# UH Applications Developers Meeting

04/24/2015

*Today's slides are available online*

https://go.hawaii.edu/w

# Presenters

*In order of appearance*

- Michael Hodges: ITS, Middleware/IAM
- Wendall Ho: Treasury Office, Treasury Officer
- Monir Hodges: PCATT/HonCC, Prof & Software Engineer
- Ben Karsin: ITS, Grad Assistant/ICS PhD Student
- Paul Ryan: UHM College of Ed, Tech Lead
- Julio Polo: ITS, Middleware/IAM Architect

# Agenda

- Breaking News: ITS Sponsored "All IT Workshop”
- Presentation: eCommerce on Campus (Wendall/Monir)
- Presentation: Backbone and Handlebars for Web-Apps Development (Ben)
- Presentation: WordPress Authorizer Plugin (Paul)
- Presentation: There’s a Group for That (Julio)
- Notables, Quick Tips and Reminders
- Snacks: And an opportunity to meet colleagues

# ITS Sponsored "All IT Workshop"

- Purpose:
  - A gathering to share best practices, hear the latest about current and coming system-wide IT services, and talk about how to solve the challenges and take advantage of the new opportunities facing us every day.
- Date/Time: June 19, 9:00 AM to 3:30 PM
  - Save the date, lunch to be provided.
- Venue: UHM Campus Center
- Contact Info: itworkshop@hawaii.edu
- Stay tuned: signup and additional email forthcoming

# eCommerce on Campus

**Wendall Ho**
Treasury Officer
**Monir Hodges**
HCC Professor and Software Engineer

# TouchNet Marketplace

- TouchNet payment gateway and bill payment module integrate with Banner student information system.
- Marketplace is UH's eCommerce platform. There are 38 merchants, 11 uStores and 105 uPay sites.
- Except for the merchant fee, there is no additional cost to use Marketplace.
- Transactions are secure. Potential fraud is minimized through AVS and CVV validation.

# TouchNet Marketplace

- uStore is an online mall.  Allows for inventory control, order fulfillment and financial reporting.
- uPay is for one-time or recurring payments. Connects to web application and web sites.

# uStore Advantages

- Easy to set up; customized store front
- Able to track inventory
- Additional modifiers, such as size, color, etc.
- Mobile web site
- Text message confirmation
- New payment method: campus cards, Blackboard, CBORD

# uPay Site Advantages

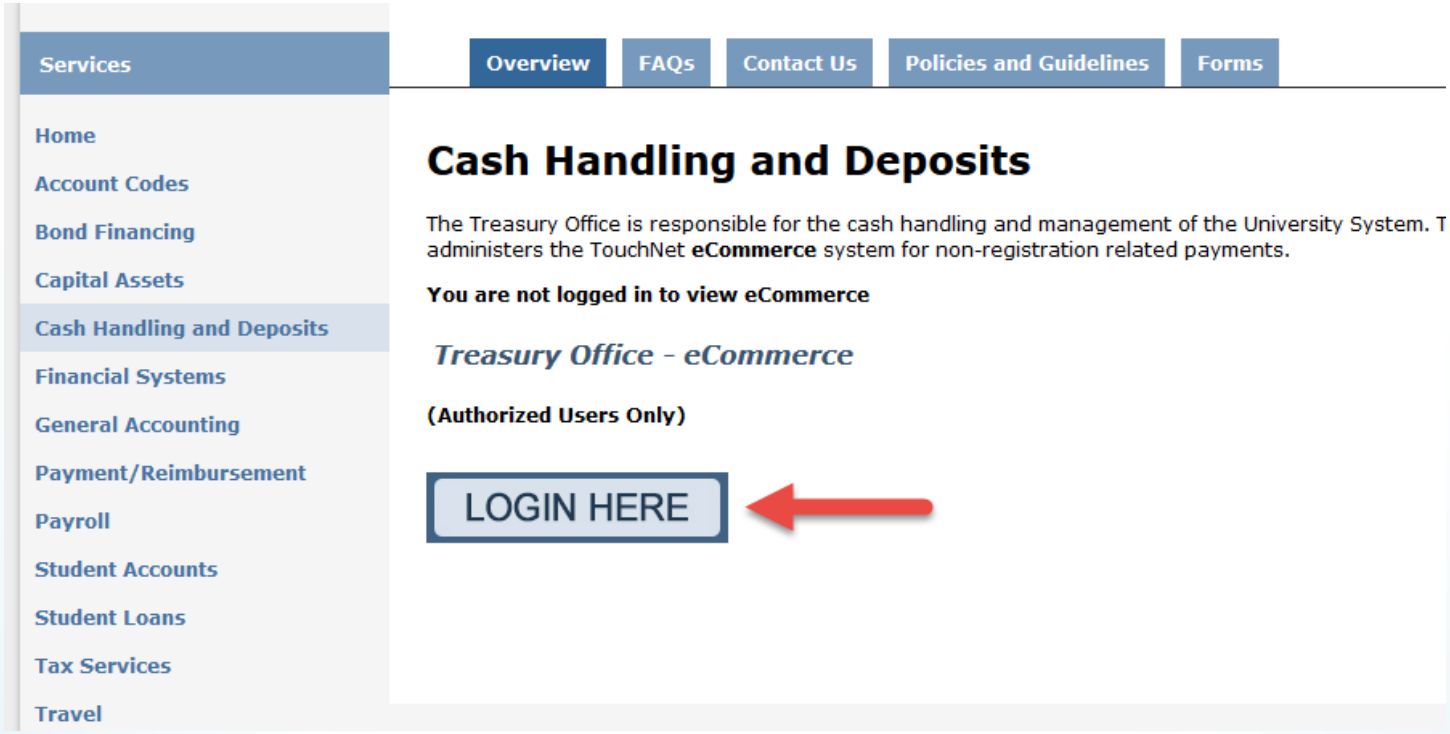
- Payments are redirected to TouchNet from web applications.
- Able to process one–time and recurring payments
- Revised uPay Screen using style sheet
- Additional text fields on eMail

# Payment Card Industry Data Security Standards (PCI-DSS) Overview

- Build and Maintain a Secure Network and Systems
- Protect Cardholder Data
- Maintain a Vulnerability Management Program
- Implement Strong Access Control Measures
- Regularly Monitor and Test Networks
- Maintain an Information Security Policy

# Links

- Financial Management Website [http://www.fmo.hawaii.edu/index.html](http://www.fmo.hawaii.edu/index.html)



# Links

## Treasury Office - eCommerce (Authorized Users Only)

The University has purchased TouchNet Marketplace to safely and securely process payments originating from university websites. Listed below are some useful links and documents :

| | Test | SafeCopy (c94372.username) | Production |
|---|---|---|---|
| U.Commerce Central | Secure Link | Secure Link | Secure Link |
| Marketplace uStore | Secure Link | Secure Link | Secure Link |
| Marketplace uStore Mobile | Secure Link | Secure Link | Secure Link |
| Marketplace uPay | Secure Link | Secure Link | Secure Link |
| SecureLink Web Service | Secure Link | | Secure Link |
| TPG Web Service | Secure Link | | Secure Link |

NOTE: Effective immediately, there are new, updated card numbers to be used in your Test environments. When using or performing Test transactions, you'll want to **enter an expiration date of the current month/year or a month/year in the future.**

| Card Type | Card Number | Scenario | Detail |
|---|---|---|---|
| Visa | 4111 1111 1111 1111 | Credit Only | Will not process as Debit |
| MasterCard | 5121 2121 2121 2124 | Credit Only | Will not process as Debit |
| Discover | 6011 1111 1111 1111 | Credit Only | Will not process as Debit |
| Visa | 4343 4343 4343 4345 | Various Debit Scenarios | PIN Debit, Signature Debit, and PINless Debit |
| MasterCard | 5149 6122 2222 2220 | Various Debit Scenarios | PIN Debit, Signature Debit, and PINless Debit |
| Visa | 4017 7799 9999 9010 | Failure | PIN Debit, Signature Debit, and PINless Debit |

**Credit Card Exception Codes :**

Error Code List

**User Guides :**

uStores Layout Guide

# TouchNet Marketplace

- Mall https://epay.hawaii.edu:8443/C24372test_ustores/web/
- Mobile site https://epay.hawaii.edu:8443/C24372test_ustoresmobile/web/index.jsp
- uCommerce Central https://secure.touchnet.com:8443/castest/login?service=https%3A%2F%2Fsecure.touchnet.com%3A8443%2Fucommercecentraltest%2F

# To Participate in eCommerce

- A8.710 Credit Card Program
- A8.711 Electronic Payments via University Websites

# Questions?

**Wendall Ho**
Treasury Officer
**Monir Hodges**
HCC Professor and Software Engineer

# Using Backbone and Handlebars for Web-App Development

**Ben Karsin**
ITS, Graduate Assistant
karsin@hawaii.edu

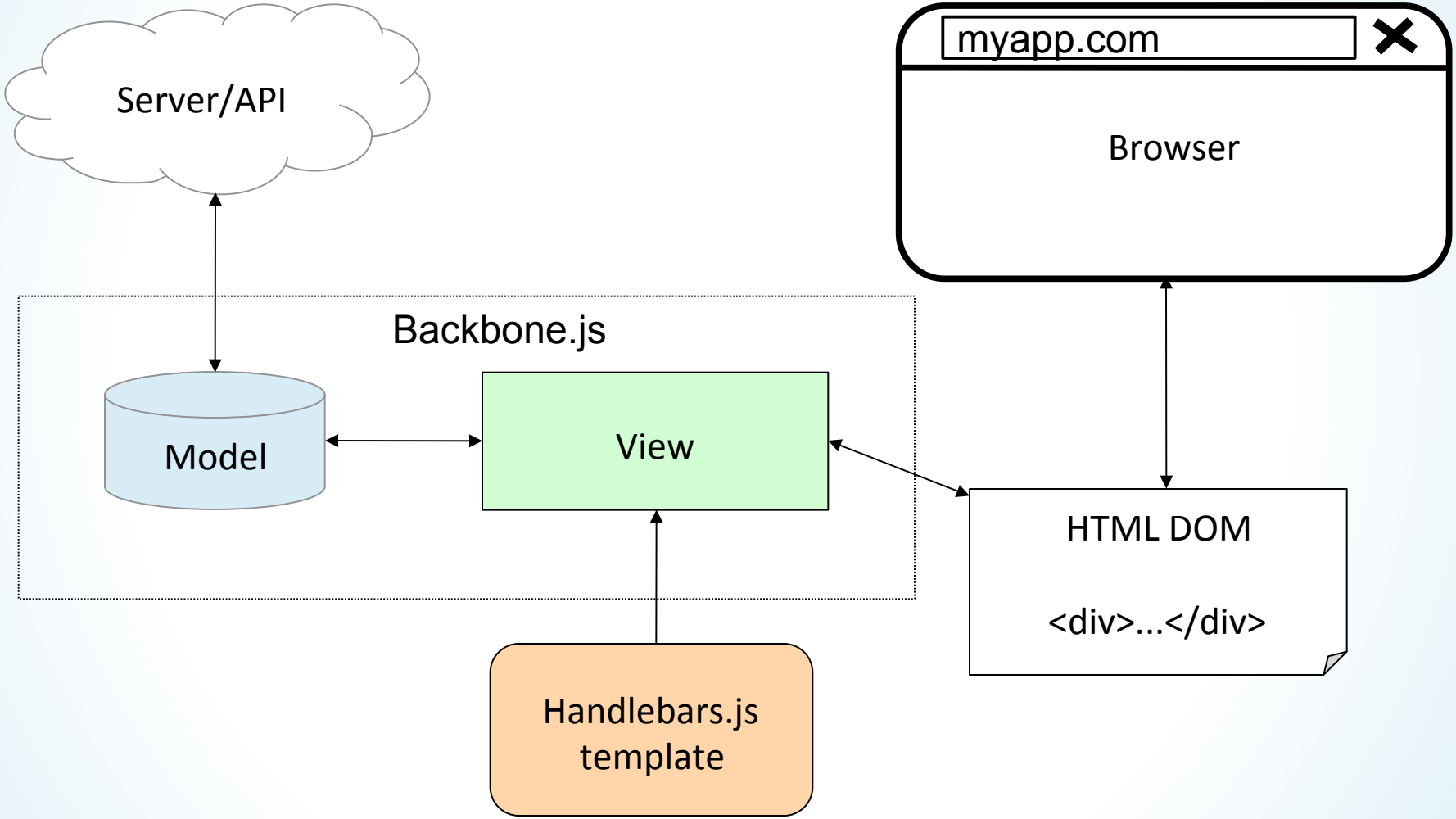
# Motivation

- **Problem: page loads**
  - Sluggish websites of the '90s
  - Degrade from user experience
- **Solution: fat client**
  - Minimal server interaction
  - Only load what changes
- **Difficulty: browser languages**
  - Sorry, Javascript is here to stay
- Need a framework

# Enter Backbone.js

- **MVC** (Model, View, Controller) in javascript
  - Model contains data objects
    - Handles ajax queries to server
  - View presents data to user
    - HTML templates (Handlebars.js)
  - Controller mediates the two
- Very small library
- Used by Pandora, USA Today, New York Times, etc.
- Not a replacement for jQuery or CSS

# Framework Overview



# Model

- **Define the Model**

```
var Person = Backbone.Model.extend({
      url:'people/getPerson'
  });
```

- **Instantiate the Model**

```
var employee = new Person();
```

- **Operate on the Model**

```
employee.fetch({data: employeeId}, success:...);

employee.save(...);

employee.destroy(...);
```

# View

- **Define View**

```
var EmployeeView = Backbone.View.extend({
      model: employee,

    Initialize: function() {
          template = Handlebars.compile(
                $("#employee_template").html()); }

    render: function() {
          var context = {data:this.model.toJSON()};
          this.$el.html(template(context)); }

});
```

- **Instantiate View**

```
var employeeView = new EmployeeView({el:$("#frame")})
```

# HTML and template

- **Handlebars Template**

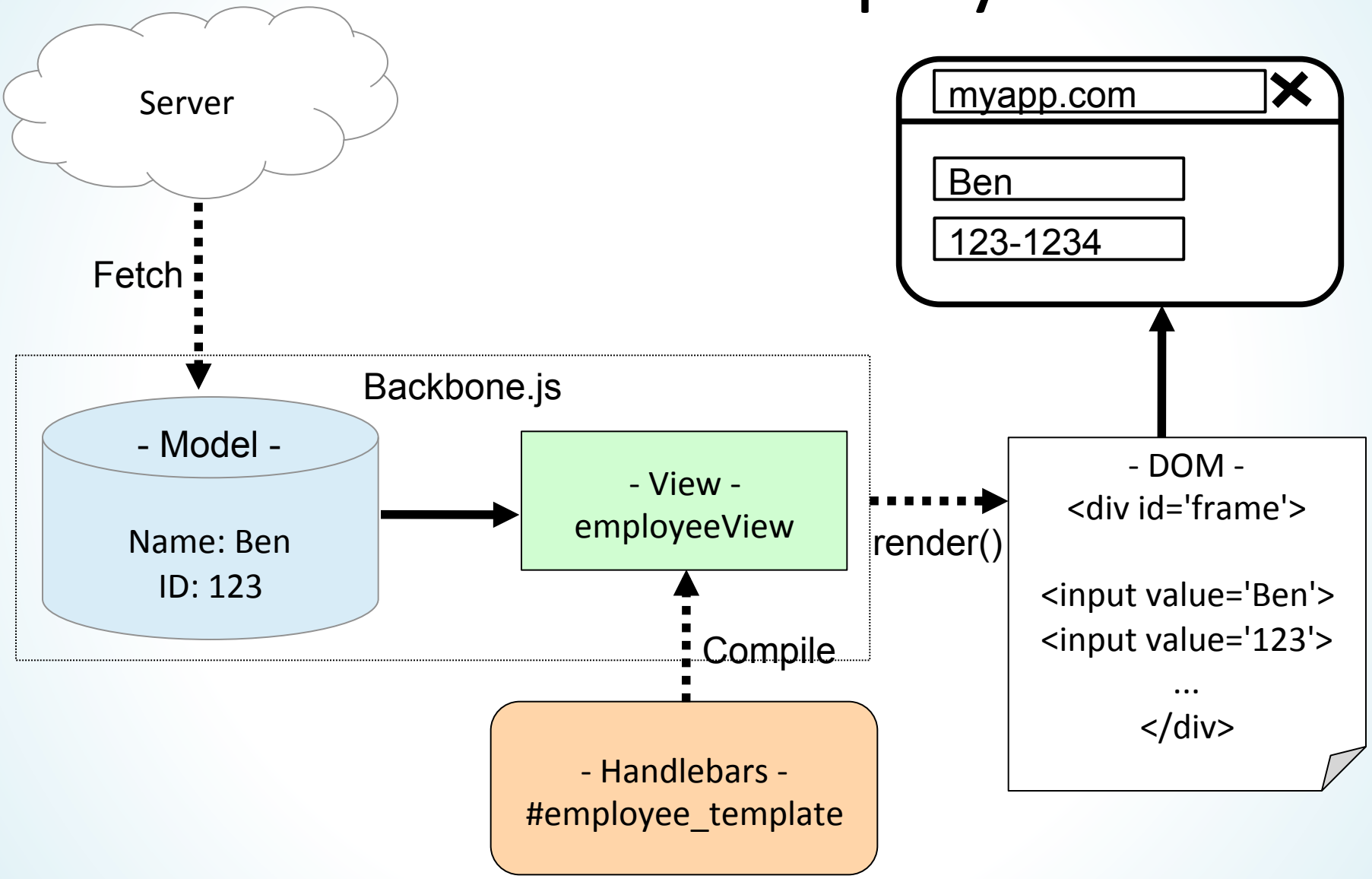
```
<script type="text/x-handlebars-template"
                        id="employee_template">
      <input type='text' value="{{data.name}}" />
      <input type='text' value="{{data.phone}}" />
  </script>
```

- **HTML Tag**

```
<div id='frame'></div>
```

- **View renders template**
  - **Fills in {{data}} items**
  - **Places within "#frame" tag**

# Fetch and Display



# Edit/Save

- **Just add save button event**

```
var EmployeeView = Backbone.View.extend({
      model: employee,

    events: {
          "click #saveBtn": 'saveEmployee' },

    saveEmployee: function() {
          this.model.save(); }

});
```

- **Click button with 'id=saveBtn'**
- **DOM → Model connection maintained!**
- **destroy() too!**

# Additional features

- **Backbone**
  - **Collections**
    - **Cached select box options**
  - **Events**
  - **Routers**
    - **Navigation on single-page apps**
    - **Saves state with HTML5 browsers**
- **Handlebars**
  - **#if, #each, nested objects, etc.**

# Collections Example

- **Define and fill collection of Models**

```
var Job = Backbone.Model.extend();

var JobList = Backbone.Collection.extend({
      url: 'people/getJobList',
      model: Job,

    initialize: function() {
          this.fetch();}
  });

var jobList = new JobList();
```

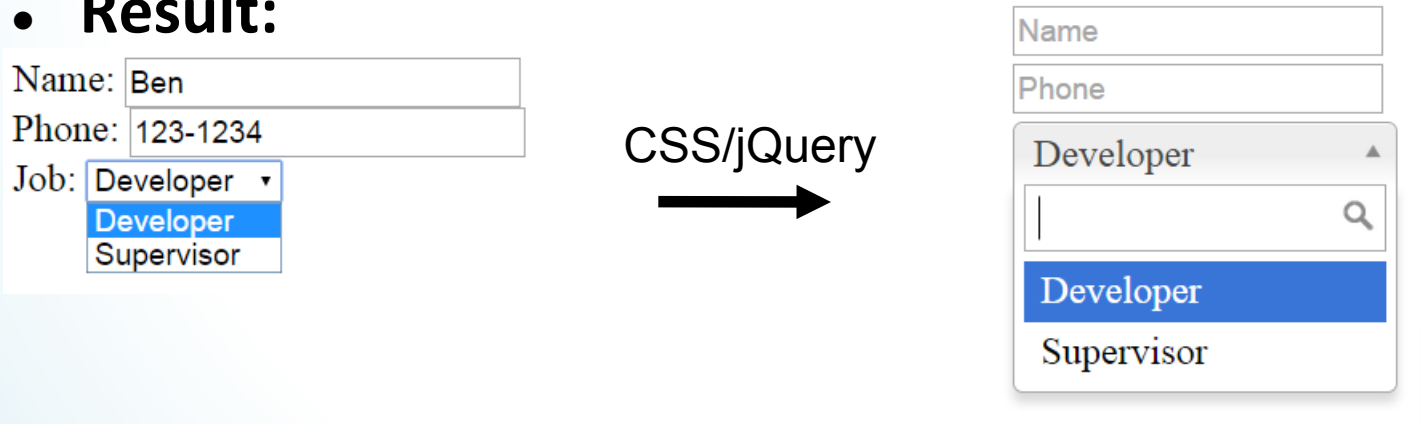
- **'people/getJobList' action returns JSON**
  - **{id:1, name:Developer},{id:2, name:Supervisor}...**

# Collections Example (cont.)

- **Handlebars template for select box**

```
<select id='jobs'>
    {{#each jobs}}
    <option value='{{this.id}}'>{{this.name}}</
  option>
    {{/each}}
  </select>
```

- **Result:**



# Questions?

**Ben Karsin**

ITS, Graduate Assistant

karsin@hawaii.edu

# Authorizer

## A WordPress Plugin for Authenticating UH Users

**Paul Ryan**

Tech Lead, UHM College of Education

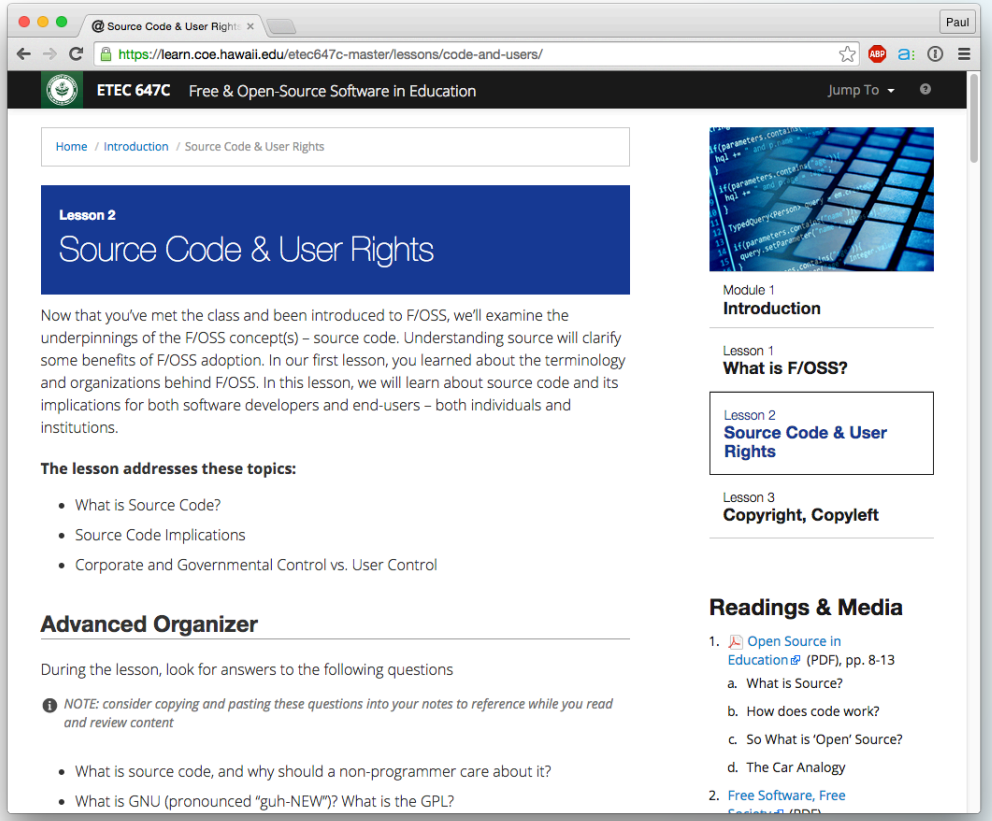
# Overview

- Background: Why did we need this?
- Plugin: Where can I get it?
- Example: How does it work?
- Features: What can it do?
- Future Work: What else should it do?

# Background

- COE faculty host a lot of course content in WordPress
- Historically, students accessed the course content anonymously, and faculty had unique WordPress accounts for each of their courses.

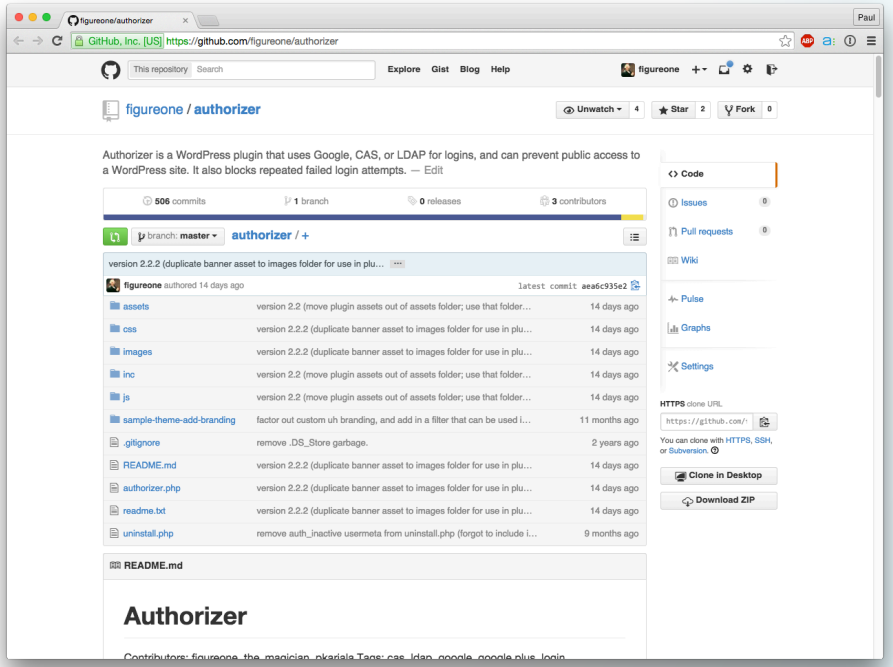
  Cons:
  - Faculty had to manage multiple passwords
  - Private course content was publicly viewable
  - Student interactions with the site were unknown



# Plugin Info

- Internally developed Authorizer, a WordPress plugin, to handle authentication and roster management

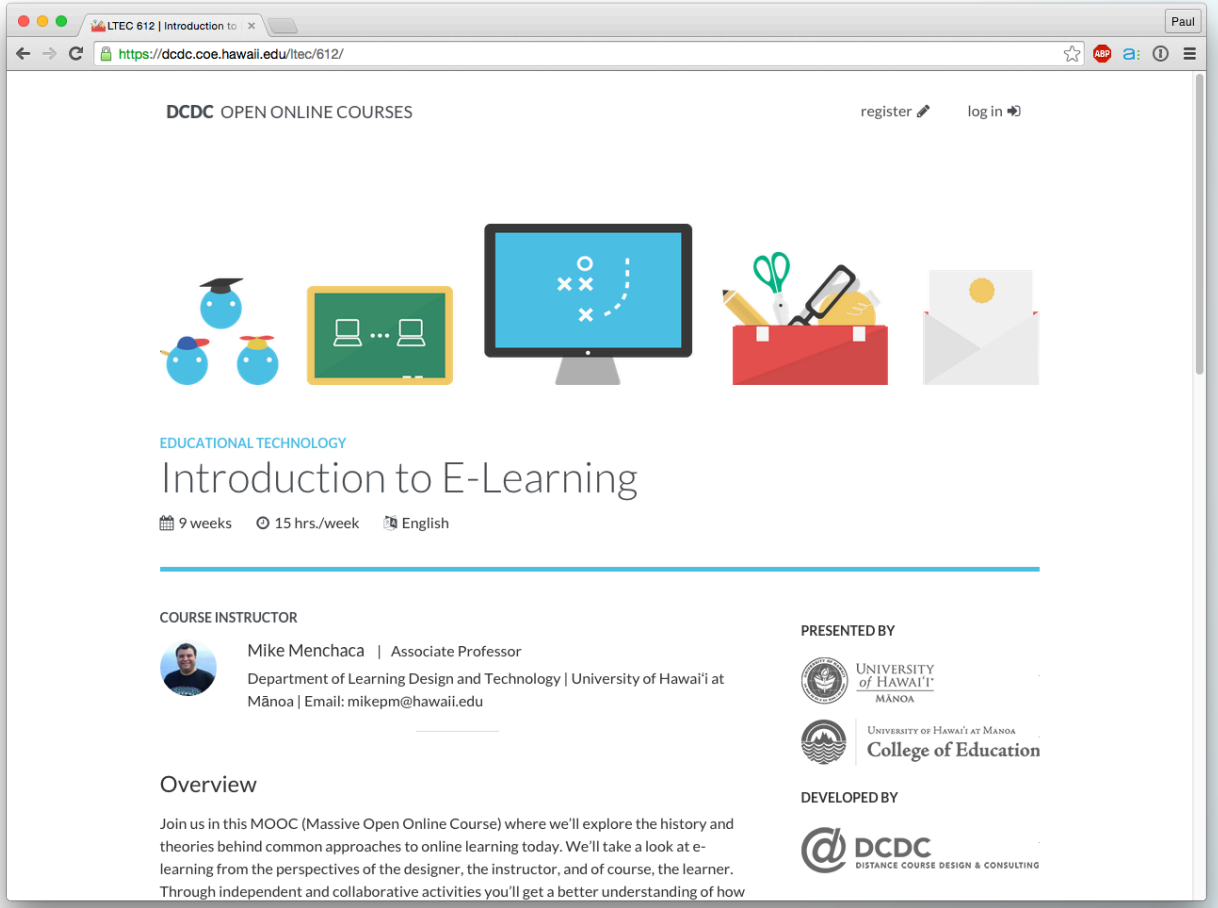
wordpress.org/plugins/authorizer




github.com/figureone/authorizer

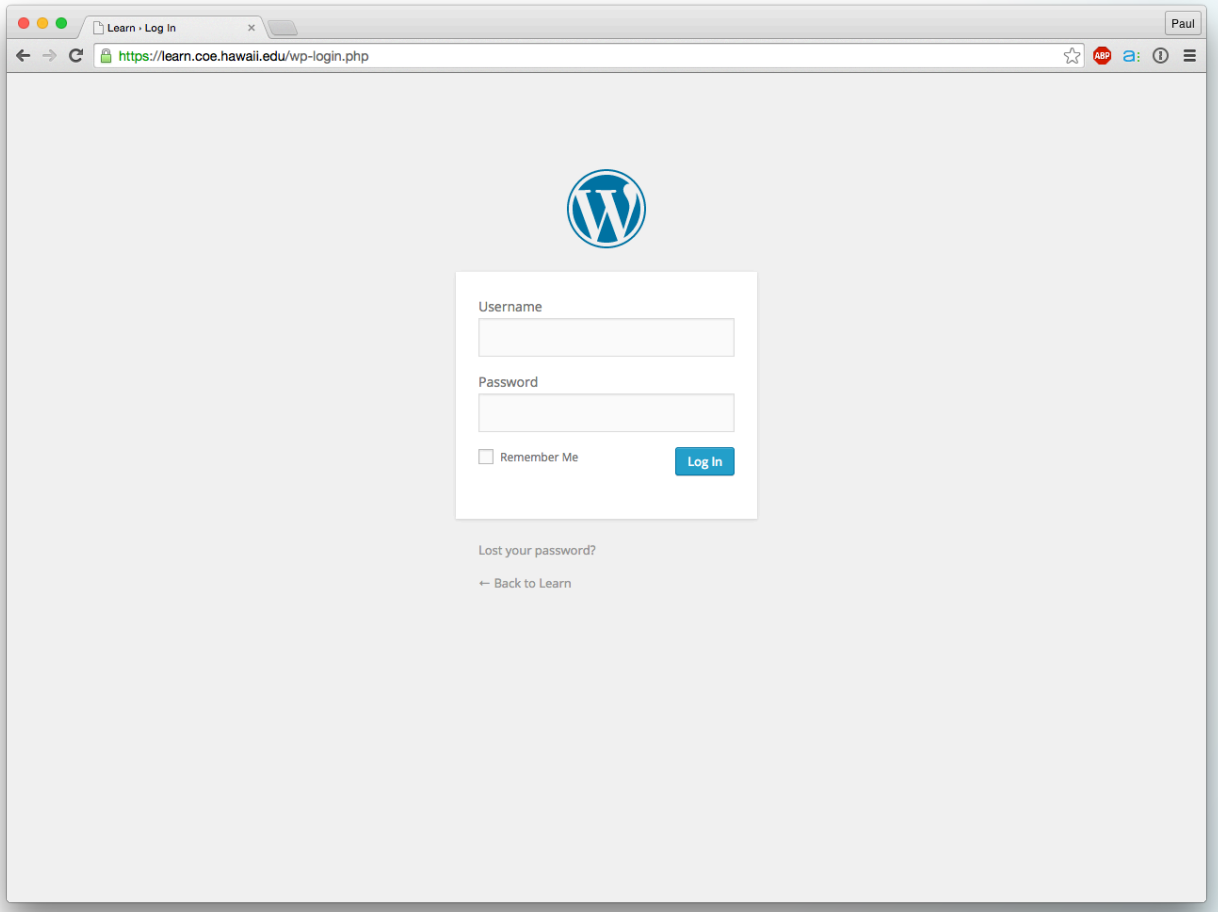
# Example

- LTEC 612



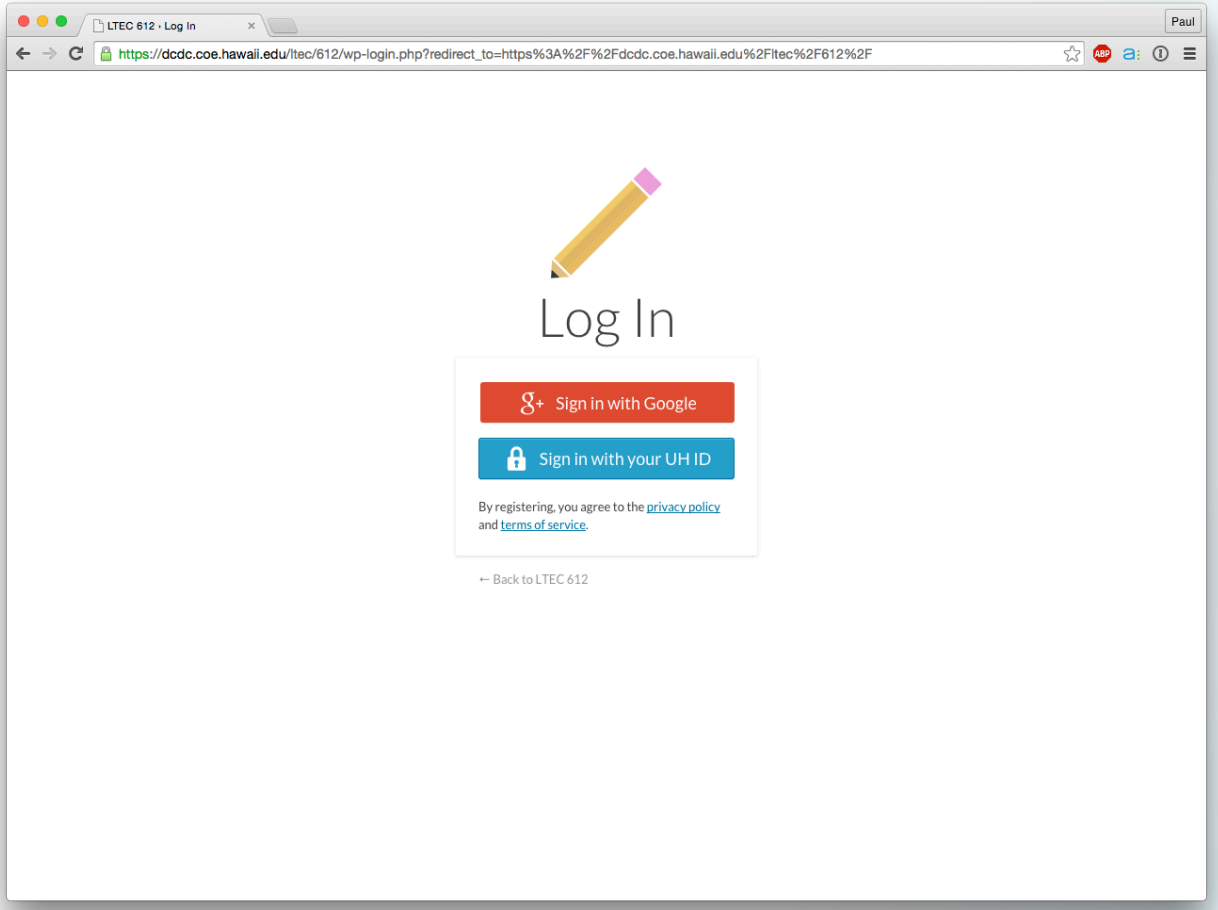
# Example

- LTEC 612
- Log in



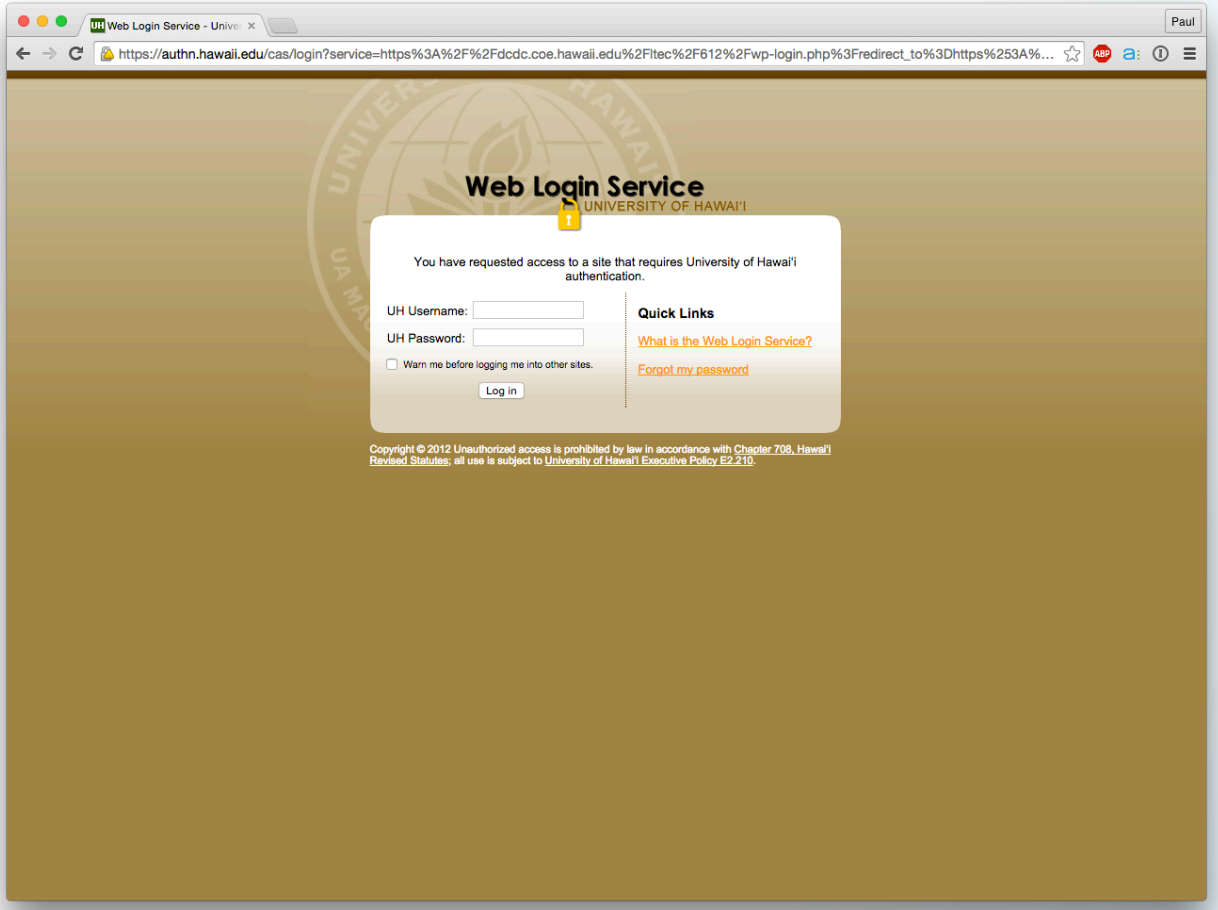
# Example

- LTEC 612
- Log in



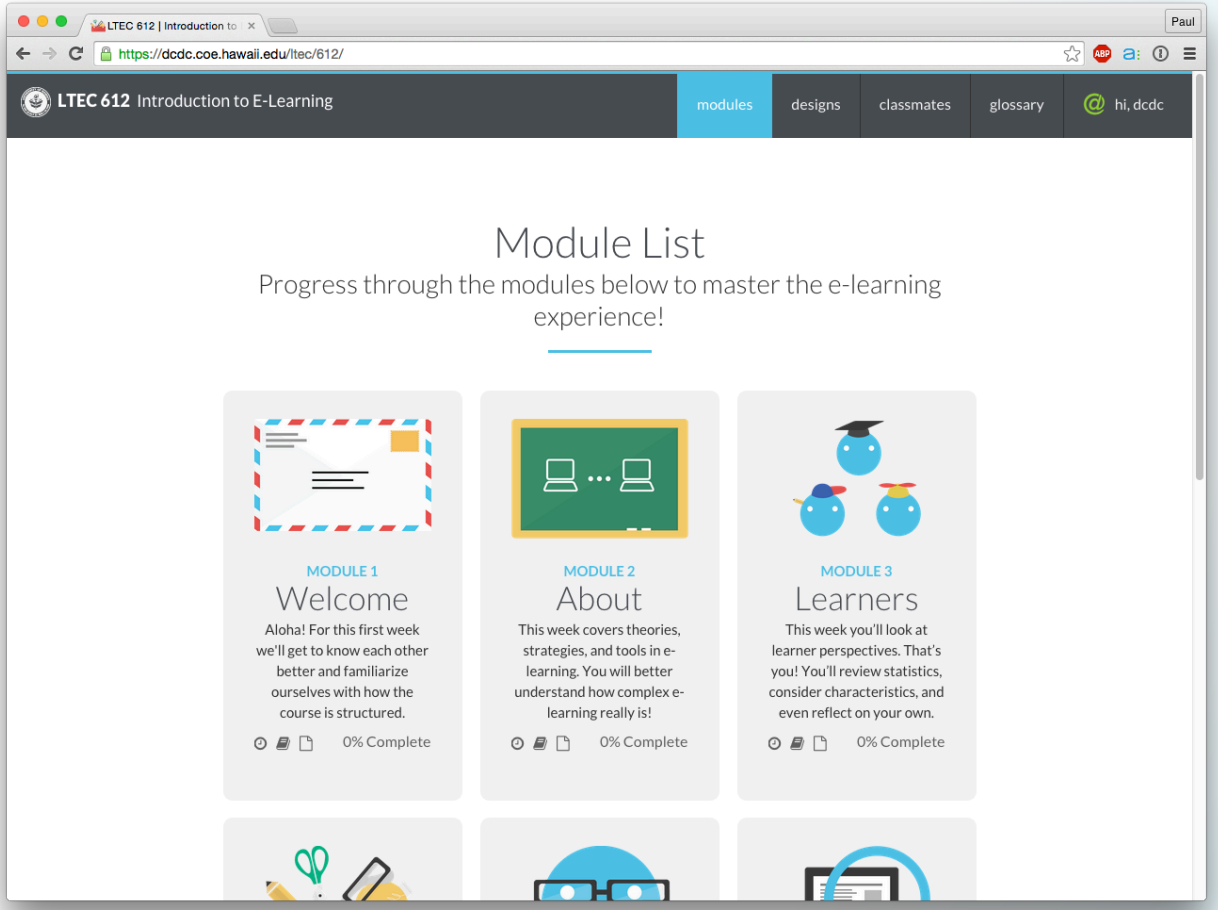
# Example

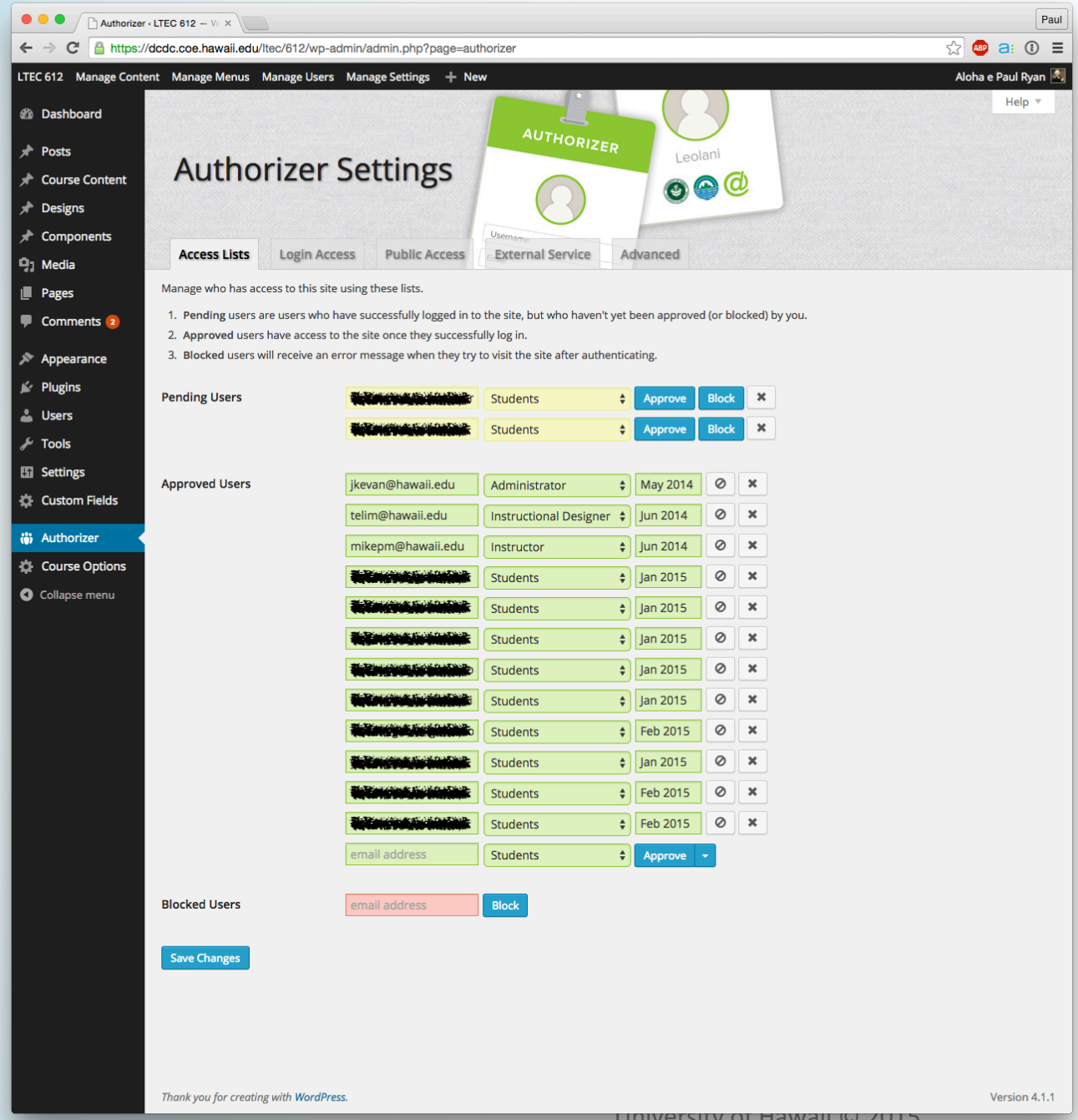
- LTEC 612
- Log in
- CAS authN



# Example

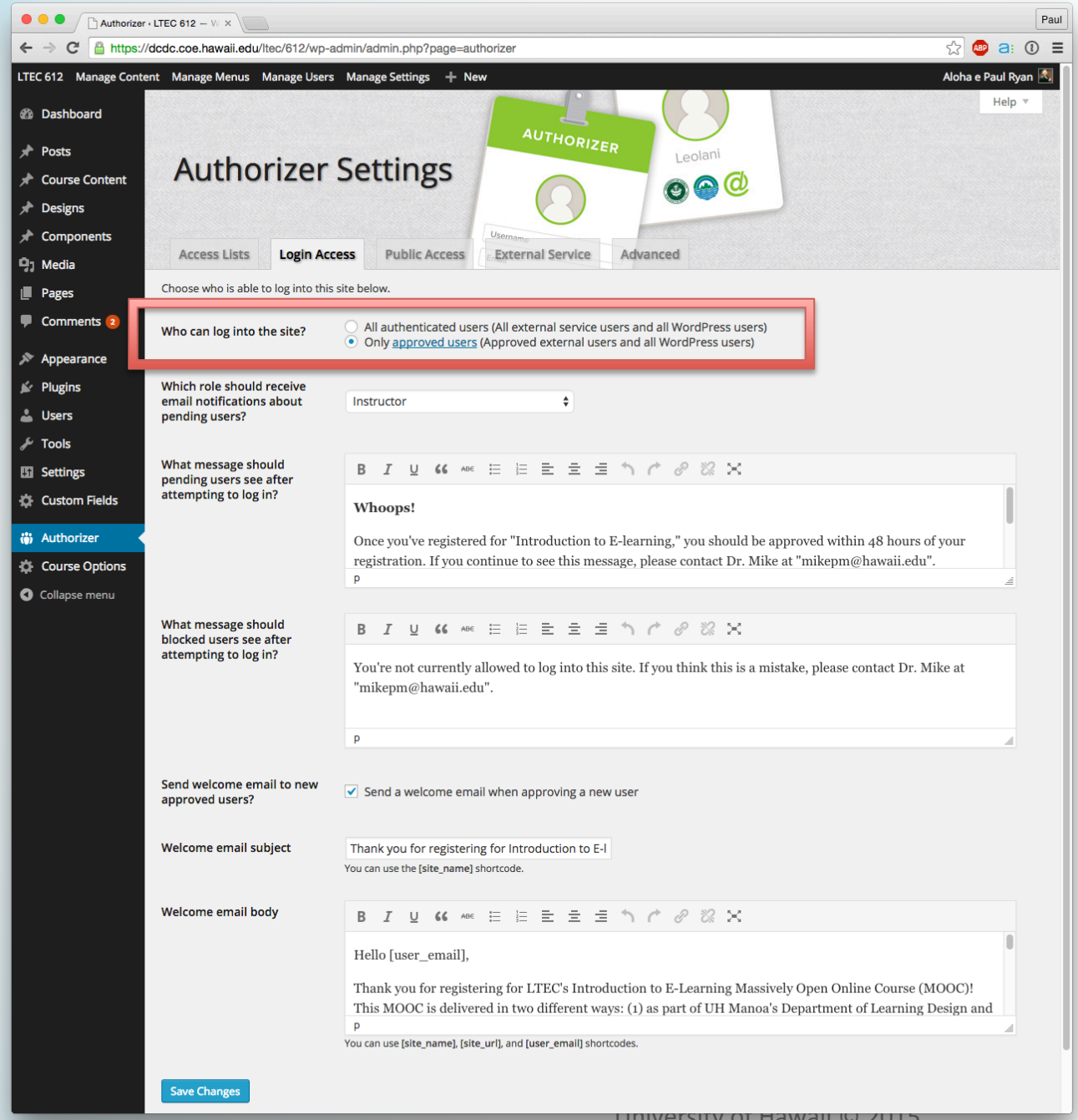
- LTEC 612
- Log in
- CAS authN
- Gain access





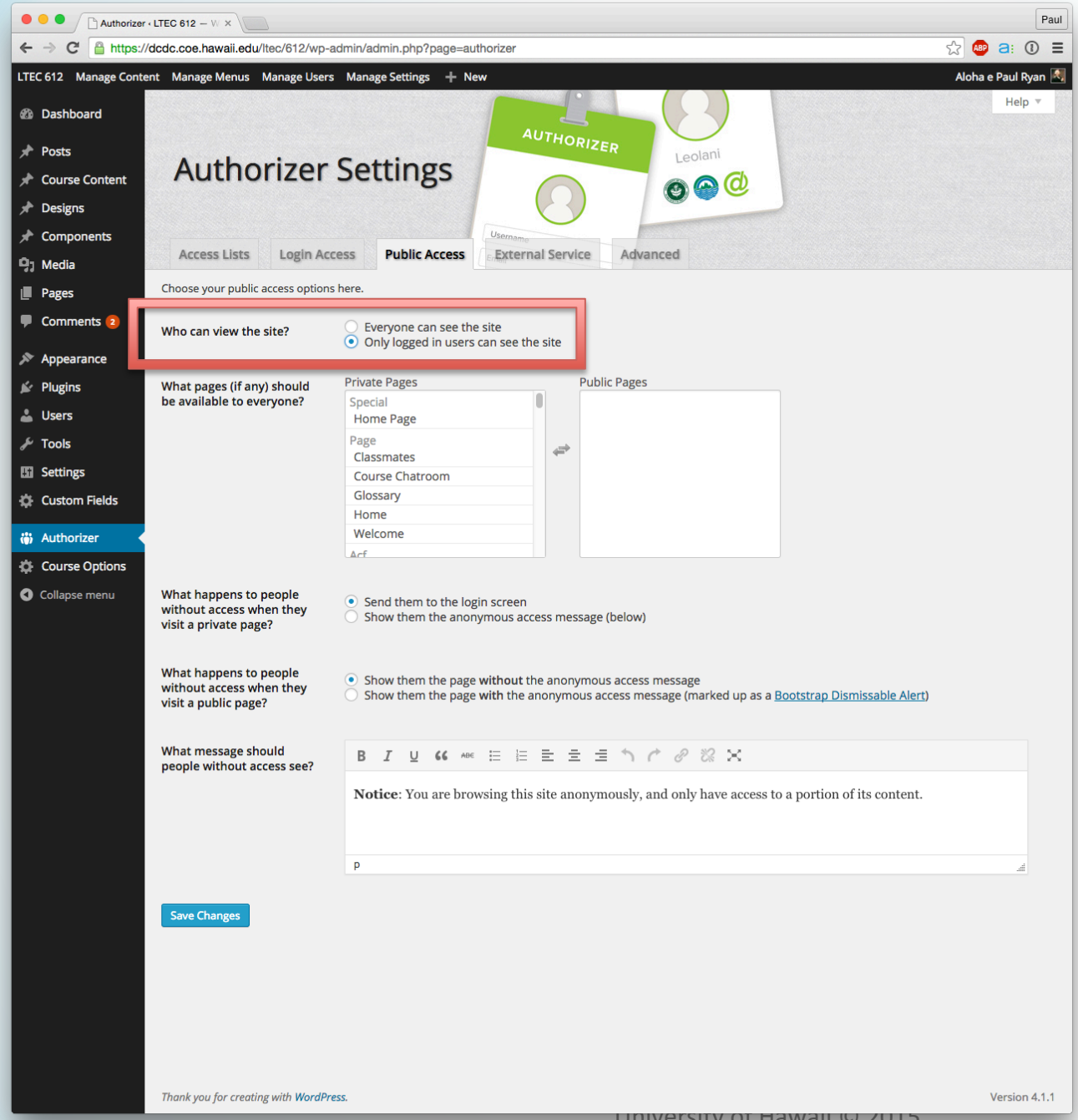

# Features:

- Access lists



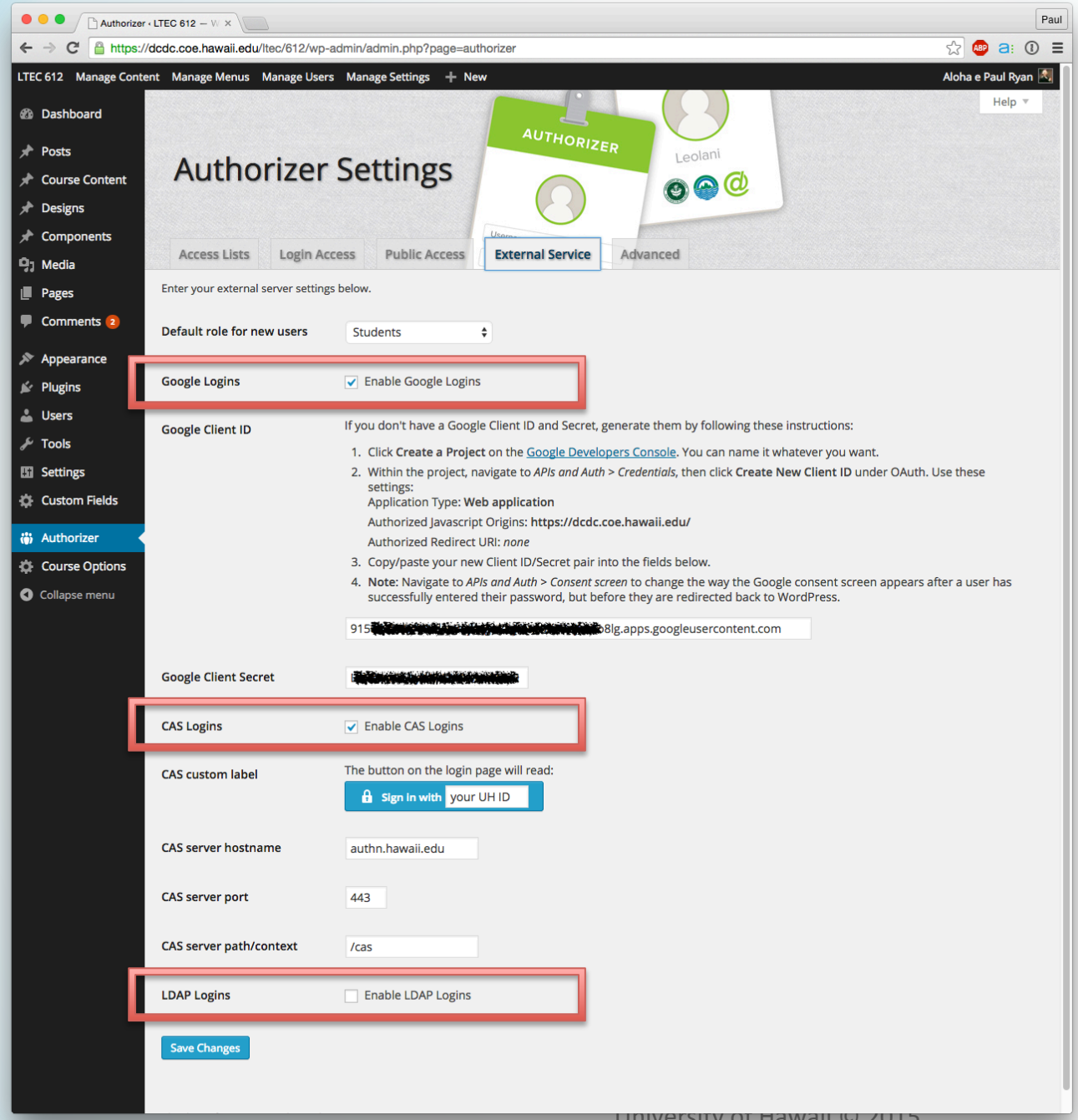

Features:

- Access lists
- Account mgmt



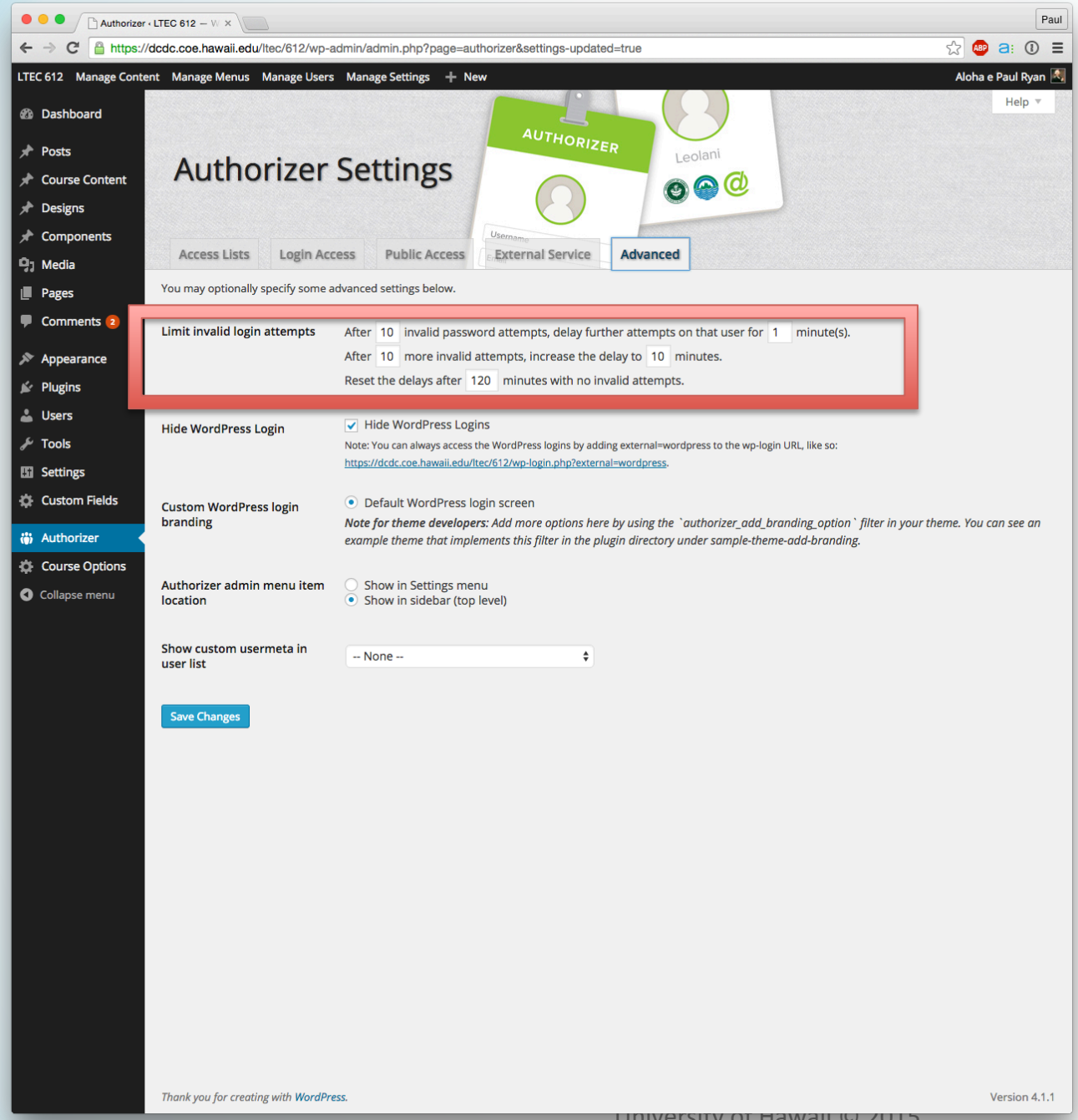

Features:

- Access lists
- Account mgmt
- Site visibility




Features:

- Access lists
- Account mgmt
- Site visibility
- External auth




Features:

- Access lists
- Account mgmt
- Site visibility
- External auth
- Brute-force attack prevention

# Future Work

- UH Groupings integration (automatically create WordPress accounts for users in a specified Group, e.g., a Group for students in a course)

- BLTI integration (automatically create a WordPress account for a user when they click a BLTI tool link in a Laulima course)

# Questions?

**Paul Ryan**

Tech Lead, UHM College of Education

# There's a group for that

**Julio Polo**
Enterprise Middleware, Identity and Access Management
Information Technology Services

# Groups

**Group Store**

**Your Groups**

# Group Store

- Banner
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

Banner
PeopleSoft (HR)
RCUH
Student Employment
UHIMS
Regardless of source
Affiliation
Empty Group

# Group Store

- Banner
- PeopleSoft (HR)
  - Affiliation
  - Employing Agency Code
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

- Banner
  - Affiliation
  - Employing Agency Code
  - Curricula
  - Registration
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

- Banner, PeopleSoft, RCUH… (all sources have an affiliation subfolder)
  - Affiliation
    - East-West Center
    - Hawaii CC
    - Honolulu CC
    - Kauai CC
    - Kapiolani CC
    - Leeward CC
    - Maui College
    - RCUH
    - UH Foundation
    - UH Hilo
    - UH Manoa
    - UH System
    - UH West Oahu
    - Windward CC
    - Regardless of organization

# Group Store

## Banner, PeopleSoft, RCUH… (all sources have an affiliation subfolder)

### Affiliation

#### (an organization where roles below apply)

- faculty
- faculty+staff
- faculty+staff+student
- faculty+staff+student+other
- faculty+student
- faculty.communityCollege
- faculty.countyAgent
- faculty.courseInstructor
- faculty.emeritus
- faculty.graduateAssistant
- faculty.law
- faculty.lecturer
- faculty.lecturer.casual
- faculty.lecturer.overload
- faculty.librarian
- faculty.medical
- faculty.noDetails
- faculty.noDetails.casual
- faculty.noDetails.overload
- faculty.researchAssistant
- faculty.researcher
- faculty.specialist
- faculty.teachingAssistant
- faculty.university

- staff
- staff.apt
- staff.apt.casual
- staff.apt.overload
- staff.civilService
- staff.executive
- staff.executive.casual
- staff.noDetails
- staff.noDetails.casual
- staff.nonCompensated

- casual
- casualFaculty
- casualStaff
- overload
- overloadFaculty
- overloadStaff
- other
- ohana
- retiree

- nonCreditStudent
- nonCreditStudent.noDetails
- preStudent
- preStudent.accepted
- preStudent.applicant
- preStudent.financialAid
- student
- student.graduate
- student.graduate.law
- student.graduate.medical
- student.graduate.noDetails
- student.other
- student.other.apprenticeship
- student.other.continuingEducation
- student.other.postBaccalaureate
- student.other.professional
- student.other.undeclared
- student.undergraduate
- student.undergraduate.noDetails
- studentEmployee
- studentEmployee.studentHire
- studentEmployee.workStudy

# Group Store

- Banner
- **PeopleSoft (HR)**
  - Affiliation
  - **Employing Agency Code**

| | |
|---|---|
| 2211 | Manoa Arts & Humanities |
| 22110100 | A&H DEANS OFF |
| 22111100 | AMER STUDIES DEPT |
| 22111200 | DEPT OF ART AND ART HIST |
| 22111300 | THEATRE & DANCE DEPT |
| 22111400 | HISTORY DEPT |
| 22111500 | MUSIC DEPT |
| 22111600 | PHILOSOPHY DEPT |
| 22111700 | RELIGION DEPT |
| 22111800 | DEPARTMENT OF COMM... |
| 22111900 | ACADEMY FOR CREATIVE MEDIA |

- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

- **Banner**
  - Affiliation
  - Employing Agency Code
  - **Curricula**
  - **Registration**
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

- **Banner**
  - Affiliation
  - Employing Agency Code
  - **Curricula**
    - MAN
    - WOA
    - HIL
    - HAW
    - HON
    - KAP
    - KAU
    - LEE
    - MAU
    - WIN
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

- Banner
  - Affiliation
  - Employing Agency Code
  - Curricula
    - MAN
      - 10 (A&S)
        - ANTH
        - ARTH
        - COMS
        - ECON
        - ES
        - GEOG
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

- Banner
  - Affiliation
  - Employing Agency Code
  - Curricula
    - MAN
      - 10 (A&S)
        - ANTH
          - ANTH
            - UG
              - BA
                - 201530
                  - begin
                  - end
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

- Banner
  - Affiliation
  - Employing Agency Code
  - Curricula
    - MAN
      - 10 (A&S)
        - ANTH
          - ANTH
            - UG
              - BA
                - 201530
                - 201530
                  - begin
                  - end
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

MAN : 10 : ANTH : ANTH : UG : BA : 201530 : begin-or-or-before complement

MAN : 10 : ANTH : ANTH : UG : BA : 201530 : end-before

# Group Store

- **Banner**
  - **Registration**
    - MAN
    - WOA
    - HIL
    - HAW
    - HON
    - KAP
    - KAU
    - LEE
    - MAU
    - WIN
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

- Banner
  - Registration
    - MAN
      - AMST
      - ARCH
      - ASAN
      - BE
      - BIOL
      - BIOM
      - CAM
      - CAS
      - CHEM
      - COMG
      - CSD
      - EDEF
      - ENG
      - FAMR
      - FR
      - GER
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

- Banner
  - Registration
    - MAN
      - AMST
      - ARCH
        - 101
        - 132
        - 200
        - 201
        - 271
        - 272
        - 320
        - 341
        - 352
        - 353
        - 354
        - 371
        - 422
        - 473
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Group Store

- Banner
  - Registration
    - MAN
      - AMST
      - ARCH
        - 101
        - 132
        - 200
        - 201
          - (CRNs)
            - 5654
            - 5655
            - 6239
            - 6240
            - 9899
              - 201530
                - enrolled
                - waitlisted
                - withdrawn
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

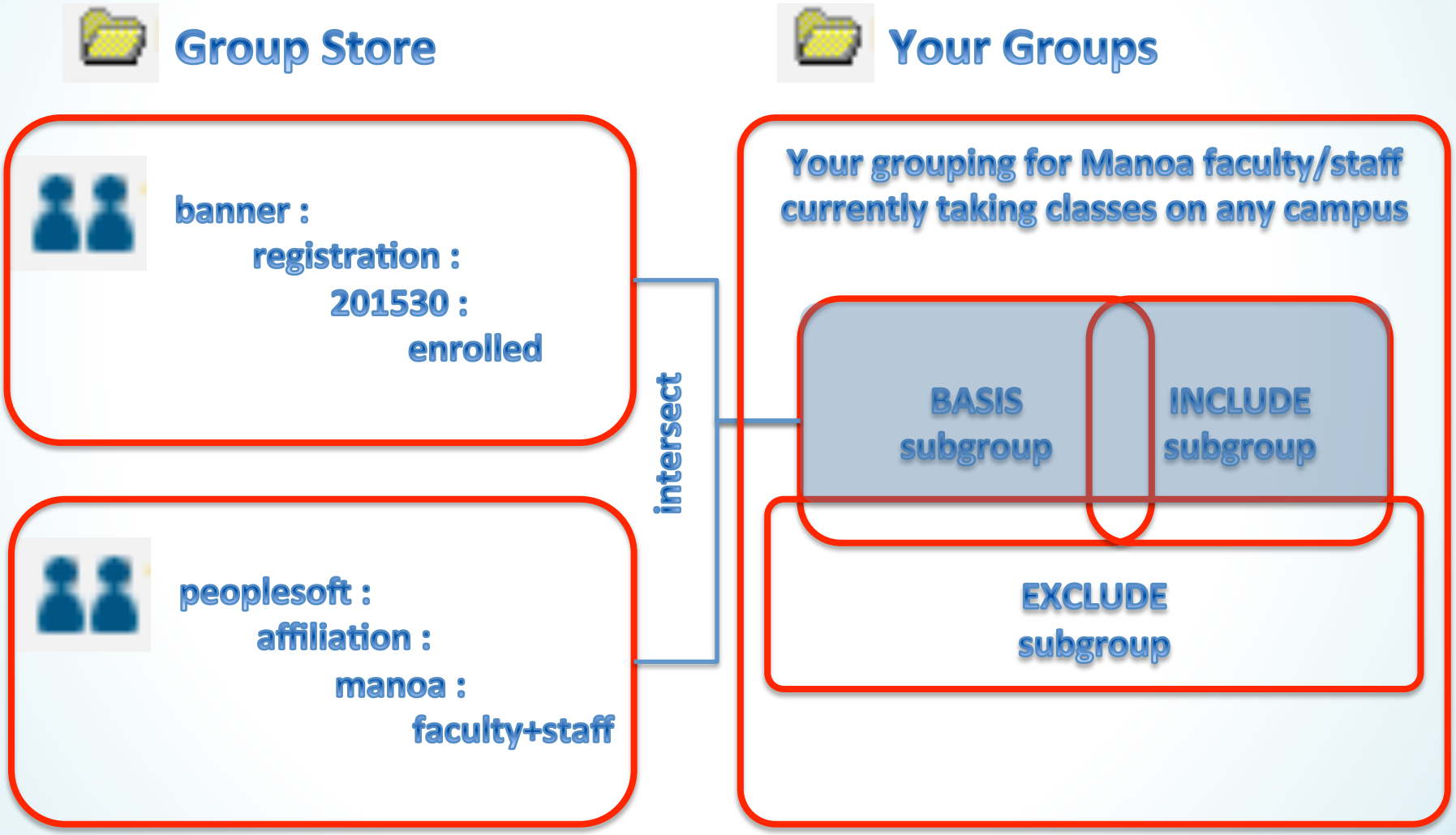
# Group Store

- Banner
  - Registration
    - 2015
      - enrolled
    - 20151
      - enrolled
    - 201510
      - enrolled
      - enrolled
        - MAN
        - WOA
        - HIL
        - ...
        - MAN
        - WOA
        - HIL
          - ACC
          - ANTH
          - ART
            - 130
            - 131
- PeopleSoft (HR)
- RCUH
- Student Employment
- UHIMS
- Regardless of source
- Empty Group

# Your Groups

- Hawaii CC
- Honolulu CC
- Kauai CC
- Kapiolani CC
- Leeward CC
- Maui College
- Test
- UH Hilo
- UH Manoa
  - ART
    - ART-PHD-GROUPING
- UH System
  - Some Admin Office
    - BOR Members
- UH West Oahu
- Windward CC
  - Campus Security
    - Event Volunteers

# UH Groupings



# Pros and Cons

+ **No SoR data extracts**
+ **No SoR domain knowledge**
+ **Group calculations primed**
+ **Asynchronous deprovisioning** UH Message Broker
+ **LISTSERV mailing list sync** Wiki groups? Google groups?

– **UI needs work**
– **WS slow for live AuthZ?** LDAP/CAS?
– **Confusing auto vs menu** Group Store

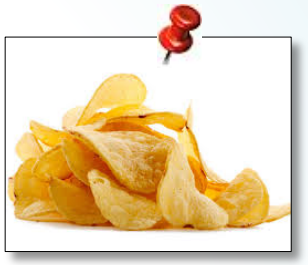
# Questions?

**Julio Polo**
Enterprise Middleware, Identity and Access Management
Information Technology Services

# Notables,
# Quick Tips and Reminders

- Google@UH calendaring informal pole
- ACER, online General Confidentiality Notice
- SECE now supports GCN review for student supervisors
- MFA project update

# Wrapping Up



- Email suggestions for future topics to mhodges@hawaii.edu
- Check out the snacks in the back
- Take a moment to introduce yourself to your colleagues (meet at least 1 new person)