Collaboration Using OSSmole:
A repository of FLOSS data and analyses

Megan Conklin
Elon University

James Howison
Syracuse University

Kevin Crowston
Syracuse University

OSSmole Project

- Started as OSSmole in September, 2004
  But data was being collected as early as January, 2004 by the team
- We needed data about FLOSS projects
- 2 initial needs were:
  - Conklin: studying social networks and project team size as a power law
  - Howison & Crowston, et al: studying team dynamics, social networks

Getting Data

- Where to get FLOSS data?
- Scrape/spider Sourceforge
  - Sourceforge has a variety of reasons for not providing data dumps to the general research community (PII is big one)
  - Lots of individual spidering efforts going on

Sourceforge

- It's big – 100k
- It's relatively stable
- It's slow – sleep(5)

http://ossmole.sf.net

Problems with Data

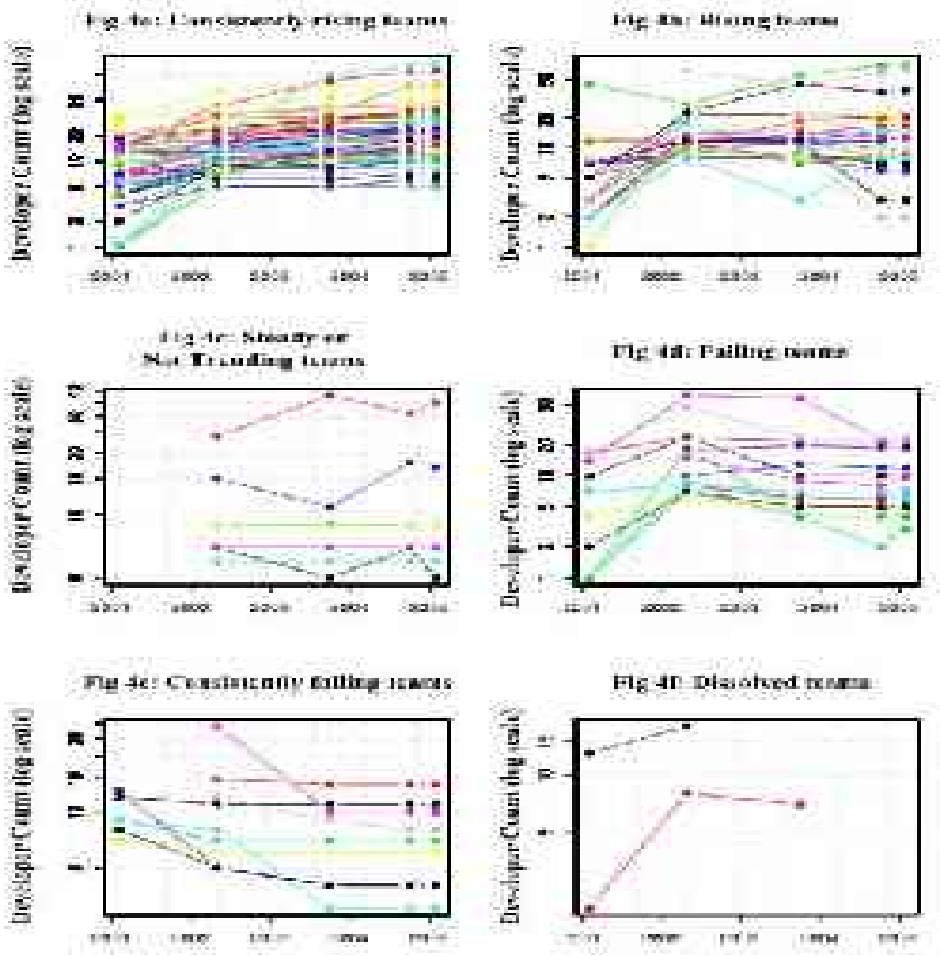
- The problems with scraping Sourceforge are legion:
  - Practical – SF bans IPs when it detects "bad" behavior
  - Inconsistencies – SF can change HTML, data model
  - Economies of Scale – Multiple efforts and no sharing
  - Lack of transparency for methods used by a research team to gather their data, peer review is in question

OSSmole as a solution

- The main goals of OSSmole are to be:
  - Collaborative – data donations
  - Available – encourage play!
  - Comprehensive – should support ...
    - multiple repositories
    - historical data
  - Transparent – data provenance...
    - model & data should be labeled & well-described (including origins)
  - High-Quality – researchers can...
    - trust
    - verify
    - reproduce

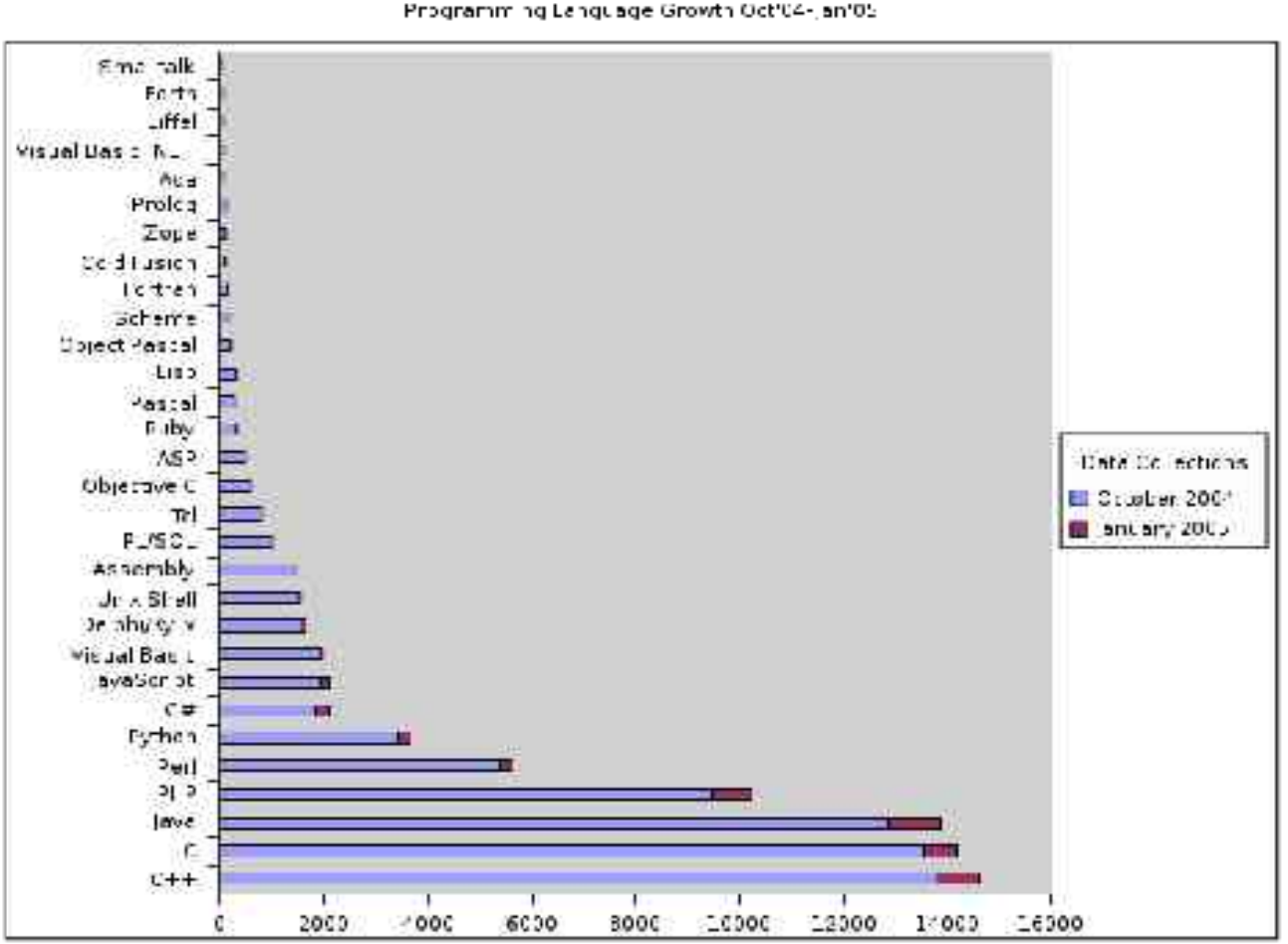
Pretty Pictures

- With OSSmole data, we've been able to do things like this:



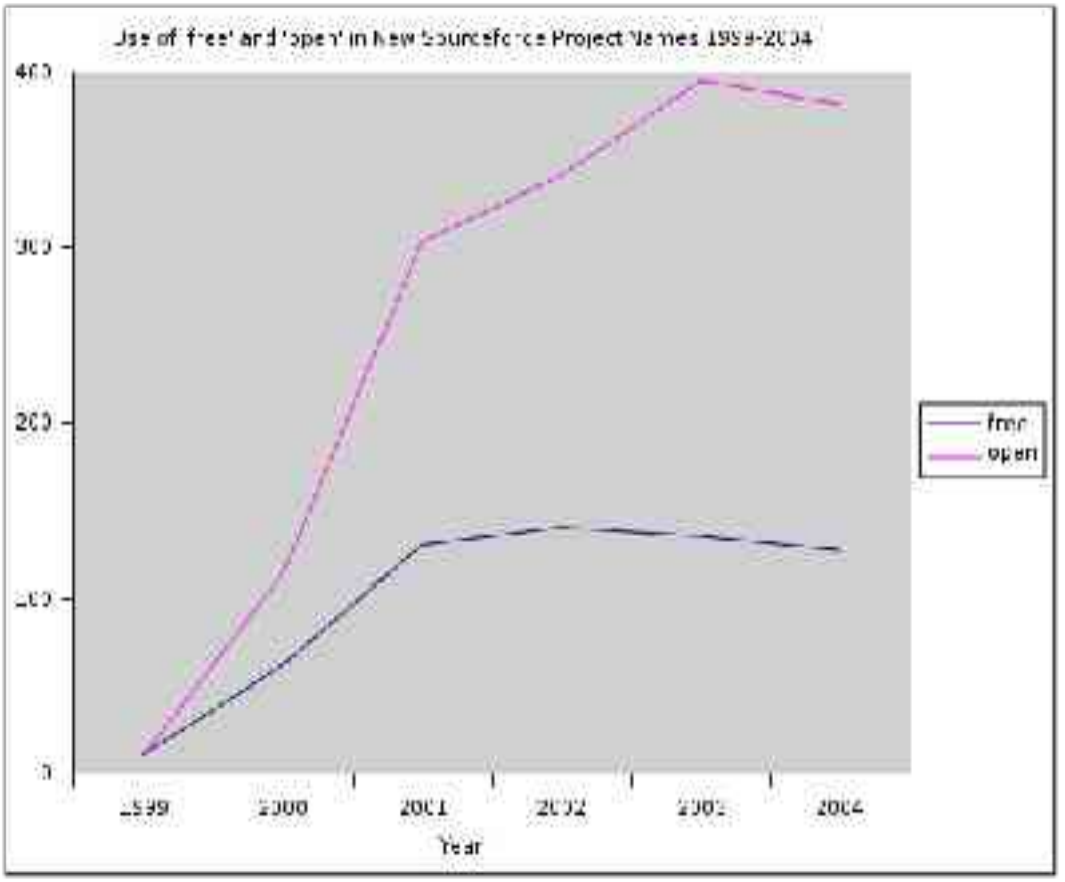
More Pretty Pictures

- ...or this:



More Pretty Pictures

- ...and even this:



So the point is...

- At least we have the data now
- It's easy to find, and anyone can use it

But...

We're ready for v.2

- Collaborative –> encourage data donations
- Available –> live querying
- Comprehensive –> multiple repositories
  - freshmeat!!
  - savannah
  - stand-alone projects (important, large)
  - data from research papers?

- New concern: privacy of developers, change name (FLOSS?)

Next up...

- Freshmeat
  - ✓ parse nightly RDF dump
  - insert changes into db
  - run some sample analyses (against SF?)