Improving User Experience through Agile Principles

The Library's journey to a better website
The site we're starting with

Drupal 6

Custom theme

Last re-done in 2009, originally contracted out

Much of the content was migrated into the body field from previous static site
But it's not just one site...

- Database of databases
- Email forms
- Feedback application
- Staff directory
- Special pages using PHP Input format in Drupal
- Tutorials and guides
- API
- Drupal 6 website
- Supporting elements for the catalog
- Digital collections page
- Video voting
- News & Events
- Hours
Some problems for web development

- We can't add features or fix bugs easily
- It's difficult (and scary) to maintain
- Too many applications - most of it could be built in Drupal
Some problems for content work

- There are many pages content managers can't edit because they're outside the CMS
- The editing experience is difficult and annoying
- The CMS doesn't support the workflow
Some problems for users

- Content is outdated and confusing
- It's hard to trust content that doesn't use a professional voice or look
- Hard to find the content you're looking for
The Redux project

Redesigning, rebuilding, rethinking.
User Experience Department

User Experience
- Content strategy
- Website product management
- Instructional design
- Administration

Marketing and Public Relations
- Graphic design
- Branding and marketing
- Video production

IT Operations
- Desktop and hardware support
- Server support
- Staff tech support

Web Development
- Application development
- Web design
- Website development
# Redux team

## User Experience
- Content strategy
- Website product management
- Instructional design
- Administration

## Marketing and Public Relations
- Graphic design
- Branding and marketing
- Video production

## Ops
- Desktop and hardware support
- Server support
- Staff tech support

## Dev
- Application development
- Web design
- Website development
Redux team

User Experience
- Content strategy
- Website product management

Plus...
- Front desk
- Student workers

Marketing and Public Relations
- Branding and marketing

Dev
- Application development
- Web design
- Website development
Redux team

- Rebecca
  Project Manager
- Gabe
  Designer
- Jeff
  Programmer
- Shoshana
  Content Strategist
- Gabrielle
  Marketing Director
- Andrew
  Front desk staff
- Ginger
  Drupal Developer
- Mike
  Lead Architect
The Redux project

- Do lots of good user research
- Overhaul the content
- Rebuild the entire site architecture (mostly in Drupal)
- Oh yeah, and do a redesign as well
Redux goals

- Content focused
- Accessible
- Usable
- Findable
- Familiar

- Engaging
- Understandable
- Credible
- Human
Some Redux principles

- Make it easy and fun for the developers
- Build and plan for proactive maintenance
Project communication

We need to communicate and manage requirements well.
Agile development

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

http://agilemanifesto.org/
Scrum

- Roles
- User stories
- Sprints
- Reviews
- Retrospectives
- Metrics
User story format

As a <user role>, I want to <task> so that <reason>

As an undergraduate student, I want to reserve a quiet room so that I can do a skype interview for my internship.
Personas are:

- Archetypes that represent our users
- Based on user research
- Include personal details

They help us keep the user in mind during development.
REDUX Primary Personas

**Cheyenne**
- UA Freshman, 18 years old
- From: Tucson, AZ
- Studying: Undecided major
- Working on: Finding popular and scholarly resources for Engl. 102
- Uses the library for:
  - Study spaces
  - Group study rooms
  - Computers
  - Completing assignments

**Emily**
- MFA student, 26 years old
- From: Port Townsend, WA
- Studying: Creative nonfiction
- Working on: An essay collection about the Sonoran Desert
- Uses the library for:
  - Quiet work space
  - Equipment check out
  - Finding articles & books
  - Teaching Engl. 101/102

**Brandon**
- PhD student, 31 years old
- From: Manchester, NH
- Studying: Geosciences
- Working on: Studying for his comprehensive exams
- Uses the library for:
  - Finding ebooks & articles
  - Managing citations
  - Finding GIS data
  - Quiet study space

**Renee**
- Assistant Professor, 41 years old
- From: Cincinnati, OH
- Studying: Math Education
- Working on: An outreach program on teaching math through dance
- Uses the library for:
  - Full text articles
  - Video streaming
  - Finding new books
  - Finding course materials
Personas: secondary audiences

And the rest:

**Donald**
- UA Alumni
- Donor
- FOL Member

**Craig**
- Independent Researcher
- Community User

**Elle**
- Library Staff
- AIST Team
- PT student
Persona story format

<persona name> wants to <task> so that <unobvious goal>
Before: user story

As an undergraduate student, I want to reserve a quiet room so that I can do a skype interview.
After: persona story

Cheyenne wants to reserve a quiet room to do a Skype interview for her summer internship.
Generating persona stories

The team worked together to talk through and discover the most important stories.
Example of persona stories

Elle wants to find policy information to answer a customer question

Emily wants to check out a camera over the weekend to use for field observations
Developer Experience

Sprint goal: To modernize and document our development processes
Outcomes for the Developer Experience sprint

- A Git workflow
- Redmine best practice
- Drush for Drupal automation
- Phing for deployment
- Behat for BDD
Git workflow

- **Master:** production
- **Develop:** stable new stuff
- **Feature branches:** active work
- **Release branches:** get ready for production

http://nvie.com/posts/a-successful-git-branching-model/
Redmine best practice

- Make issues of everything
- Document decisions, history, dev tool use in the wiki
- Integration with Git

**Project processes**
How to do specific tasks related to working on and deploying this project, including reg maintenance and workflow for new feature development.
- BuildNewFeatures
- DeployWithPhing
- GitWorkflow
- UpdateContribModules
- UpdateDrupalCore

**Server setup**
The type of server, versions of important dependencies, and any specific setup details for:
- FileStructureAndPermissions
- ServerAndToolsInstalled
- ServerCrontab
- UsersAndGroups

**Application Details**
Detailed documentation on specific applications or separate parts of the project.
- Drupal
- DrupalTheming

**Redux developer tools**
How to get set up and how to use our development tools on this project.
Phing and drush

- Makes deployment easier!
- We can currently deploy new code in less than 2 minutes.
- Automated backup
- Change management
- Different custom commands for different environments
@story @faculty @primary

**Feature:** Find a librarian

As a faculty member
I want to contact a librarian

**Background:**

Given I am looking at the library’s staff directory
And I want to contact Rebecca

**Scenario:** Contact from contact page

When I go to her contact page
Then I should see her phone number
And I should see her email address
And I should see her office location
And I should see her picture
And I should see her title

@javascript

Automated testing
Behavior-Driven Development

We know

- The persona we're building for
- What's needed
- Why
- Examples of how it should work
From persona stories to scenarios

- Written in a subset of English - Gherkin
  - Given <condition>
  - When <action>
  - Then <result>
- All of Redux can participate
- Communication tool
- Prevents breaking things
Behat

- Framework for executing Gherkin
- Story tests or integration tests?
- Integrates with various drivers via Mink (browser controller/emulator)
- Can run real browsers via the Selenium driver
Process problem :( 
The sprints we tried

- Developer experience (sprint 0)
- Staff
- Databases
- Equipment lending

We didn’t finish them all on time. Something was wrong.
Scrum didn't work

- We are working on more than one thing
- We are a small team (4 devs on redux)
- We have too many applications to support
- There was buy-in for us to prioritize one thing over the others, but that wasn't the reality and the time-boxes of sprints was stressful
Kanban

We learned about Lean UX. After that, Kanban looked appealing:

- iterative, but not timeboxed
- starts where you are
- process improvement is built in
- more easily covers all work
Kanban

- Visualize all work
- Manage work in process
- Manage the flow
Our Kanban board
Why it works for us (so far)

- Capture and show all our work
- Prioritize it without artificial time pressure
How does *this* help communication?

- We've still got the redux persona stories, and they can move through our kanban process.
- We have stand-ups and redux is invited - now they know about more of our work (and can help with it sometimes too!)
- All of our work goes through the process. It's just better.
Deployment process

We were developing iteratively, but not deploying iteratively
Our deployment plan before

Amazing new work

Our (well-organized) git repository

Our current website (all problems intact)
Our deployment plan before

Months and months later…
Our deployment plan before

Our (well-organized) git repository

One big deployment

Our shiny new website

Work all done
Deployment plan problems

- Too many interconnections (some we may not be aware of)
- High chance of breaking stuff
- "drop everything and clean up this mess"
- Users have to wait a long time before seeing the improvements
Our deployment plan now

1. Identify a page or section to re-do
2. Rebuild it on new.library.arizona.edu
3. Redirect the current page to the new page
4. If everything works OK in testing, delete the old page
Our deployment plan now

Build new section

Our (well-organized) git repository

Our current website (all problems intact)

The section on our current website
Our deployment plan now

Section completed on new.library

Our (well-organized) git repository

Our current website (all problems intact)

.htaccess redirect
New deployment plan benefits

● Users see the changes sooner
● Developers and content strategist can test improvements in the real world sooner
● Bye bye, big launch day!
Improving user experience

We’ve improved communication, developer experience, and time to launch through the use of agile principles and techniques. We’re confident that rebuilding this foundation for our Redux project will have lasting impact on how our users experience our website.
Resources

- **User Stories Applied** (Safari book)
- **Kanban in Action** (Safari book)
- Redux blog - [code.library.arizona.edu/blogs/website-redux](http://code.library.arizona.edu/blogs/website-redux)
Questions?

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