



UH Applications Developers Meeting 10/25/2013

Michael Hodges, ITS-TI-IAM

Jodi Ito, ITS, Info Sec

Ben Karsin, ITS, ITS-TI-SYS

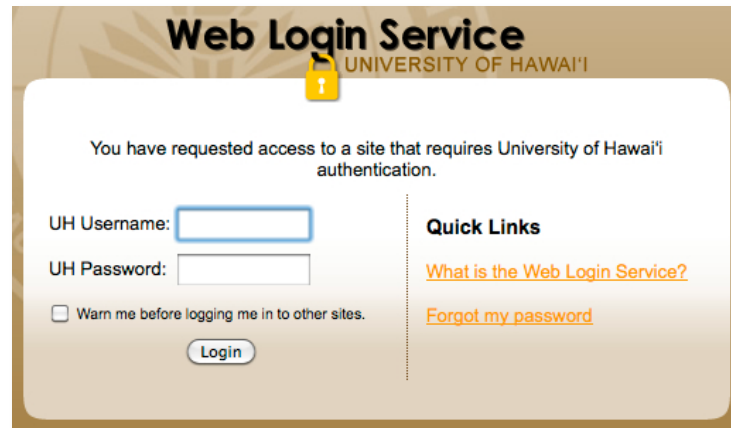
Russ Tokuyama, ITS, TI-SYS

Agenda

- **Poll:** Migration plans for exiting CAS2 before 2014
- **Poll:** Migration plans for utilizing new LDAP
- **Presentation:** Importance of Best Practices for ADLC
- **Presentation:** JQGRID for Rich Web App Development
- **Presentation:** The New UH Data Classifications
- **Updates:** Information Technology Center Update
- **Updates:** Oracle CWL Pricing Changes
- **Updates:** Quick IAM Glance
- **Snacks:** And an opportunity to meet your colleagues

(very) Informal Polls

- Migration plans for adopting CAS3
 - UH Web Login Service v2 – CAS2 (old)
 - UH Web Login Service v3 – CAS3 (new)



The screenshot shows the 'Web Login Service' interface for the University of Hawai'i. At the top, it says 'Web Login Service' and 'UNIVERSITY OF HAWAI'I'. Below this, a message states: 'You have requested access to a site that requires University of Hawai'i authentication.' There are two input fields: 'UH Username:' and 'UH Password:'. Below the password field is a checkbox labeled 'Warn me before logging me in to other sites.' and a 'Login' button. To the right, under 'Quick Links', there are two links: 'What is the Web Login Service?' and 'Forgot my password'.

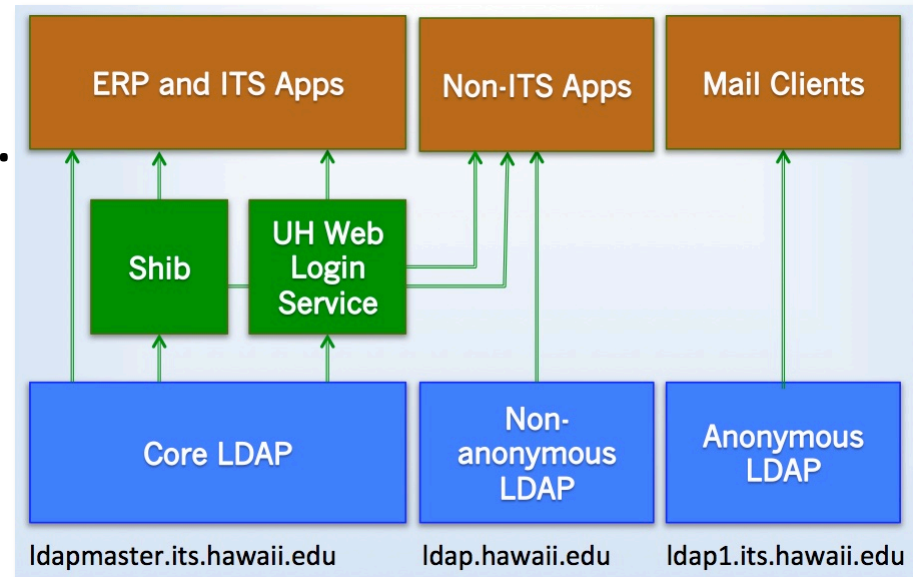
(very) Informal Polls

- Migration plans for adopting CAS3
 - Coding changes will be required to use CAS3. The requirements are documented in the bwiki.
 - We have 49 CAS3 requests at this point. No way to know how many more to go.
- Who is still using CAS2? Its EOL is **12/31/2014**
 - Poll: your plans? (the clock is ticking)



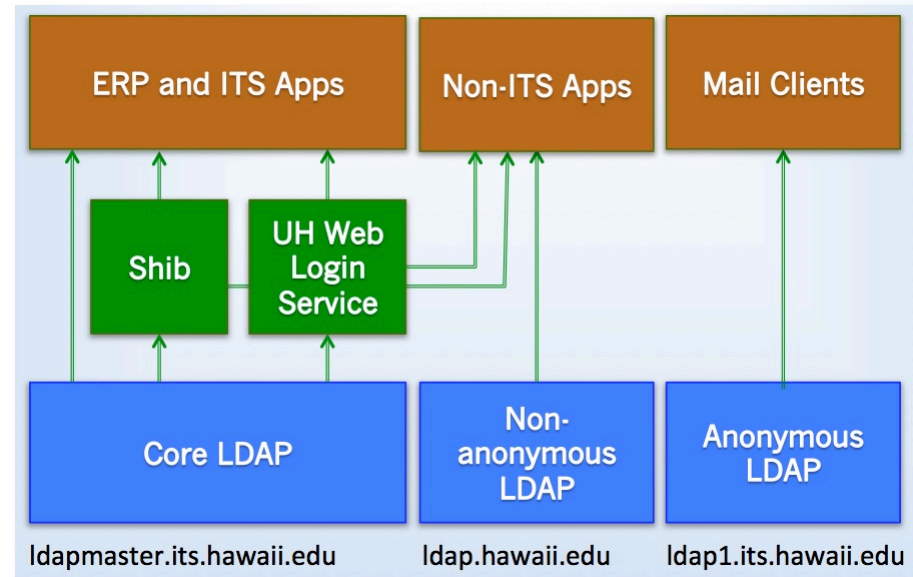
(very) Informal Polls

- Migration plans for the new LDAP
 - Schema has been housecleaned and improved.
 - Entrees are now pruned, only active people listed.
 - Host name changed.
 - No anonymous binds.
 - Utilizes open source 389DS on Linux rather than Oracle LDAP on Solaris.



(very) Informal Polls

- Migration Plans for the **old** LDAP
 - Also migrated to 389DS on Linux, **1/21/2014**.
 - Continues using the old schema.
 - Not pruned.
- Who's still using the old LDAP?
 - Poll: your plans?



The Importance of Best Practices for ADLC

Russ Tokuyama
KFS Configuration Manager
10/25/2013

ADLC ??

ADLC is as ADLC does..



ADLC

- Application Development Lifecycle (ADLC)
- System Development Lifecycle (SDLC)
- Software Developement Lifecycle (SDLC)

It's about...

- Process
- Deliver software
- Software that works

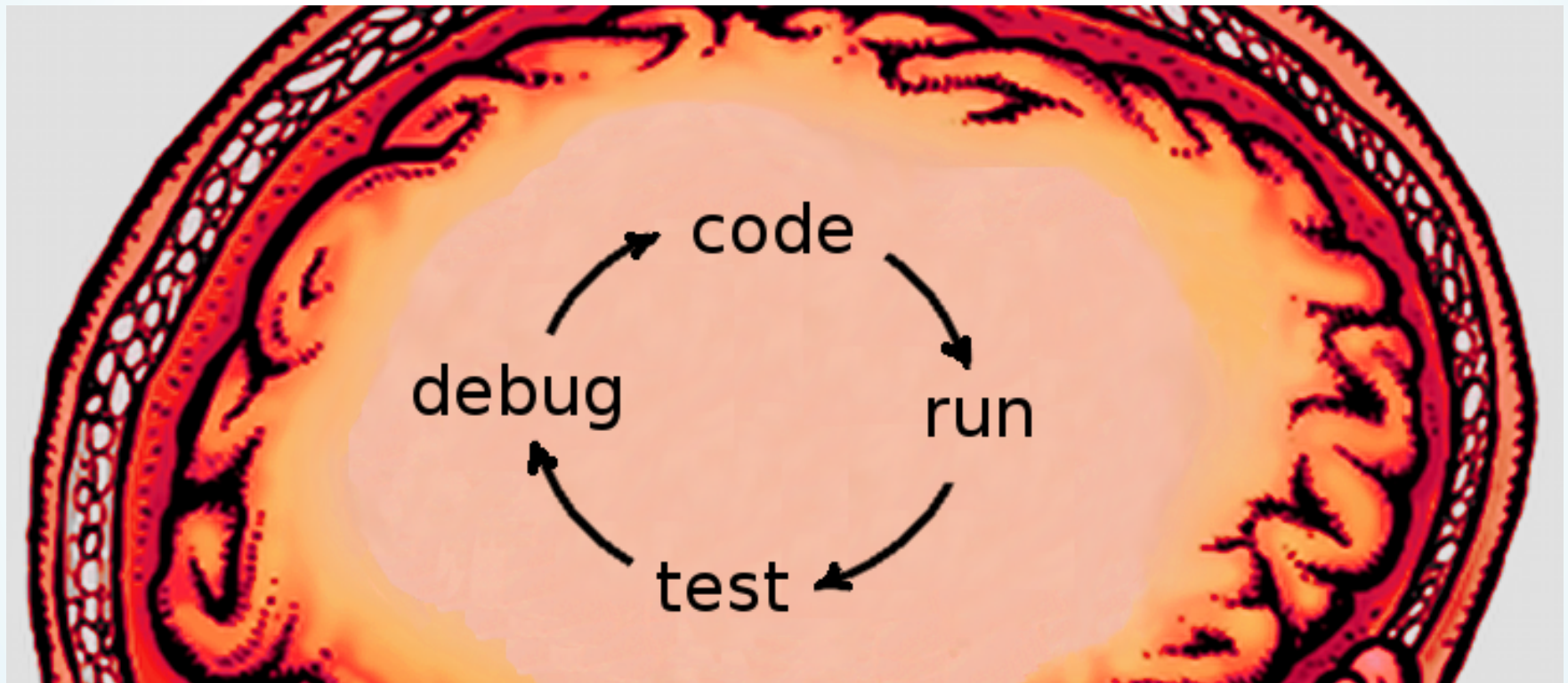
wikipedia.org/wiki/Systems_development_lifecycle

- ~~On time~~
- Supports the Business

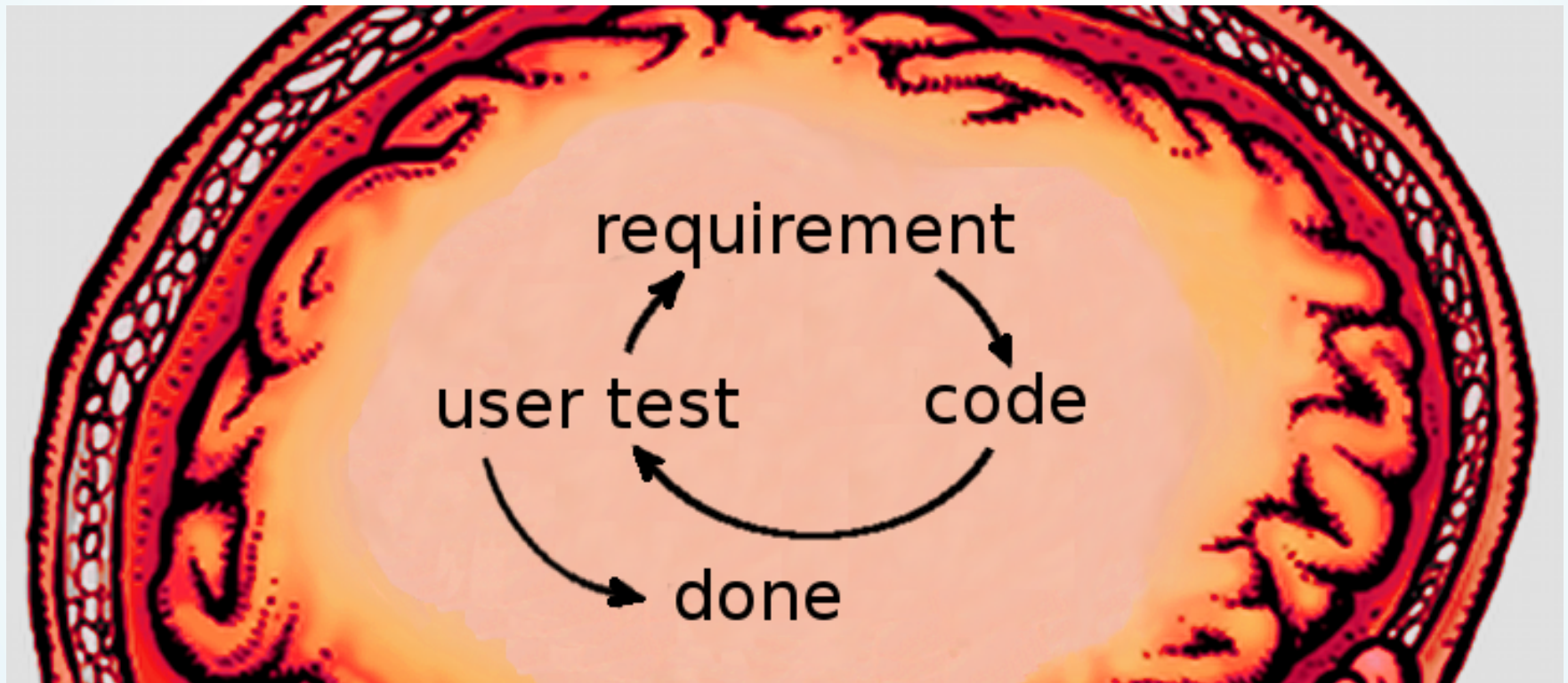
Software Developer



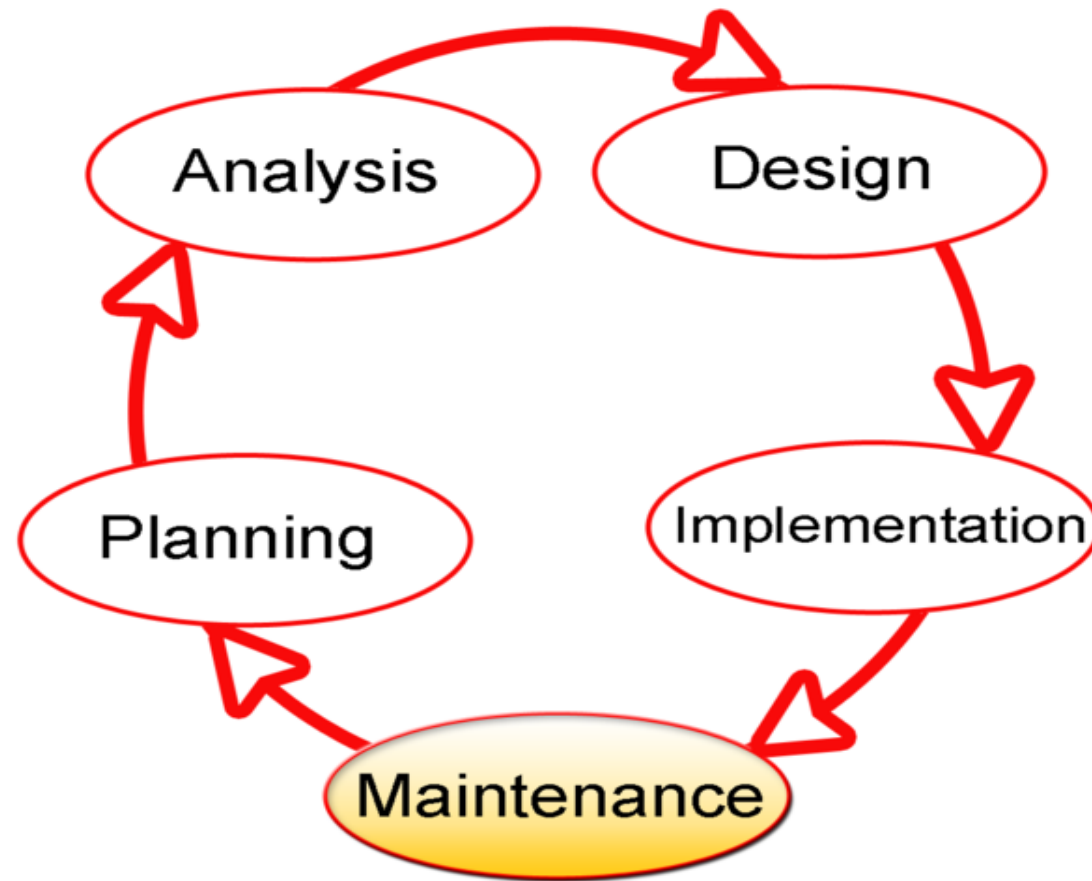
Software Developer



Software Developer



Process



http://en.wikipedia.org/wiki/Systems_development_lifecycle

SDLC Process

- Gather requirements
- Analysis
- Design
- Code & test
- User & system tests
- Go production
- Maintenance

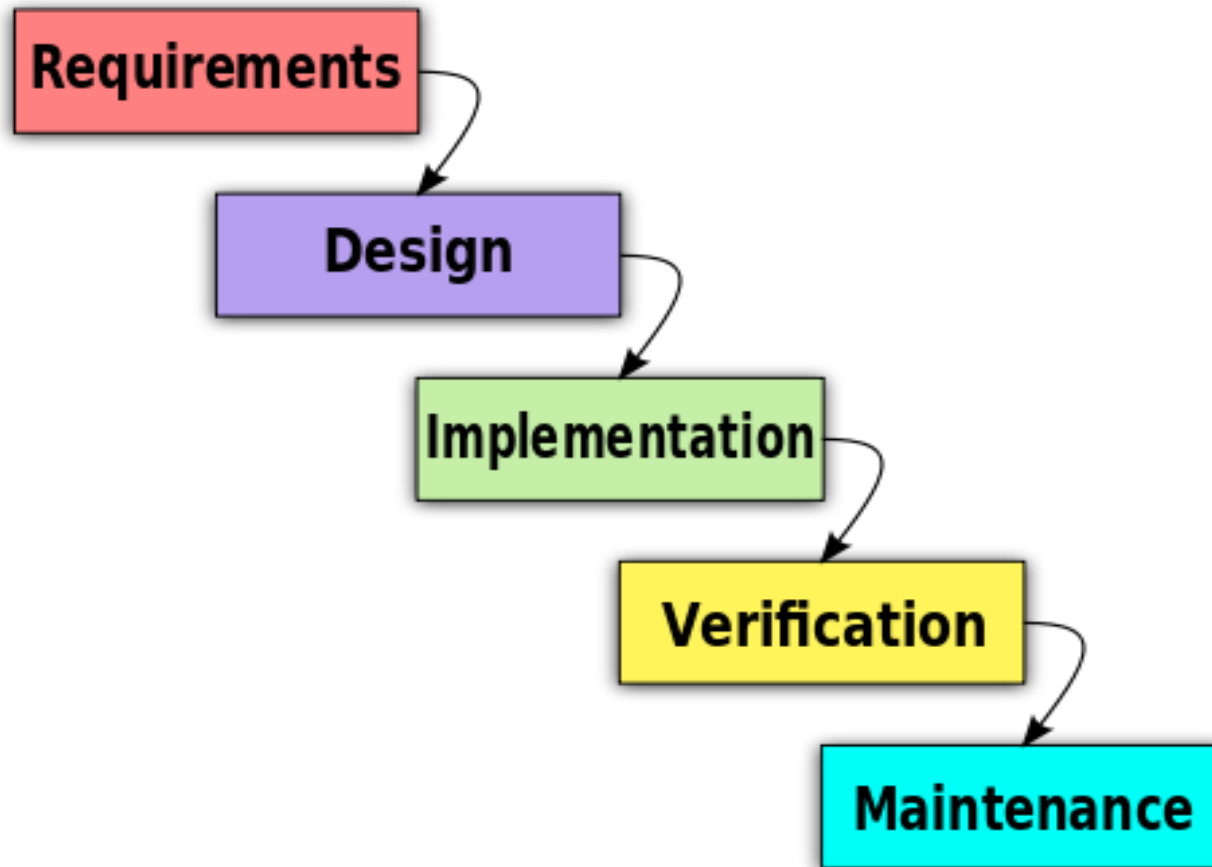
http://publib.boulder.ibm.com/infocenter/zos/basics/index.jsp?topic=/com.ibm.zos.zappldev/zappldev_11.htm

When writing code

- Waterfall
- Spiral
- Iterative and incremental
- Agile
- RAD
- Code & fix

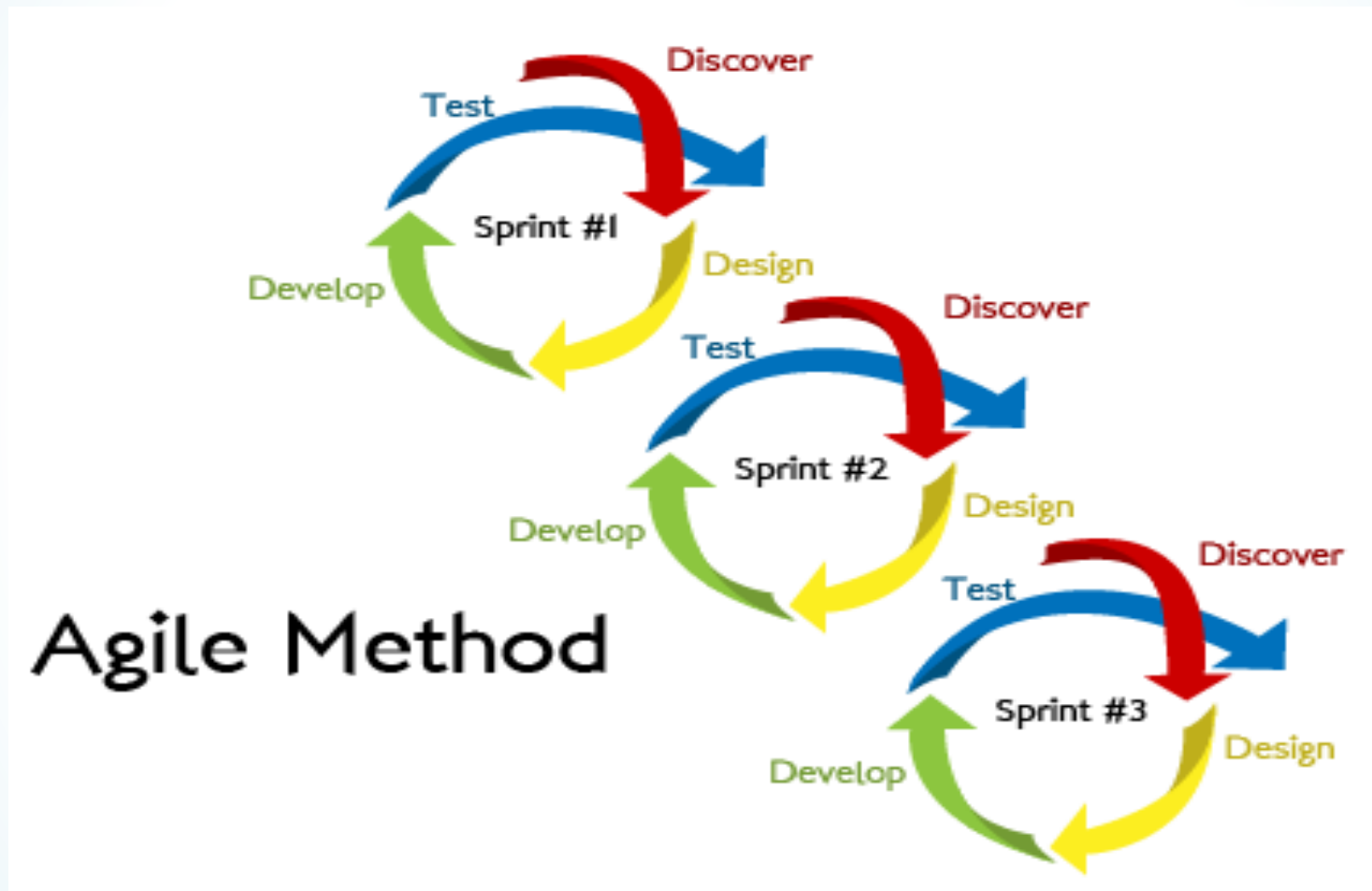
wikipedia.org/wiki/Software_development_process

Waterfall



http://upload.wikimedia.org/wikipedia/commons/thumb/0/06/Waterfall_model_%281%29.svg/500px-Waterfall_model_%281%29.svg.png

Same but different



http://www.commonplaces.com/sites/commonplaces.com/files/agile_method-01.png

What's different?



<http://thumbs.dreamstime.com/z/shooting-bow-arrow-7303986.jpg>

Simple



<http://us.123rf.com/450wm/radiantskies/radiantskies1211/radiantskies121100060/16084055-abstract-word-cloud-for-extreme-programming-with-related-tags-and-terms.jpg>

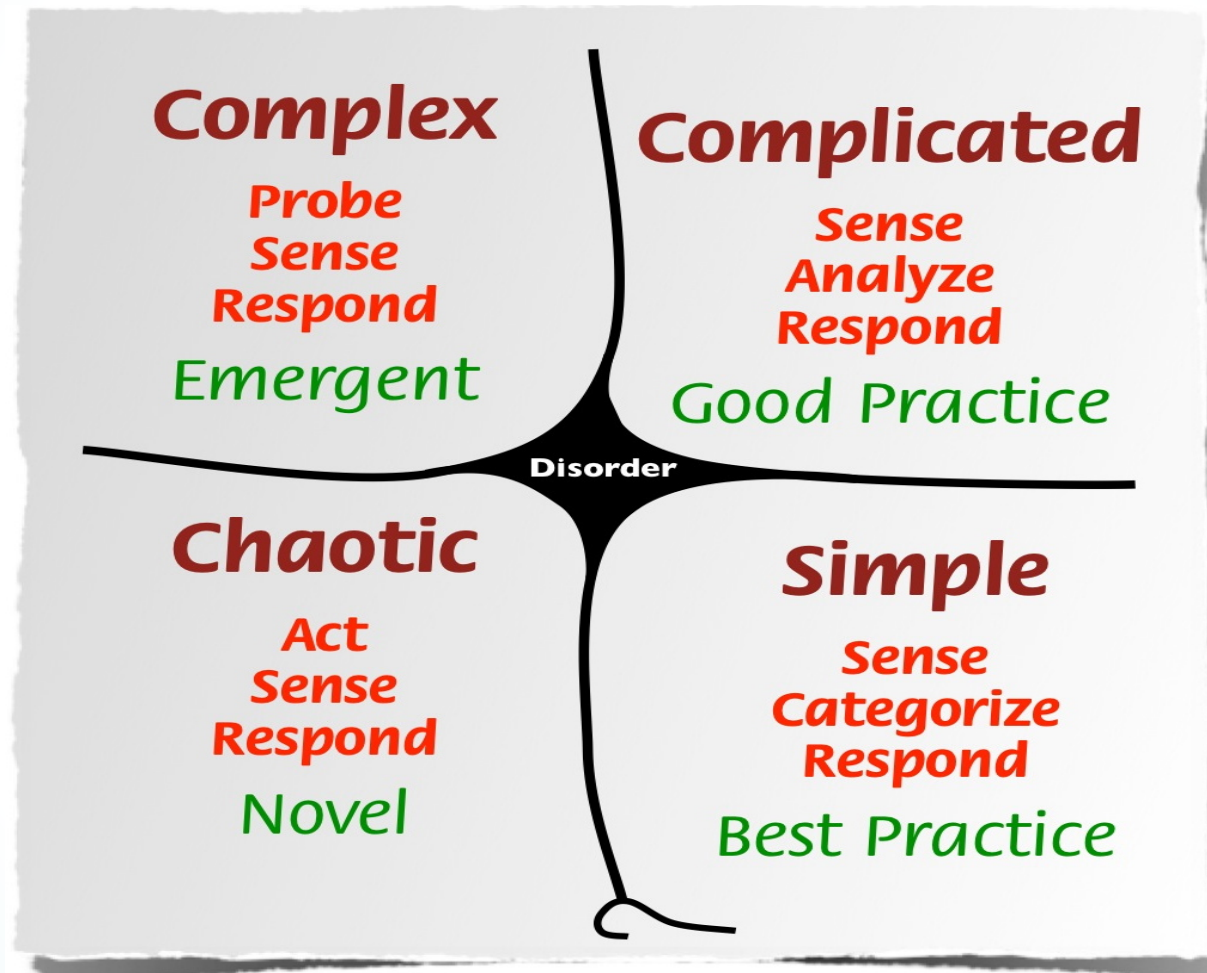
Best Practices

- "For most modern software development projects, some kind of spiral-based methodology is used over a waterfall process. There are several choices, including the Rational Unified Process (RUP), IBM® Global Services Method, and eXtreme Programming (XP)."
- Best practices for software development projects - IBM
- www.ibm.com/developerworks/websphere/library/techarticles/0306_perks/perks2.html

Promises, promises

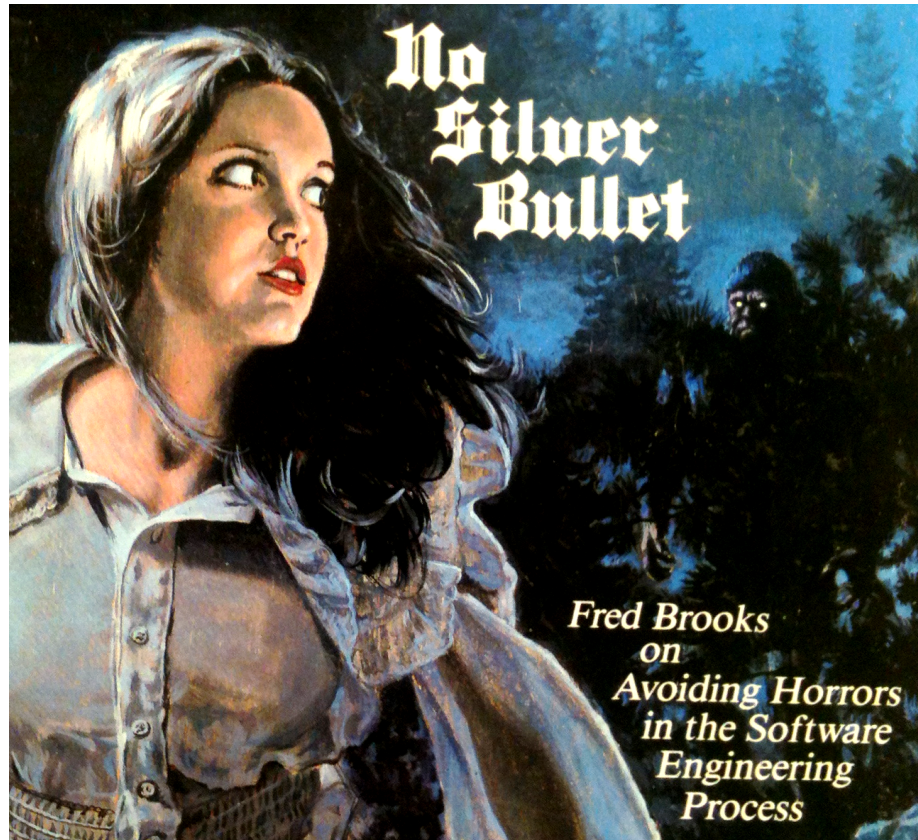
- Best practices => experts, professionals
- Best practices => best results
- Best practices => no problems

Chaos



<http://en.wikipedia.org/wiki/Cynefin>

Best Practices



IEEE Computer 20(40), pp 10-19; April 1987 BC

Know Where You're Going

- "Having a process is better than not having one at all, and in many cases it is less important on what process is used than how well it is executed."
- Best practices for software development projects - IBM
- www.ibm.com/developerworks/websphere/library/techarticles/0306_perks/perks2.html

The Joel Test



Joel on Software

The Joel Test: 12 Steps to Better Code

<http://www.joelonsoftware.com/articles/fog0000000043.html>

The Joel Test

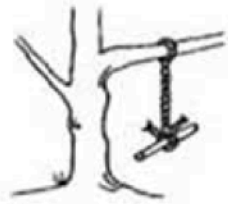
1. Do you use source control?
2. Can you make a build in one step?
3. Do you make daily builds?
4. Do you have a bug database?
5. Do you fix bugs before writing new code?
6. Do you have an up-to-date schedule?
7. Do you have a spec?
8. Do programmers have quiet working conditions?
9. Do you use the best tools money can buy?
10. Do you have testers?
11. Do new candidates write code during their interview?
12. Do you do hallway usability testing?

Know Where You're Going

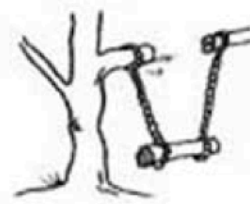
- What problem are we trying to solve?
- Cuz can \leftrightarrow U Shud
- Are we there yet?
- Next?

It's about communication

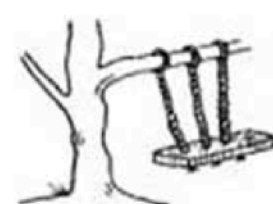
What can go wrong?



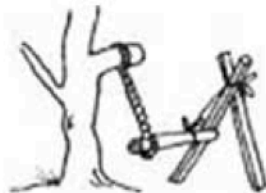
What the customer asked for



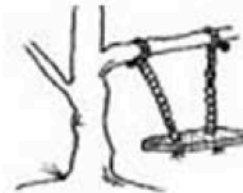
How the designer saw it



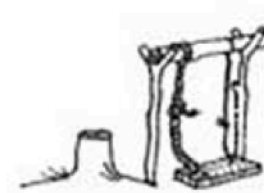
What the spec says



What the programmer wrote



What the customer really wanted



How it works

Using JqGrid for Rich Web Client App Development

Ben Karsin
Graduate Assistant
10/25/2013

JqGrid Introduction

- jQuery-UI Grid widget (JavaScript)
- Easily integrates with Grails, PHP, ASP, etc.
- Lots of options!
 - In-line editing, search/sort, paging, etc.
- Handles all AJAX calls
- Local data or remote (with AJAX/JSON)
- Rich development community
- Spreadsheet-centric...

Why JqGrid?

- Relational back-end database
 - Eliminate redundant data
 - ACID (Atomicity, Consistency, Isolation, Durability)
 - etc, etc, etc...
- With spreadsheet benefits
 - Very intuitive, simple interface
 - Great breadth and depth
- Merge easily and in **complex** ways
 - Pull data from related tables

Demo of JqGrid in DCmd

DCmd, the Data Center meta data project

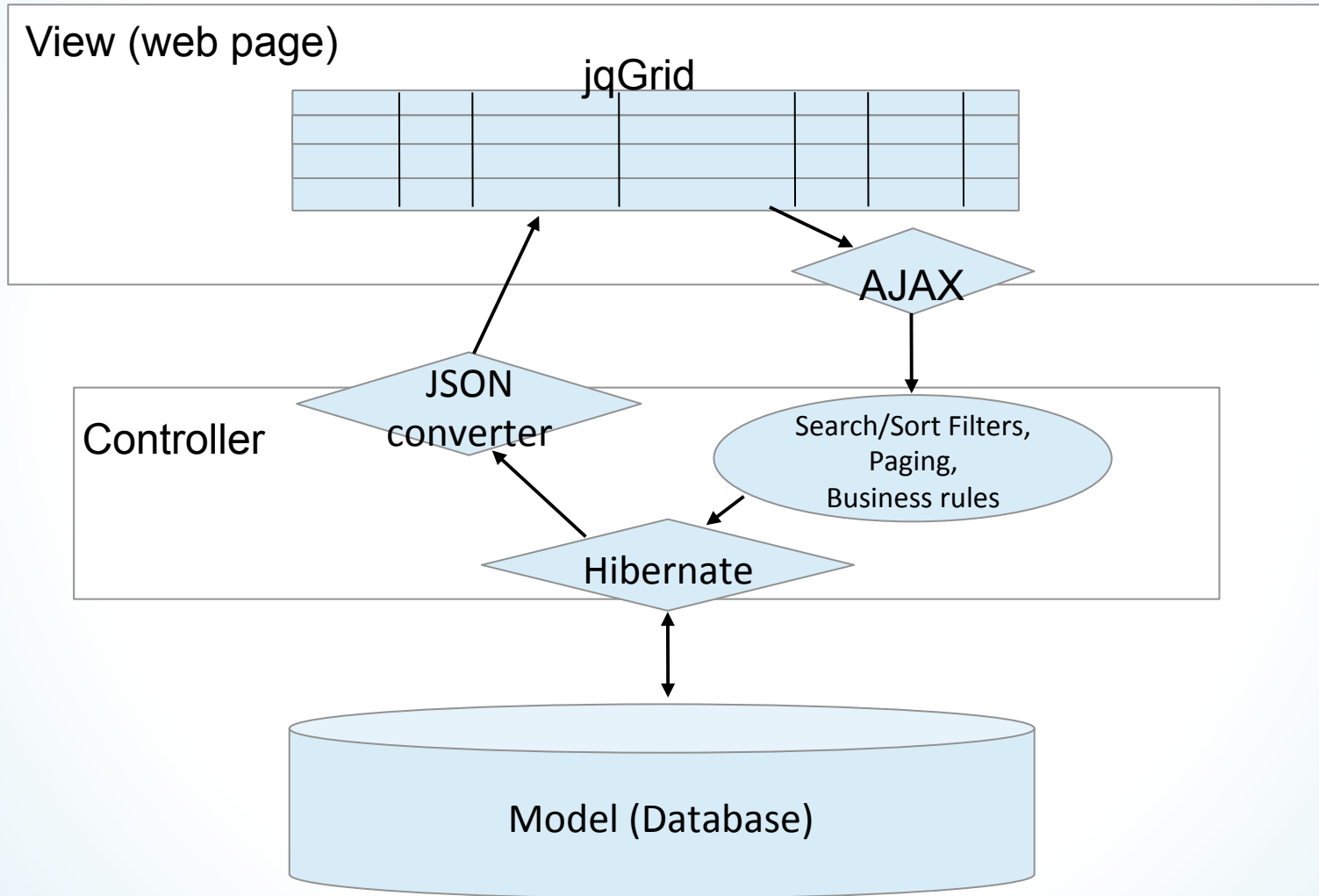
- DCmd is the UH Data Center's information management solution. Its purpose is to comprehensively track and coordinate info and relationships for all of the applications, application infrastructure (physical and virtual), and assigned support staff.



The screenshot shows the DCmd Dashboard interface. The top navigation bar includes the DCmd logo, version 1.4.1, and the title 'Dashboard'. Below the navigation bar, there is a breadcrumb trail: '389ds Idpmaster.its.hawaii.edu > thang > Idp01'. The main content area displays a table with the following columns: Host, Status, Primary SA, Secondary SA, Tertiary SA, Service Lead, and General Notes. The table contains 19 rows of data, each representing an LDAP server instance. The 'Host' column lists various Idp IDs (e.g., Idp01, Idp02, Idp03, Idp11, Idp12, Idp13, Idp20, Idp25, Idp36, Idp37, Idp38, Idp41, Idp42, Idp43, Idp44, Idp45, Idp80, Idp92, Idp94). The 'Status' column for all entries is 'Available'. The 'Primary SA' column for all entries is 'thang'. The 'General Notes' column contains specific information for certain servers, such as 'ITS Appliance (UH Hilo) - Contact Gary Nekoba 10/23/201; mhodges is working with Gary and Normand on getting the retired.' and '389ds LDAP server for AD Sync'.

Host	Status	Primary SA	Secondary SA	Tertiary SA	Service Lead	General Notes
Idp01	Available	thang				
Idp02	Available	thang				
Idp03	Available	thang				
Idp11	Available	thang				
Idp12	Available	thang				
Idp13	Available	thang				
Idp20	Available	thang				ITS Appliance (UH Hilo) - Contact Gary Nekoba 10/23/201; mhodges is working with Gary and Normand on getting the retired.
Idp25	Available	thang				ITS Appliances (JABSOM) - Contact Lionel Shigemura
Idp36	Available	thang				
Idp37	Available	thang				
Idp38	Available	thang				
Idp41	Available	thang				Standalone, Read-only consumer of Idp44
Idp42	Available	thang				Standalone, Read-only consumer of Idp44
Idp43	Available	thang				
Idp44	Available	thang				
Idp45	Available	thang				
Idp80	Available	thang				Test/dev core LDAP server
Idp92	Available	thang				
Idp94	Available	thang				389ds LDAP server for AD Sync

Communication Cycle



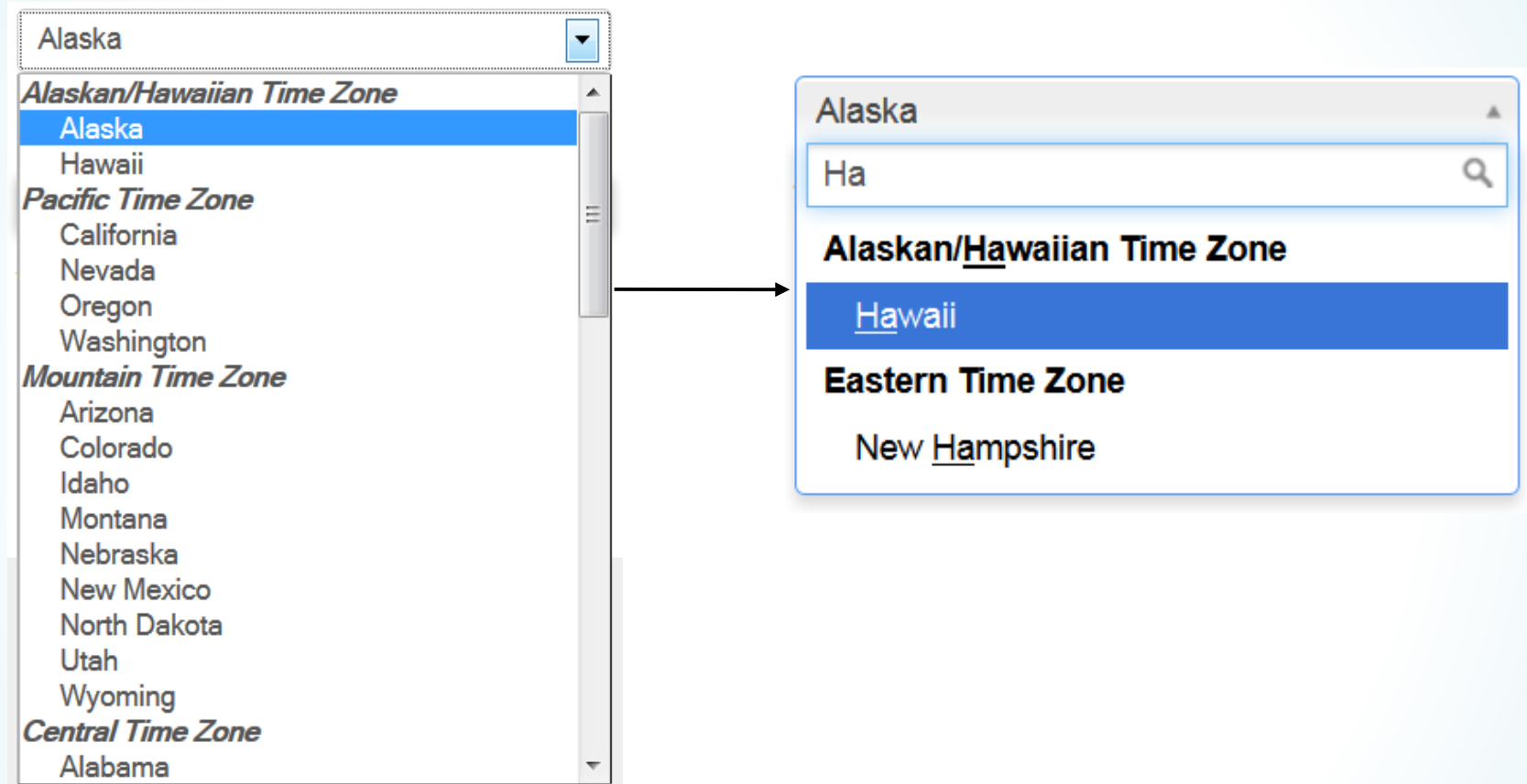
Search, Sort, Page

- Hibernate “createCriteria”
 - Conditional query → Search/Sort
 - maxRows & offset → Paging
- Some complex joins are difficult
 - e.g., Application Primary SA for a Host (5-table join)
- JqGrid collects & sends everything
 - AJAX
- Easy to extend in many ways...

Editing Options

- Inline Editing
 - Most interactive
 - More prone to mistakes
- Form Editing
 - jQuery modal popup with all fields
 - Safer solution
- Row Editing
 - A happy medium

Select2 Dropdowns



- Substring Search, Option Add, etc.

Example jqGrid definition

```
jQuery("#allSupportedHosts").jqGrid({
  colNames:['', 'Host', 'Status','id'],
  colModel:[
    {name:'actions', width:40, formatter: 'actions',
      formatoptions: {keys: true, editbutton: true, delbutton:true }
    },
    {name:'hostname', width: 100, editable:true},
    {name:"status", width:100, editable:true, edittype:'select',
      editoptions: {
        dataUrl:'${createLink(controller:"status",action:"listStatus")}',
        dataInit:function(e) {
          $(e).select2({
            width: 200
          })
        }
      }
    }
  ]
});
```

Row Editing

Select2 addon

Example JqGrid options

Controller Actions

```
url: 'listAllHosts',  
editurl: 'editAllHosts',
```

Fit to browser

```
height: 'auto',  
shrinkToFit: true,
```

Paging options

```
rowNum: 20,  
rowList: [5, 10, 20, 50, 100],  
pager: '#pagerElementName',
```

Remote/Local data

```
datatype: "json",
```

Many more...

```
cellEdit: false,  
subGrid: false,  
gridComplete: function() {  
    ...  
}
```

Conclusions

- JqGrid fits well into MVC
 - Easy way to interact with relational DB
 - With a framework, can produce **quickly**
- Highly customizable
- Works well with others (e.g., select2)
- Not just for Grails (PHP, ASP, etc.)
- DCmd relies heavily on JqGrid

The New UH Data Classification Categories

Jodi Ito
IT Security Officer
10/25/2013



Proposed UH Institutional Data Classification Categories
Draft 10/23/13

Purpose: Proposal to add two new data classification categories to more effectively distinguish and manage Institutional Data with different levels of security and risk.

Data Category	Definition	Types of Data	Restricted Use?	Level of Risk	Encryption Required?
Public	<p>Institutional Data where access is not restricted and is subject to open records requests.</p> <p>Note: UH will not release lists of student directory information per UH's FERPA policy (AP A7.022).</p>	<p>Student directory information</p> <ul style="list-style-type: none"> • Name of student • Major field of study • Education level (i.e., freshman, sophomore, etc.) • Fact of participation in officially recognized activities and sports • Weight and height of members of athletic teams • Dates of attendance • Most recent educational institution attended • Degrees and awards received • Enrollment status (full-time and part-time) <p>Employee information available through Hawai'i Revised Statutes 92F-12:</p> <ul style="list-style-type: none"> • Name of employee • Compensation (for executive/managerial and faculty only; salary ranges for all other employee groups) • Job title • Business address • Business phone number • Job description • Education/training background • Type of appointment • Service computation date • Job code/occupational group/class code • Bargaining unit code • Department code/description • Island of employment • Past employees in a specific position 	No	None	No

Proposed UH Institutional Data Classification Categories
Draft 10/23/13

Data Category	Definition	Types of Data	Restricted Use?	Level of Risk	Encryption Required?
Restricted <i>(new)</i>	Also referred to as “restricted directory information” for student data. Institutional Data that is used for internal UH business only and will not be distributed to external parties. Institutional Data will be released only under the terms of an established memorandum of agreement or contract.	<ul style="list-style-type: none"> • Student UH email address • Student home address • Student phone number • <i>UH ID number (regardless if for Student or Employee. May also be referred to as: Student UH ID number or Employee UH ID number)</i> • <i>Banner PIDM</i> • <i>ODS PIDM</i> 	Yes	Limited	No
Sensitive	Institutional Data that is subject to privacy considerations or has been classified as confidential and subject to protection from public access or inappropriate disclosure.	<p>Student and employee information:</p> <ul style="list-style-type: none"> • Date of birth • Private home address and phone number • Job applicant records (names, transcripts, etc.) • Confidential salary information • Access codes, passwords, and PINs for online information systems • Answers to “security questions,” such as “what is the name of your favorite pet?” • Confidential information subject to attorney-client privilege • Detailed information about security systems (physical and/or network) • Information made confidential by a collective bargaining agreement <p>Other student record data that is not considered directory or restricted information.</p>	Yes	High	Yes, if not physically secured *

Notes: Student record data that is not listed as either ‘public’ or ‘restricted’ is considered sensitive.
 Aside from student record data, if a particular data description or set of data is not listed in any category, it is considered public.

Proposed UH Institutional Data Classification Categories
Draft 10/23/13

Data Category	Definition	Types of Data	Restricted Use?	Level of Risk	Encryption Required?
Highly Regulated <i>(new)</i>	Institutional Data where inadvertent disclosure or inappropriate access requires a breach notification in accordance with Hawai'i Revised Statutes §487N or is subject to any other federal regulations that may incur financial fines or other sanctions (such as immediate termination of contract/grant or inability to apply for any future contact/grant) if information is breached.	An individual's first name or first initial and last name in combination with any one or more of the following data elements, when either the name or the data elements are not encrypted: <ul style="list-style-type: none"> • Social Security Number • Driver license number or Hawai'i identification card number • Account number, credit or debit card number, access code, or password that would permit access to an individual's financial account • PCI-DSS • Health information, including anything covered by the Health Insurance Portability and Accountability Act (HIPAA) 	Yes	Very high	Yes, if system not hardened in accordance to security specifications in accordance with applicable regulation(s). <i>Technical security requirements may include mandatory security scans for vulnerabilities and personally identifiable information, password audits, etc.</i>

* *Physically Secured: System, electronic media, or paper that contains sensitive information must be physically secured in a non-public, controlled area (room should be locked if no one is in the room, cannot be a freely accessible area such as a classroom or lab area, area is only accessible to a trusted, known group of individuals).*

Information Technology Center

- The home of the new UH Data Center.
- Staff are scheduled to begin moving in starting Nov 18 (*if the Certification of Occupancy is done*).
- Online Services are scheduled to begin transitioning to hardware in the new UH Data Center starting Dec 26.



Oracle CWL Pricing Changes

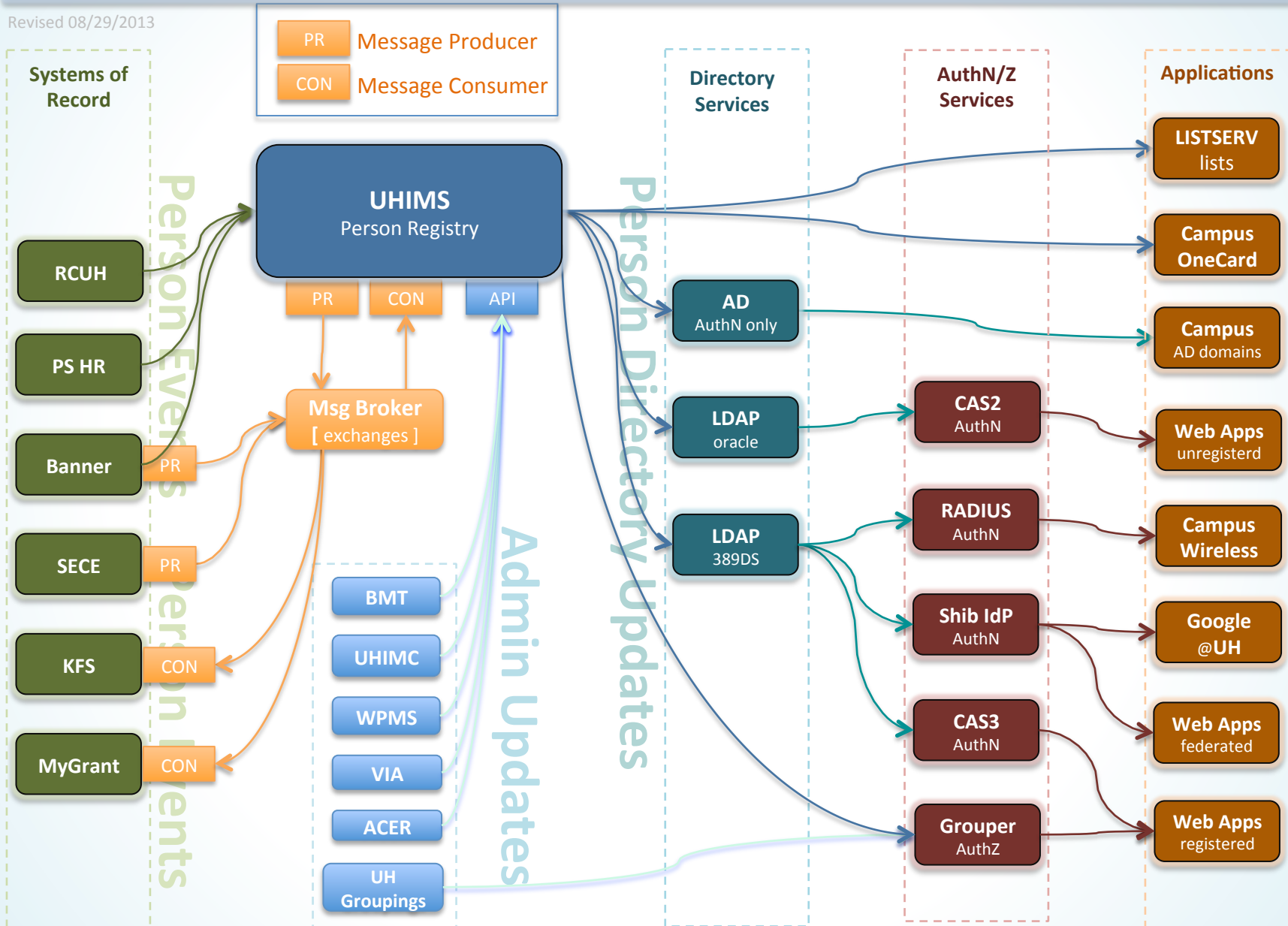
- UH has a system-wide license for
 - Oracle Enterprise Database
 - Tuning Pack
 - Diagnostics Pack
 - Oracle Advanced Security
- You can download and use the above.
- For a CSI and access to technical support
 - Contact ITS Site Licensing
 - Cost is \$1,300 per CPU per Year (95% discount)

Quick IAM Glance

- UH Identity Management System (UHIMS)
- UH Identity Management Console (UHIMC)
- UHIMS Events
- UH Web Login Service v3
- UH Message Broker
- ACER
- WPMS
- UH Groupings

UHIMS Ecosystem (circa 2013)

Revised 08/29/2013



Questions?



- Note that we attempt to capture the questions & answers and publish them along with these slides.
 - <https://www.hawaii.edu/bwiki/x/FYqdDQ>

Wrapping Up

- Thank you!!!
- Snacks in the back
 - Take a moment to introduce yourself to your colleagues
- Online references for today's presentation
 - UH Web Login Service
 - <https://www.hawaii.edu/bwiki/x/JQq5DQ>
 - LDAP
 - <https://www.hawaii.edu/bwiki/x/tAG5DQ>
 - UH Applications Developers Forum
 - <https://www.hawaii.edu/bwiki/x/FYqdDQ>
 - Oracle CWL Pricing
 - <http://www.hawaii.edu/sitelic/oracle/>

