

Agile, Secure Cloud Applications @ UC Davis

Adam Getchell

acgetchell@ucdavis.edu

<https://github.com/acgetchell>

<http://www.linkedin.com/in/adamgetchell>

ucdotnet@ucdavis.edu

TIF Ignite Session

March 28, 2012

University of California Davis

Online Pre-Purchasing in 7 months

- (Show pretty graphs on GitHub)

Online Pre-Purchasing in 7 months

- Agile development using Trello for user stories, GitHub for source code management/collaboration, and TeamCity for Continuous Integration (and eventually, deployment!)
- Battle-tested architecture using JavaScript front end (jQuery, knockout,) UCDArch (MVC, Nhibernate, CAS, etc) middle layer, SQL server backend, SOAP APIs
- Cloud infrastructure using Ganeti, managed by CSE (Bill Broadley) and running in the DataCenter
- UserVoice for feedback

What we're doing Right

1. We are starting to listen to the demands of our customers – the “virtuous feedback loop”
2. We are starting to leverage the power of the web
3. We are starting to work together
4. We are starting to use known/good software engineering principles
5. “Central” systems are starting to understand that they provide consumable services to a wide range of applications and end users, and that they need to be flexible (= APIs and documentation)

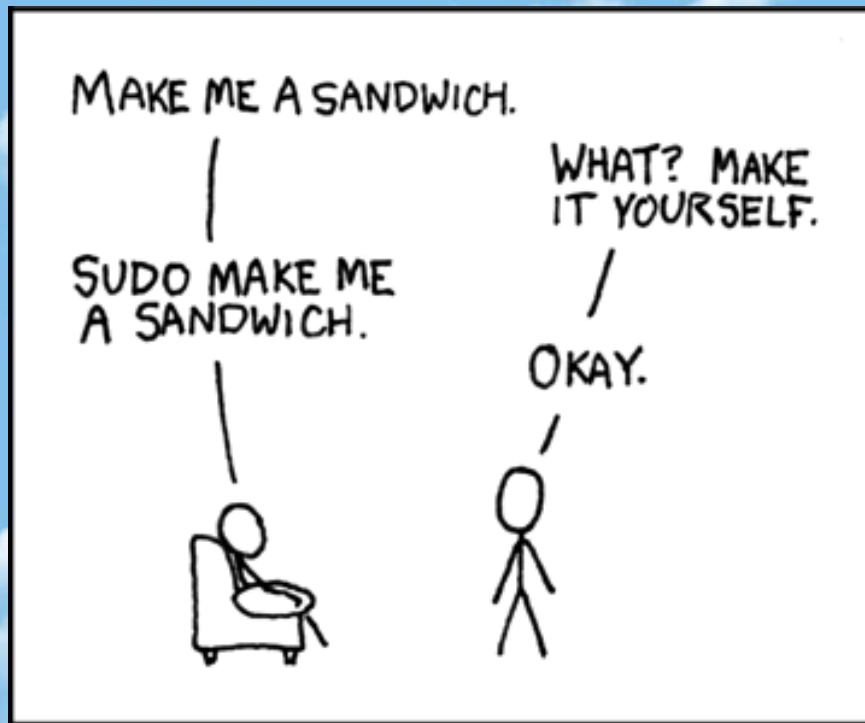
What we're doing Right

1. Agile development, Pre-Purchasing Steering Committee, UserVoice
2. HTML5, CSS, Javascript, RESTful web services
3. GitHub, code sprints, frequent meetings with clients (agile development)
4. Solid architecture, code review, test-driven development, continuous integration, instrumentation
5. Application Programming Interfaces, documentation

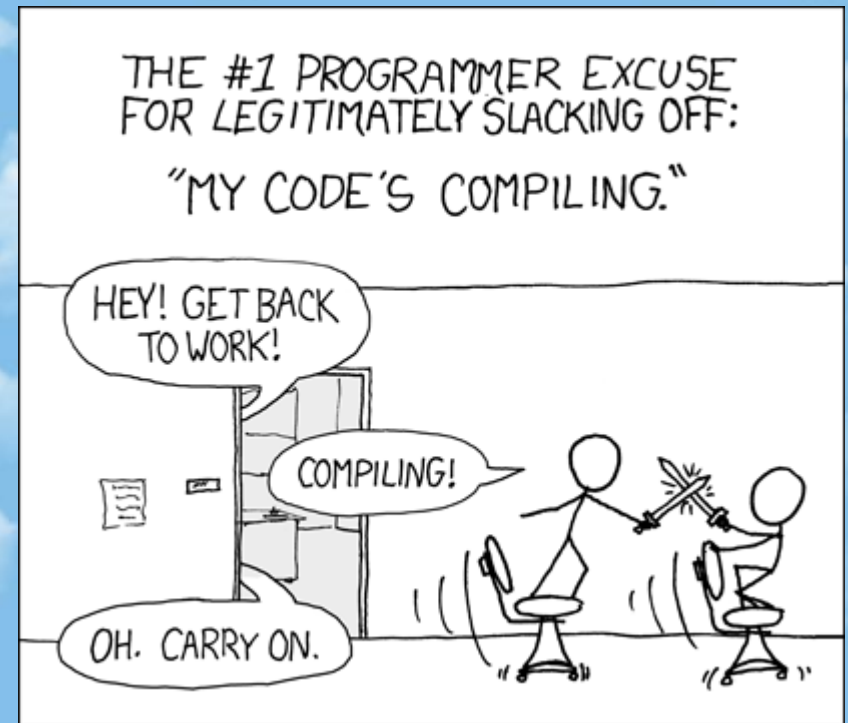
What we're doing wrong

- We think all Programmers are created equal

Programmer (noun): An organism that can turn caffeine and alcohol into code*



<http://xkcd.com/149/>



<http://xkcd.com/303/>

* <http://uncyclopedia.wikia.com/wiki/Programmer>



Picture of Applications Stack

What we're doing wrong

- Virtualization \neq Cloud Services
-> DevOps = ??? (a combination of the above)

What we're doing wrong

- Authentication
 - CAS is UC Davis only, difficult for “post-PC” devices
 - Shibboleth is hard to setup, hard to use, narrow in scope
 - OAuth 2.0 is the rest of the web
 - Google, Facebook, major cloud providers
 - Why not UC?
- Non-secured APIs (hint: OAuth 2.0)
 - SOAP is insecure without a shared secret
 - With a shared secret, it's difficult to manage
- Authorization (API)
 - CatBert v4 is a web API for Authorization

What we're doing Wrong

- Not Invented Here syndrome
- We're Not Sharing Enough! (i.e. useless language/tool debates, service catalogs)
 - It's not about the language or tool
 - It's about usable, actionable Software Development Standards!
 - And documentation (LP)
 - Comments are NOT sufficient documentation
 - Test cases are NOT “executable” documentation
 - Need to know Why something was done, not How
 - And a Service Catalog
 - Using well-known APIs (RESTFul, OAuth, etc.)
- = We are still working on the balance between central and departmental services
- = Better Collaboration

Let's fix it together!

Adam Getchell

acgetchell@ucdavis.edu

<https://github.com/acgetchell>

<http://www.linkedin.com/in/adamgetchell>

ucdotnet@ucdavis.edu

TIF Ignite Session

March 28, 2012

University of California Davis