- Ruby syntax is more expressive and intuitive
- Why do I need 5 == operators?
- Cdr, car – antiquated names
- Lisp is faster
Lisp Recommendation System

- Istanbul Bilgi University
- Cross-domain recommendation system
  - Music, Books
- Uses RDF (resource description framework)
- Crawlers in Lisp
- UI in PHP
- Success!
SHOPPER Web Services Language

- SIFT, LLC, funded by DARPA
- Domain Specific Language for describing and composing web services
  - Radically composeable, planning language
- Used in a framework for driving composition of web services with AI
  - Computers are writing code for us deduced from our actions!
- Uses existing technologies: OWL, WSDL, SOAP
By Gerald Jay Sussman

Notion of Additive infrastructure

Many Parallels in Biological evolution

Danger is implicit in flexible systems
  - Flexibility Vs. Exactness

"Proofs considered Harmful!"
  - If a system can be proven correct, then it most likely is not flexible enough to be readily evolved
Panel: The Future of Lisp

- 3 Women of 200 people present - why???
- Development stagnated after CL standardized
- Lisp distributions are incompatible
- Open source CommonLisps only run in Linux
- Modern computing platforms: Java or .NET
- Lisp has lots of cruft: =,eq,eql,equal,cdr,car
- Clojure likely to save Lisp: runs on JVM, modern naming, concurrency built in
"Hi I'm Jerry, how can I help you?"

"I taught the MIT optician how to make these!"

Teaching through code is wonderful, it gives the students a deeper understanding than math – math leaves a lot out. (referencing Structure and Interpretation of Classical Mechanics)

Life should be fun

It's worth maintaining adaptiveness and cutiosity for the sake of money or fame

"I'm not a competitor, I never was."
The End.