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WCMS DEVELOPMENT 101

Kevin Paxman & Chris Shantz

watitis.uwaterloo.ca
@watitisconf

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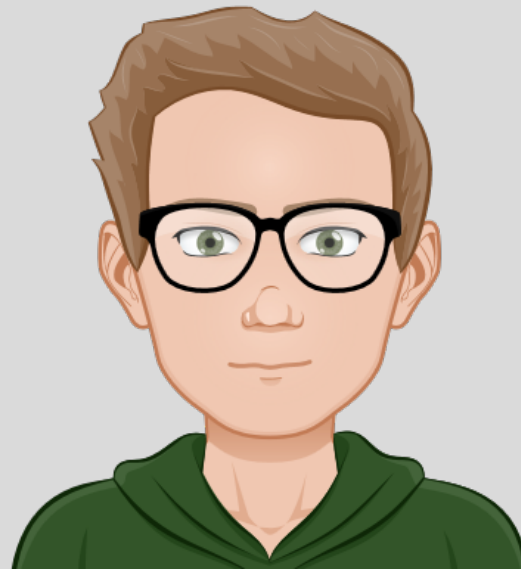
WHO WE ARE

Kevin Paxman
WCMS lead developer

Chris Shantz
WCMS developer

All information will be available at:

uwaterloo.ca/web/develop-wcms

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Creating a local dev environment

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CREATING YOUR OWN DEV ENVIRONMENT FROM SCRATCH

- ## It can be done!

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CREATING YOUR OWN DEV ENVIRONMENT – EASILY

- We have a Vagrant environment available for download from our Git repo.

- Download Vagrant, VirtualBox, and Git (if it's not on your system already).

- Instructions are in the readme in our Git repo and through our URL.

- DEMO TIME!

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3 EASY STEPS

Clone:

```
!mnshantz@ist250 MINGW64 ~/Vagrant_source_files/current-vagrant
$ git clone https://git.uwaterloo.ca/wcms/wcms-vagrant.git
Cloning into 'wcms-vagrant'...
remote: Counting objects: 44, done.
remote: Compressing objects: 100% (33/33), done.
remote: Total 44 (delta 18), reused 29 (delta 10)
Unpacking objects: 100% (44/44), done.

!mnshantz@ist250 MINGW64 ~/Vagrant_source_files/current-vagrant
$ cd wcms-vagrant

!mnshantz@ist250 MINGW64 ~/Vagrant_source_files/current-vagrant/wcms-vagrant (1.x)
$ git checkout 1.0
Note: checking out '1.0'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by performing another checkout.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -b with the checkout command again. Example:

  git checkout -b <new-branch-name>

HEAD is now at d6eb147... Added a variable for the PHP version and made the apt-get install line multi-line so it's easier to read.

!mnshantz@ist250 MINGW64 ~/Vagrant_source_files/current-vagrant/wcms-vagrant ((1.0))
$
```

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3 EASY STEPS

Setup:

```
!mnshantz@ist250 MINGW64 ~/Vagrant_source_files/current-vagrant/wcms-vagrant ((1.0))
$ ./setup.sh

****************************************************************************
First we will ask you a few questions to identify this host. Defaults are enclosed in single square
brackets, pressing enter will choose the default setting.
****************************************************************************

hostname [wcms-vagrant]:
IP address (it has to start 192.168.101.xx) [192.168.101.20]:
server preface such as d or www (make sure it doesn't contain . or $ or *) [d]:

Writing Vagrantfile

Writing  manifests/ubuntu.sh file

Writing manifests/apache.sh file

Writing manifests/drupal.sh file


****************************************************************************
You should now be ready to initialize your vagrant instance

This is done via

     vagrant up

The default user is vagrant and the default password is vagrant.

****************************************************************************


!mnshantz@ist250 MINGW64 ~/Vagrant_source_files/current-vagrant/wcms-vagrant ((1.0))
$
```

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3 EASY STEPS

Build:

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SERVERS IN THE VAGRANT ENVIRONMENT

- Drupal 7 (drupal7 folder)   d7
  » WCMS responsive latest dev
- Drupal 7 "alt" (drupal7alt folder)   d7alt
  » WCMS responsive latest dev
- Drupal 7 release (drupal7rel folder)   d7rel
  » WCMS responsive latest release
- Drupal 7 legacy release (drupal7lrel folder)   d7lrel
  » WCMS non-responsive latest release
- Drupal 7 Open Scholar (drupal7os folder)   d7os
  » Open Scholar latest dev
- Drupal 8 (drupal8 folder)   d8
  » Latest release of Drupal 8 (no WCMS)

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SITES IN EACH VAGRANT ENVIRONMENT
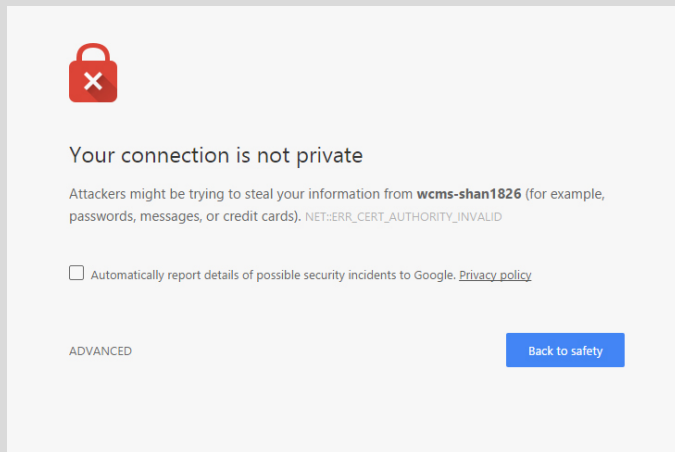
- Drupal 7 environments have fdsu1 through fdsu5
  - » e.g. https://d7/fdsu1

- Drupal 8 environment uses "default" site
  - » e.g. https://d8

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SETTING UP SITES
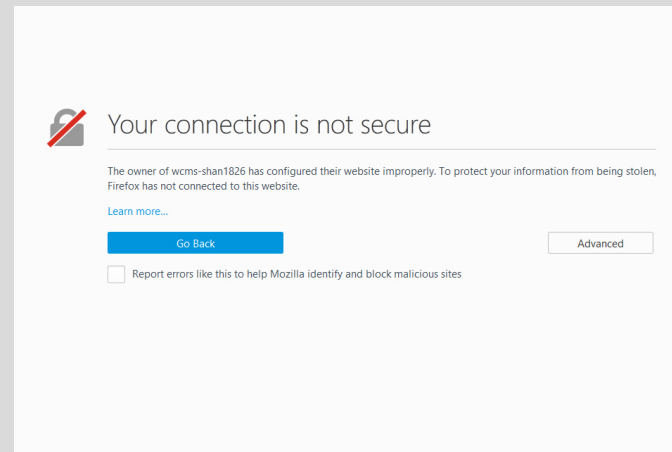
- Note that the servers have self-signed certificates, so you'll have to accept/import by choosing advance or Continue to website

CHROME

FIREFOX

SETTING UP SITES

- Good idea to set up a "plain Drupal" site, to compare behaviour and make sure unexpected results aren't from our code.
- QUICK DEMO!

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SETTING UP SITES

- Set up "WCMS Drupal" sites as needed.
- QUICK DEMO!
  - » (hopefully)

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WORKING WITH FILES ON THE VIRTUAL SERVER

- Server files are not mapped to your local file system

- Connect to server to access files (SSH, SFTP software, editor, etc.)

- Through SSH, you can use these shortcuts:
  - » profile = /var/www/drupal7/profiles/uw_base_profile
  - » profilealt = /var/www/drupal7alt/profiles/uw_base_profile
  - » profilerel = /var/www/drupal7rel/profiles/uw_base_profile
  - » profilelrel = /var/www/drupal7lrel/profiles/uw_base_profile

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WORKING WITH FILES ON THE VIRTUAL SERVER

- More shortcuts:
  - » fdsu1 = /var/www/drupal7/sites/d7.fdsu1
  - » fdsu1alt = /var/www/drupal7alt/sites/d7alt.fdsu1
  - » fdsu1rel = /var/www/drupal7rel/sites/d7rel.fdsu1
  - » fdsu1lrel = /var/www/drupal7lrel/sites/d7lrel.fdsu1

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KEEPING UP-TO-DATE

- Profiles must be periodically updated and rebuilt

- You should update sites when you do this

- Drupal should be periodically updated

- The Vagrant "box" itself should be periodically updated

- Vagrant and VirtualBox should be periodically updated – with caution

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Standards and best practices

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STANDARDS AND BEST PRACTICES

- Follow Drupal's coding standards from their site

- Follow accessibility guidelines – the University legally must meet WCAG level AA

- Custom coding should use version control, preferably the University's own Git server
  - » Don't store private information in Git!
  - » Make repo public so we can access your code
  - » See Liam's Git session at 11:15 am in STC 0010!

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STANDARDS AND BEST PRACTICES

- Follow naming conventions
  - » For machine names of things in the GUI
  - » For module machine names
  - » For module "friendly" names
- Use "context" to place blocks
- Use "features" to export configuration

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STANDARDS AND BEST PRACTICES

- Run your module through coder review!

- We do a quick review of all 3rd-party modules before we release them to sites – first step is coder review

  » …and if you fail we won't check any further…until it's fixed.

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STANDARDS AND BEST PRACTICES

- Use careful consideration when adding contrib modules

- Make sure everything is "multilingual-ready"

- Create a site makefile for any non-stock modules your site requires

```
; uw_ct_location
projects[uw_ct_location][type] = "module"
projects[uw_ct_location][download][type] = "git"
projects[uw_ct_location][download][url] = "https://git.uwaterloo.ca/wcms/uw_ct_location.git"
projects[uw_ct_location][download][tag] = "7.x-1.4"
projects[uw_ct_location][subdir] = ""
```

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Creating a custom content type

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CREATING A CUSTOM CONTENT TYPE

- Watch the PDAG video!

- …but here's a quick live demo...

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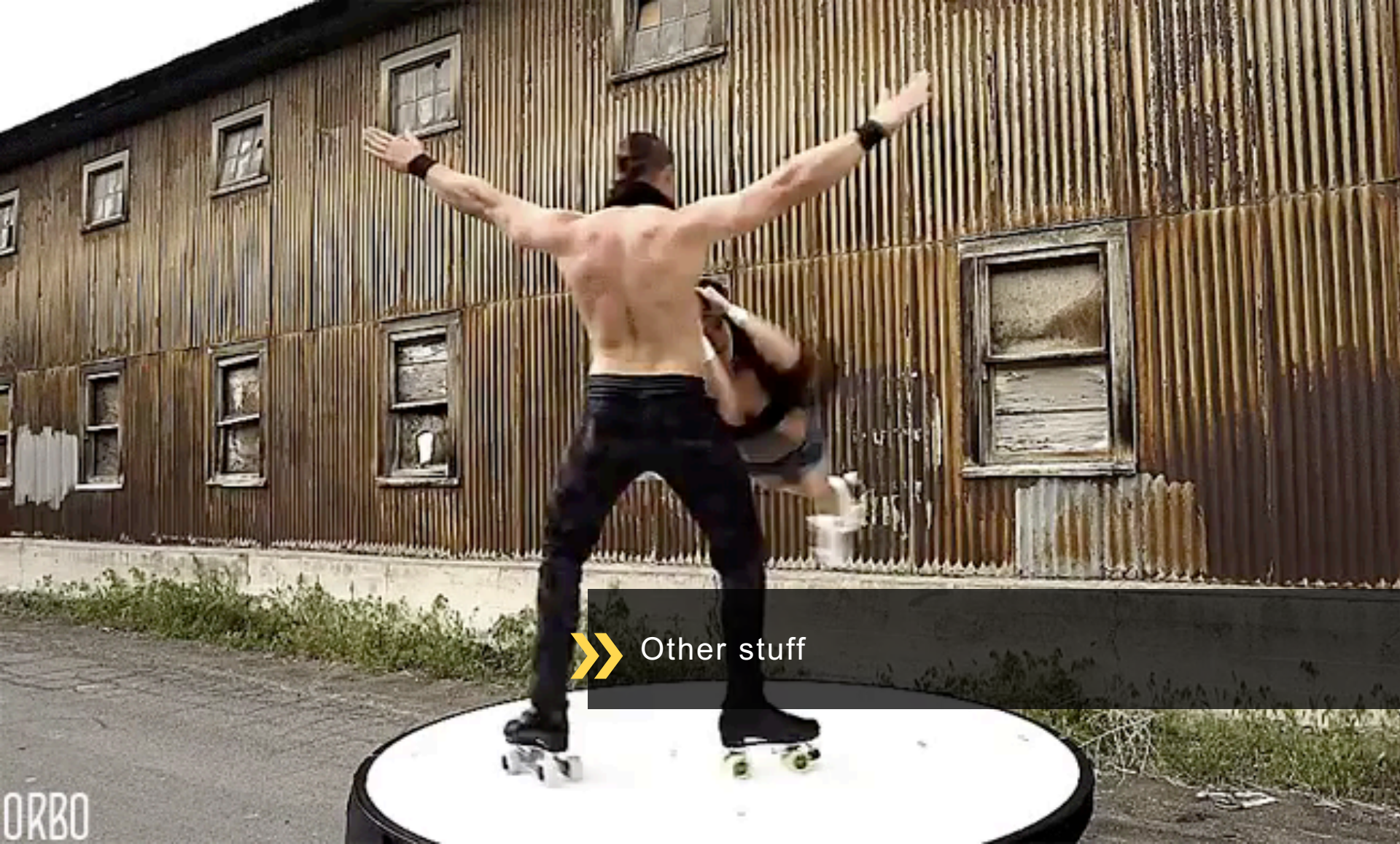
USE VIEWS TO CREATE LISTING PAGES

- You don't need to write custom code!

- Views can have "exposed filters" to allow views to be searched.

- Live demo? (how are we for time?)

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Other stuff

ORBO

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WRITE TEST CASES TO MAKE SURE THINGS KEEP WORKING

- Testing helps ensure that you don't break things when you're making changes.

- We recommend that you create test cases for any custom work you do.

- The WCMS uses the SimpleTest format, writing tests in PHP, with the Site Test module to allow tests to run on a prebuilt site.

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WRITE TEST CASES TO MAKE SURE THINGS KEEP WORKING

- Think of what needs to be tested…

"When I log in as a site manager, and I click on the dashboard link, there is a link to my configuration page. When I click on that link, my page title is what I expect and I have all the fields I expect. When I enter invalid information in a field and submit the page, the appropriate error message is displayed. When I enter valid information in all the fields and submit the page, I see a notice that my changes have been saved."

- Then write a test!

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"DRUSH" IS A HANDY TOOL

- Drush lets you interact with your site from the command line
- Drush can download contrib modules
- Drush can enable/disable any module
- Drush can clear site caches when you can't get to the site
- …and much more. You will likely use Drush a lot.

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Resources

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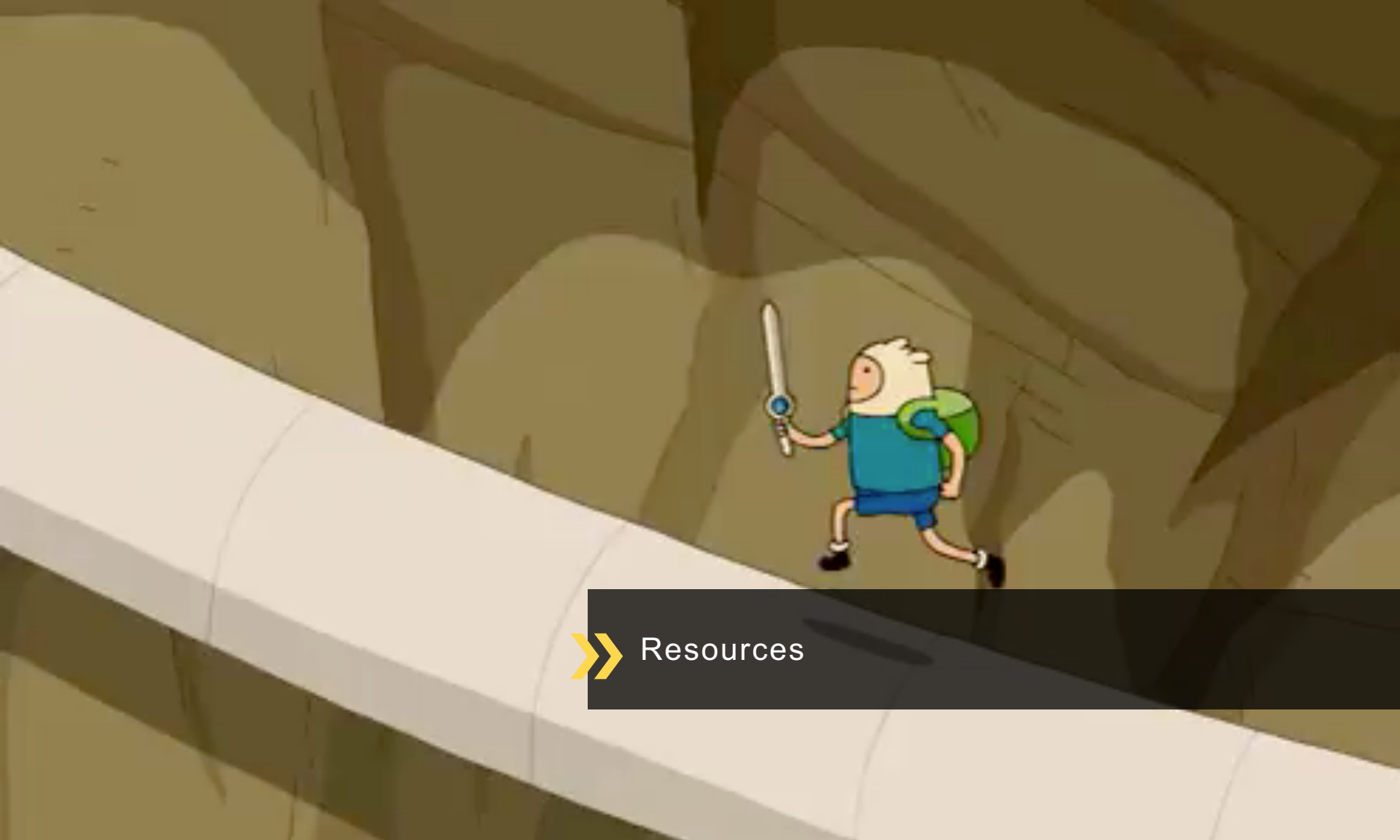
RESOURCES

- Web Dev Rev every Friday in EC2 1021 (Millennium) at 11:00 am
- Developer Drop-In – December 10 in MC 2060 at 1:00 pm
- Lynda.com – every staff member has access!
- Waterloo Region Drupal User's Group
- Drupal.org
- UW web Slack channel
- Google!

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THAT URL AGAIN

uwaterloo.ca/web/develop-wcms

- Links to everything mentioned in this presentation
- Links to additional documentation
- …and more! We will be continually adding to this section.

Questions?

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