gRSShopper in a Box

Setting Up And Using gRSShopper in a Box to Create MOOCs and Personal Learning Environments

http://www.downes.ca/presentation/482

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Online Educa Berlin

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The Plan for Today

- First Steps
- Virtualization in Ed Tech
- Break - 15:30 – 15:45
- Exploring gRSShopper
- gRSShopper as a Panel

First Steps

- Creating your Virtualization Environment
- Many choices, but here's what we're using for today:
  - Virtual Box – https://www.virtualbox.org/wiki/Downloads
  - Vagrant – https://www.vagrantup.com/downloads.html
  - gRSShopper image – http://www.downes.ca/files/grsshopper-02.box

- gRSShopper Source Code
  - https://github.com/Downes/gRSShopper

Vagrantfile

```
# -*- mode: ruby -*-
# vi: set ft=ruby :

Vagrant.configure("2") do |config|

   config.vm.box = "grsshopper-02"
   config.vm.hostname = "grsshopper-02"
   config.vm.network "forwarded_port", guest: 80, host: 8080
   config.vm.network "private_network", ip: "192.192.192.192"
   config.vm.synced_folder "./html", "/var/www/html", :mount_options => ["dmode=777", "fmode=666"]

   # Optional NFS. Make sure to remove other synced_folder line too
   #config.vm.synced_folder ".", "/var/www", :nfs => { :mount_options => ["dmode=777","fmode=666"] }

end
```

Local Directories

/gRSShopper02/
    /html/
        /public/
            /files/
            index.html
    Vagrantfile
    grsshopper-02.box

Installing gRSShopper as a Box

Open Command Prompt and Enter:

> cd c:\ … \gRSShopper02
> vagrant box add gRSShopper-02 gRSShopper-02.box
> vagrant up

Then open a web browser and enter:

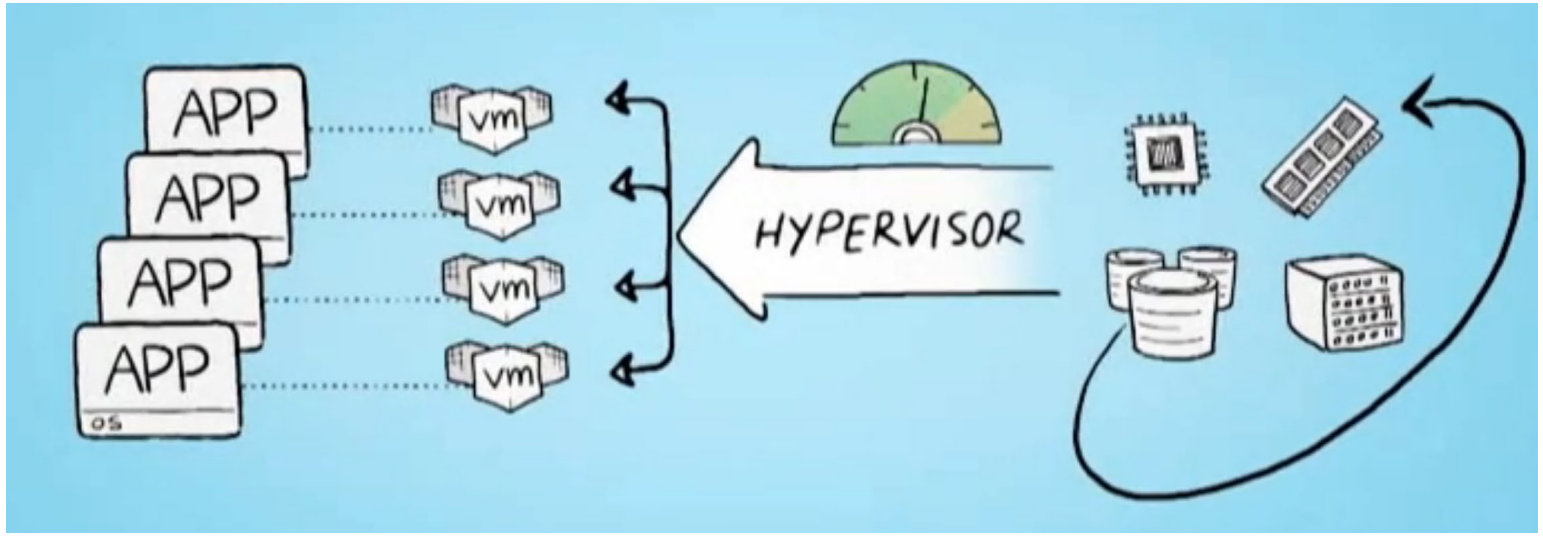
http://192.192.192.192
- this will show C:\.. \gRSShopper02\html\public\index.html

Then open a web browser and enter:

http://192.192.192.192/cgi-bin/admin.cgi
- this will show the gRSShopper admin screen (or login, if you haven't logged in)
- to log in: userid: admin   password: admin

Virtualization in Ed Tech

- Parallels - https://www.parallels.com/
- VMWare - https://www.vmware.com/
- XenServer - https://xenserver.org/
- Virtual Box - https://www.virtualbox.org/
- Hyper-V - https://docs.microsoft.com/en-us/virtualization/hyper-v-on-windows/quick-start/enable-hyper-v



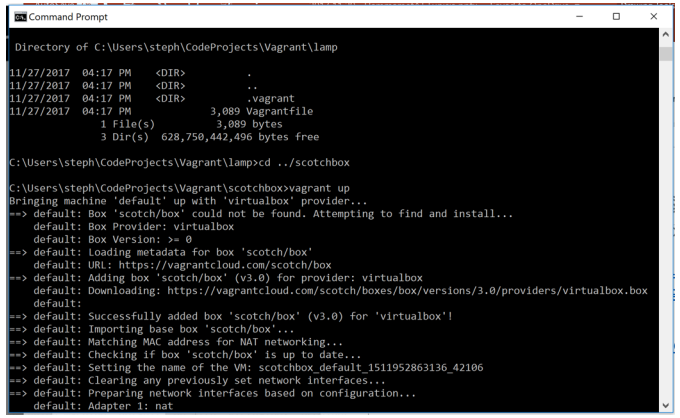
Virtualization Platforms - Vagrant

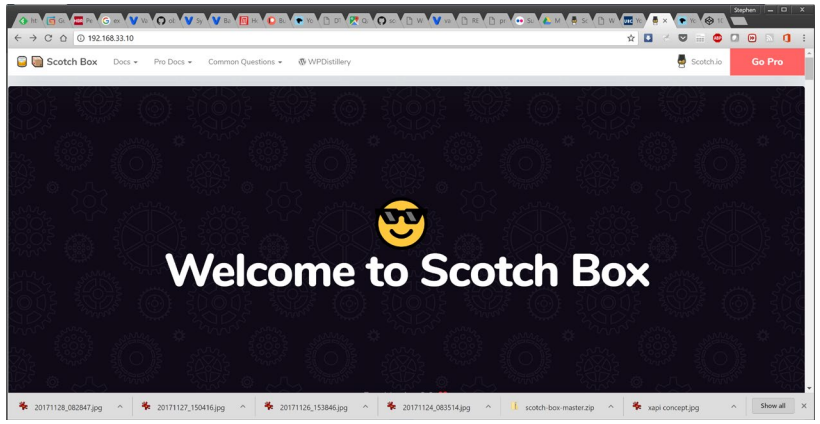
```
$ vagrant init hashicorp/precise64

$ vagrant up
Bringing machine 'default' up with 'virtualbox' provider.
==> default: Importing base box 'hashicorp/precise64'...
==> default: Forwarding ports...
default: 22 (guest) => 2222 (host) (adapter 1)
==> default: Waiting for machine to boot...

$ vagrant ssh
vagrant@precise64:~$ _
```

https://www.vagrantup.com/

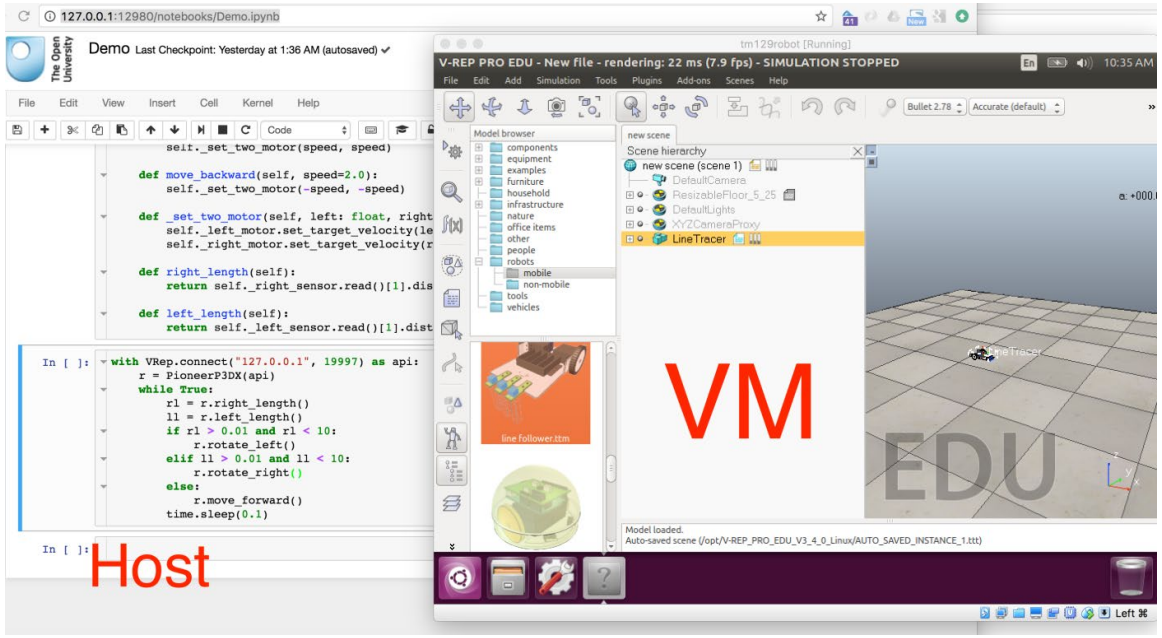
Loading and Running Vagrant

- Scotch Box
  - https://box.scotch.io/ -- http://192.168.33.10/
  - WPDistillery - https://wpdistillery.org/ - for WordPress
- Homestead
  - Instructions - https://laravel.com/docs/5.5/homestead#first-steps



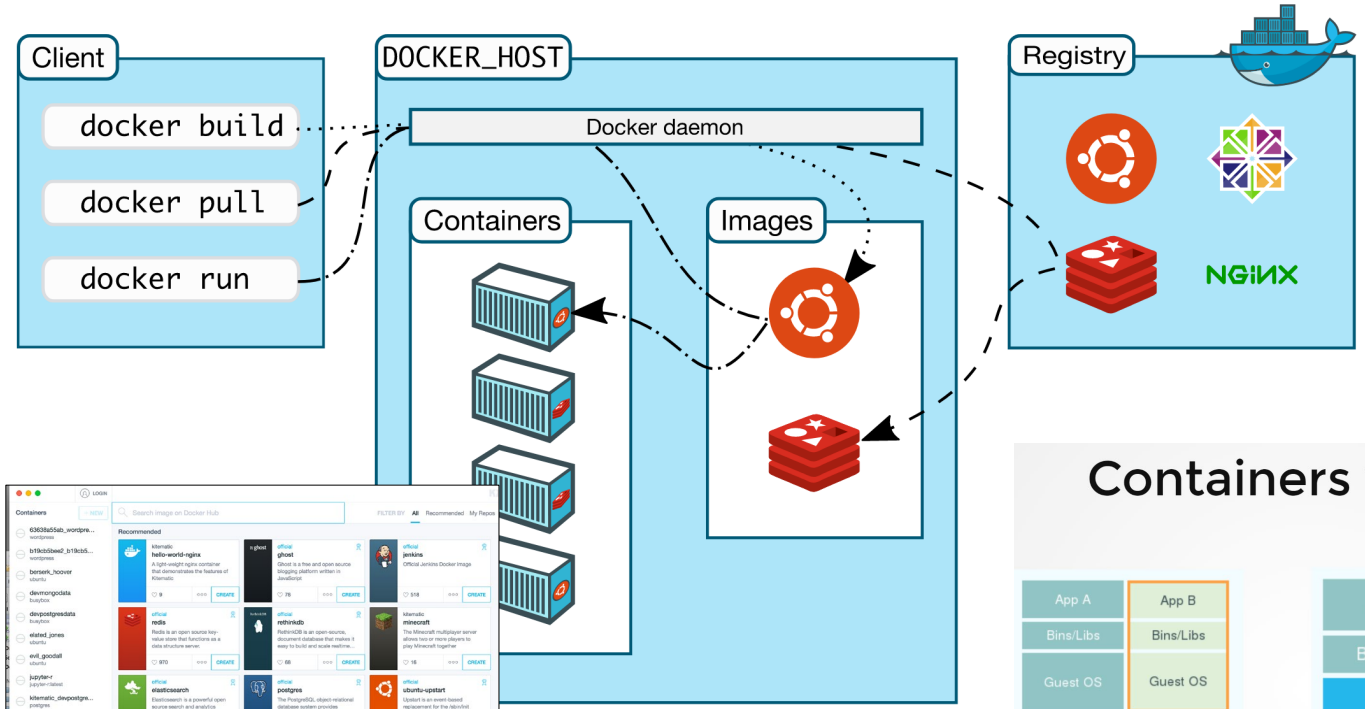


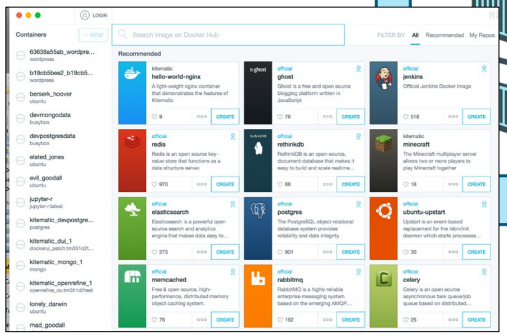
Vagrant as Learning Environment

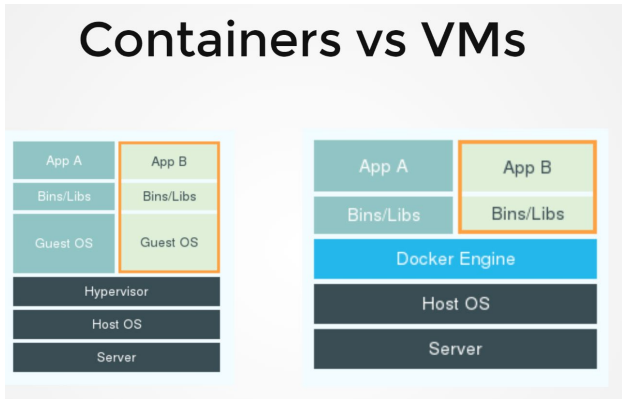


Distributing Virtual Machines That Include a Virtual Desktop To Students – V-REP + Jupyter Notebooks – Tony Hirst
https://blog.ouseful.info/2017/09/10/distributing-virtual-machines-that-include-a-virtual-desktop-to-students-v-rep-jupyter-notebooks/

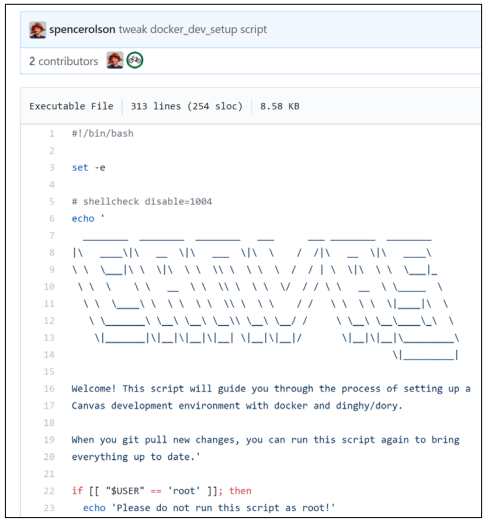
Docker


Client
docker build
docker pull
docker run
DOCKER_HOST
Docker daemon
Containers
Images
Registry
NGINX




Containers vs VMs
App A
App B
Bins/Libs
Bins/Libs
Guest OS
Guest OS
Hypervisor
Host OS
Server
App A
App B
Bins/Libs
Bins/Libs
Docker Engine
Host OS
Server

Canvas on Docker



https://github.com/instructure/canvas-lms/blob/master/script/docker_dev_setup.sh

http://slides.com/jamesluker/how-to-docker-2#/

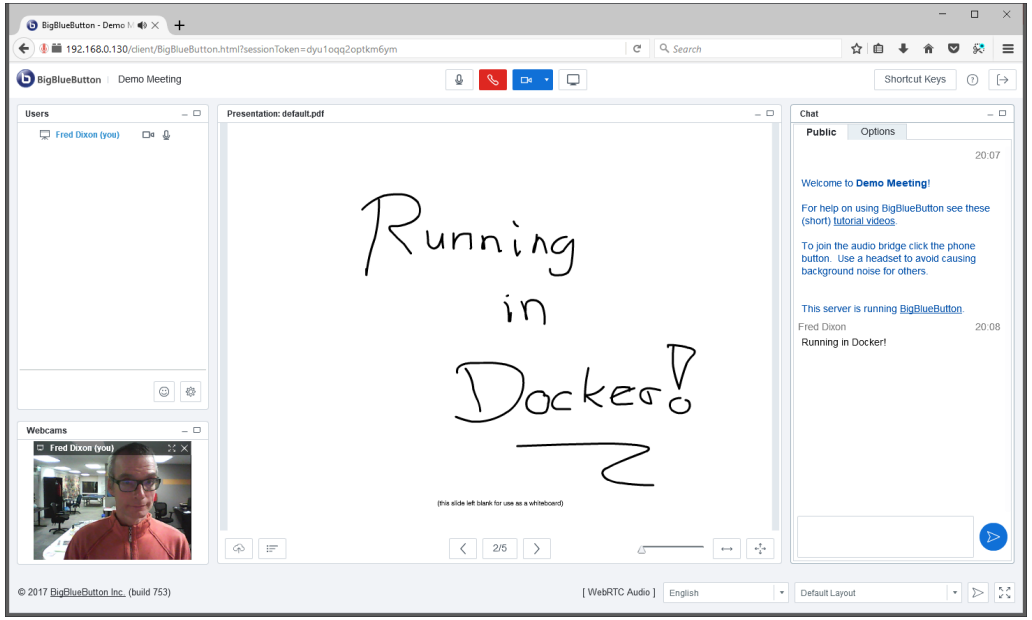
Big Blue Button in Docker

Docker Pull Command

```
docker pull bigbluebutton/bigbluebutton
```

Owner

bigbluebutton



http://docs.bigbluebutton.org/labs/docker.html

https://hub.docker.com/r/bigbluebutton/bigbluebutton/

Moodle on Docker

docker-moodle

No Maintenance Intended

A Dockerfile that installs and runs the latest Moodle stable.

Installation

```
git clone https://github.com/jda/docker-moodle
cd docker-moodle
docker build -t moodle .
```

Usage

To spawn a new instance of Moodle:

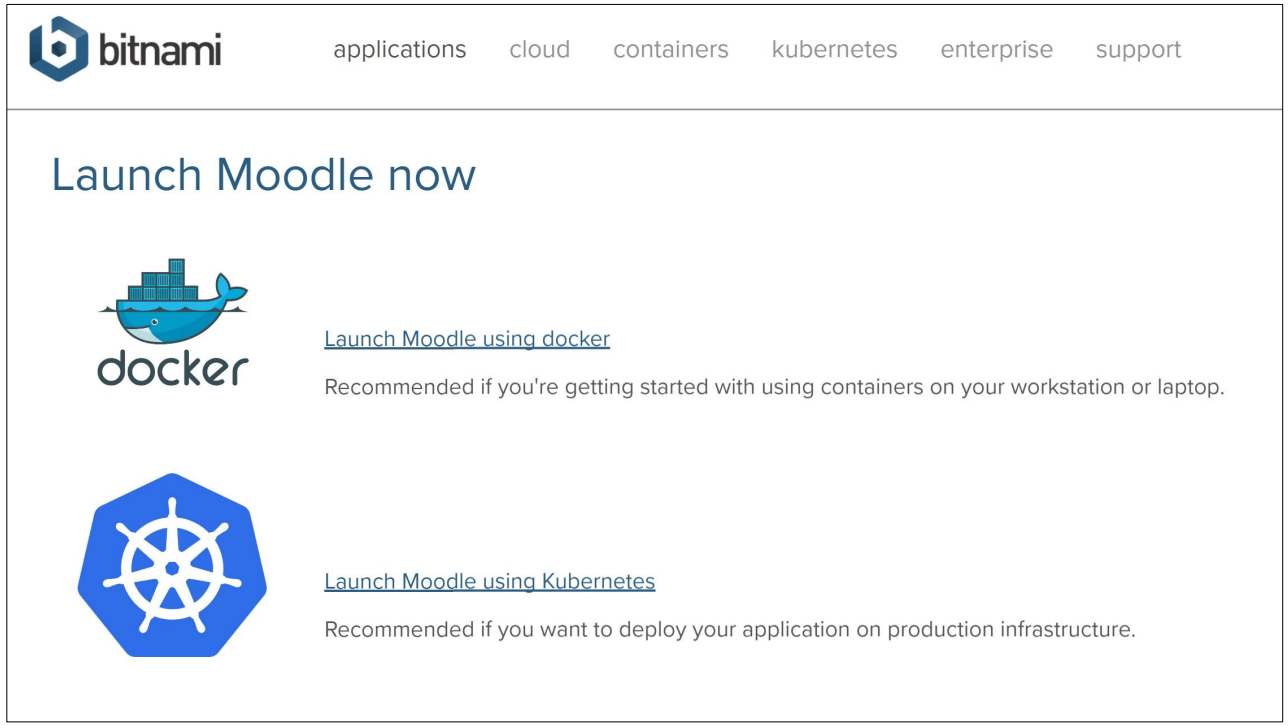
```
docker run -d --name DB -p 3306:3306 -e MYSQL_D
docker run -d -P --name moodle --link DB:DB -e M
```

You can visit the following URL in a browser to get started:

```
http://192.168.59.103:8080
```

https://hub.docker.com/r/jauer/moodle/

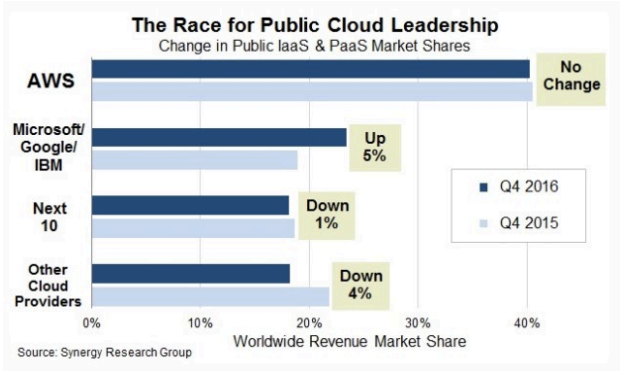
Options



https://bitnami.com/stack/moodle/containers

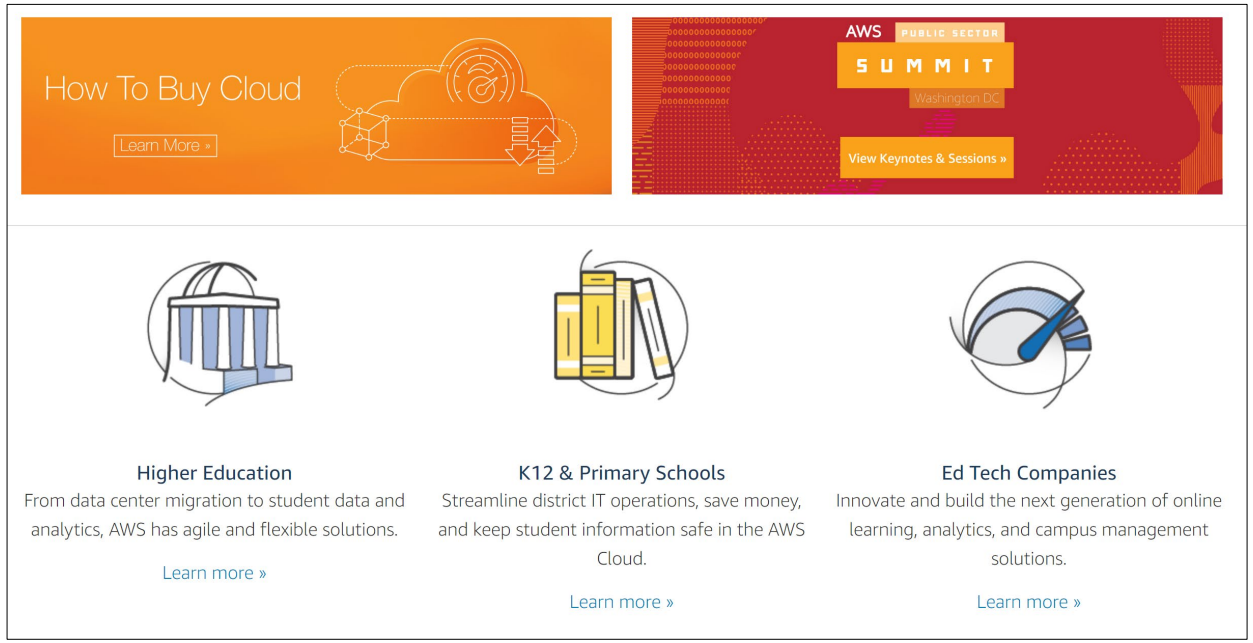
Cloud Infrastructure Providers

- AWS – Amazon - https://aws.amazon.com/
- Azure – Microsoft - https://azure.microsoft.com
- Bluemix – IBM Cloud - https://www.ibm.com/cloud/
- Google Cloud Platform - https://cloud.google.com/
- Oracle Cloud - https://cloud.oracle.com/



https://www.srgresearch.com/articles/microsoft-google-and-ibm-charge-public-cloud-expense-smaller-providers

Cloud Computing for Education



Amazon Web Services - https://aws.amazon.com/education/

OER and Virtualization

- Open Distribution of Virtual Containers as a Key Framework for Open Educational Resources and STEAM Subjects Alberto Corbi and Daniel Burgos

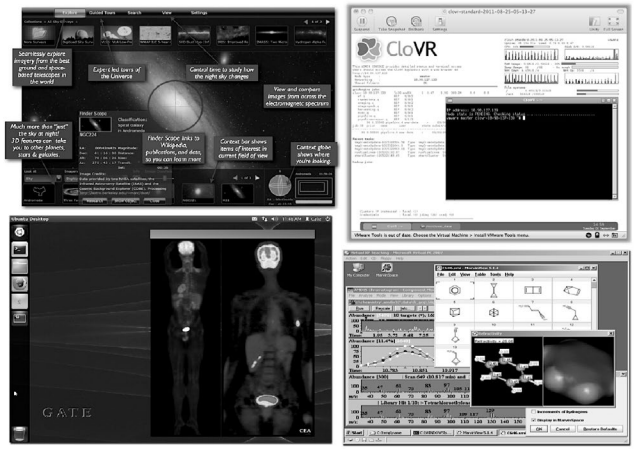


Figure 3: Some educational resources that are distributed as classic virtual machines (WWT, CloVR, vGATE, and a VirtualBox image for chemistry teaching).

http://www.ejel.org/issue/download.html?idArticle=575

"Unikernels represent and deeper simplification of the virtual container approach, given that all necessary computing elements (operative system kernel, basic libraries, frameworks, drivers, scientific application, etc.)"

Mobile Authoring for ARLearn

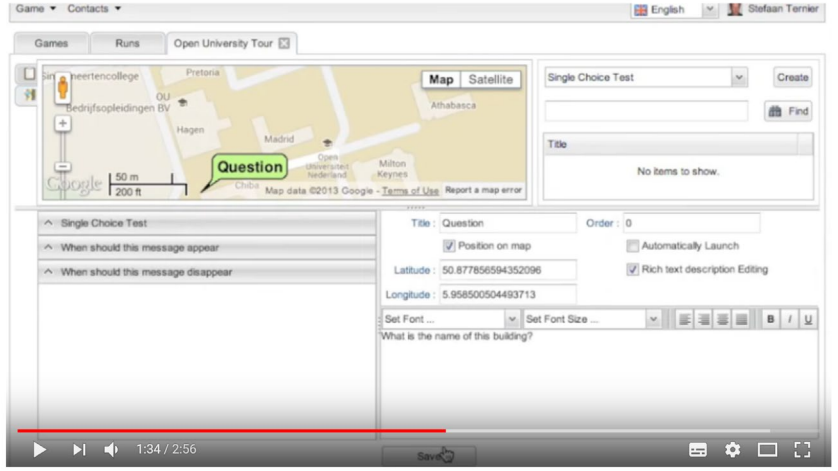
“The Mobile Authoring Tool complements the ARLearn desktop-based environment. Hence, a mobile game author can wander around creating items and synchronizing real world artefacts with game content.”

https://dspace.ou.nl/bitstream/1820/5674/1/UAIS_Tabuenca_2014.pdf

Bernardo Tabuenca; Marco Kalz; Stefaan Ternier; Marcus Specht

ARLearn http://ar-learn.com/

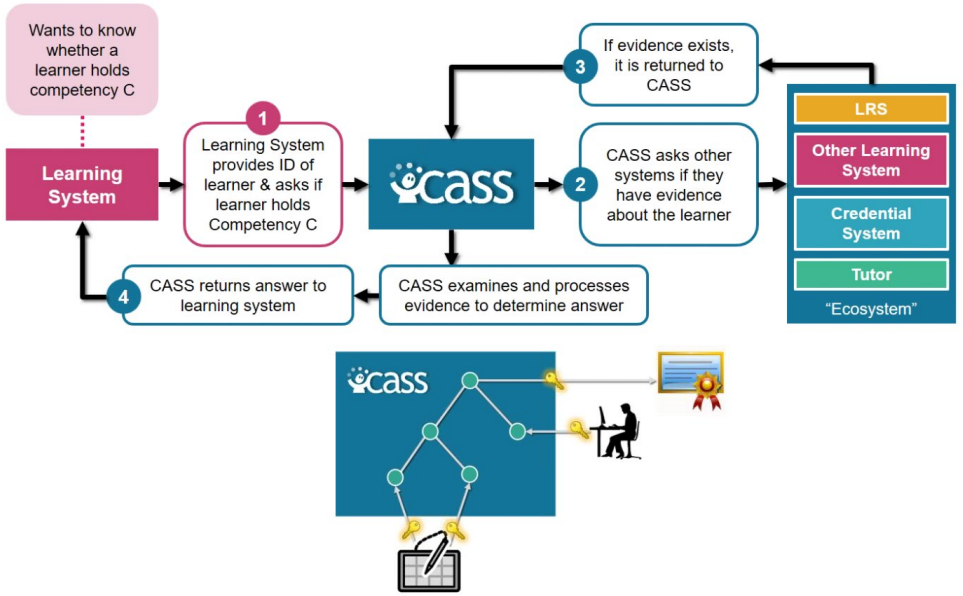
ARLearn is a technical framework for creating mobile serious games



https://www.youtube.com/watch?v=Lqk3yrcNjNI

Interaction and Access Data

- Unlocking Open Educational Resources (OERs) Interaction Data -
  David Massart, Elena Shulman
  - http://www.dlib.org/dlib/may13/massart/05massart.html
- Creativity in the Open Workshop
  - http://blogs.ubc.ca/chendricks/



Advanced Distributed Learning (ADL):

- Competencies and Skills Systems
- Experience API (xAPI)

https://www.adlnet.gov/xapi/

gRSShopper Functionality

Harvester

- atom, RSS, JSON
- blogs, discussions, pages
- Twitter, Facebook, etc

User management

- Login and authentication
- Newsletter subscription
- Social network information

Feed Manager

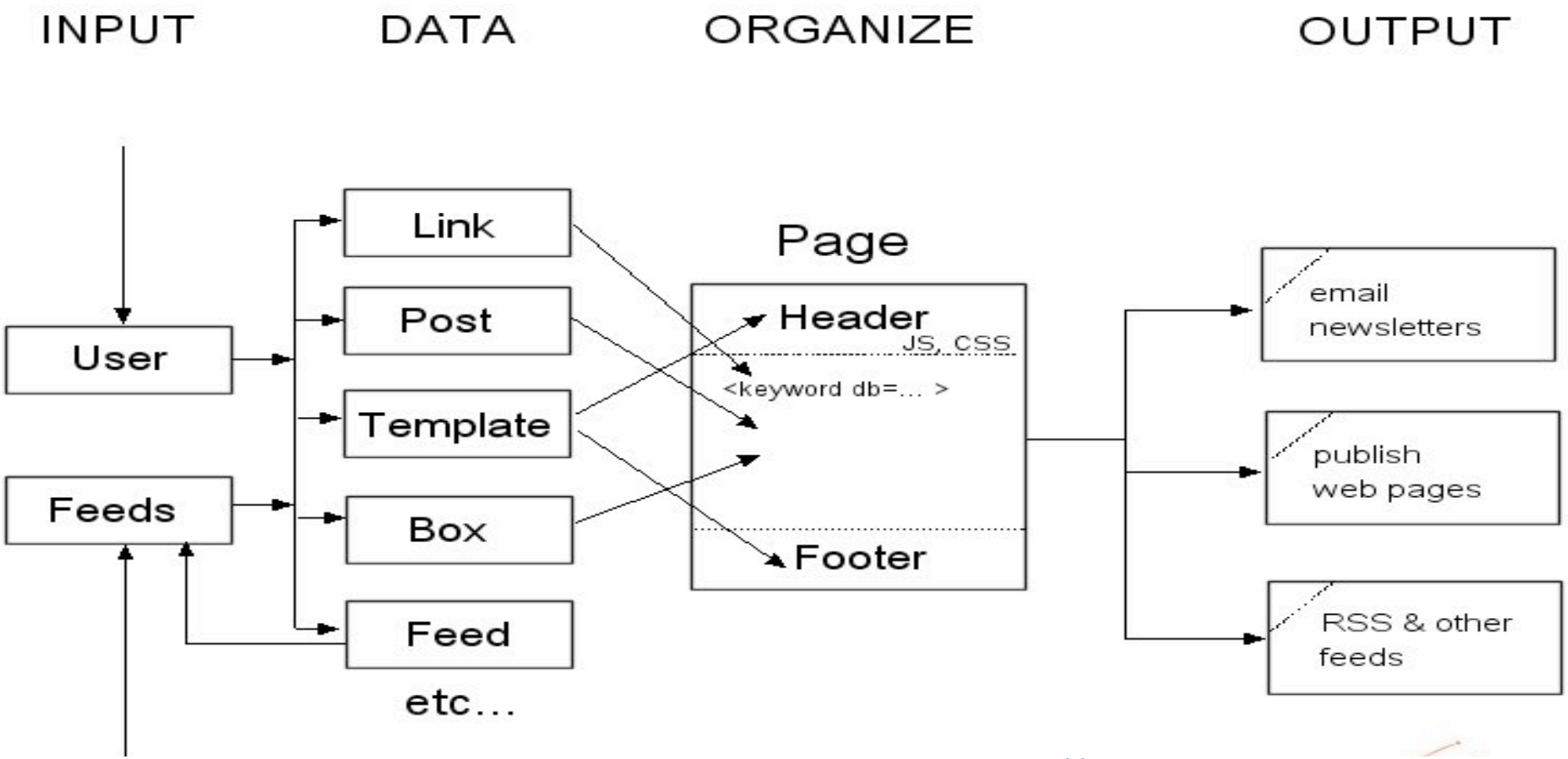
Site Manager

- Course pages
- Events, etc.
- Newsletter pages

Distribution

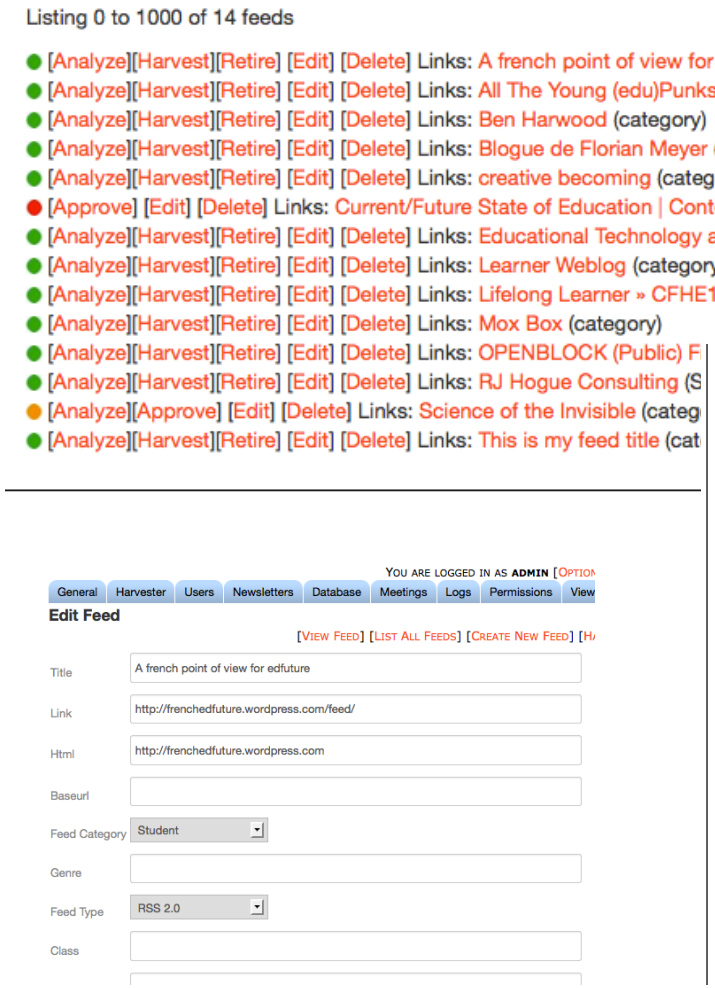
- Email newsletter
- RSS / Atom / JSON feeds
- API to Twitter, Facebook, etc

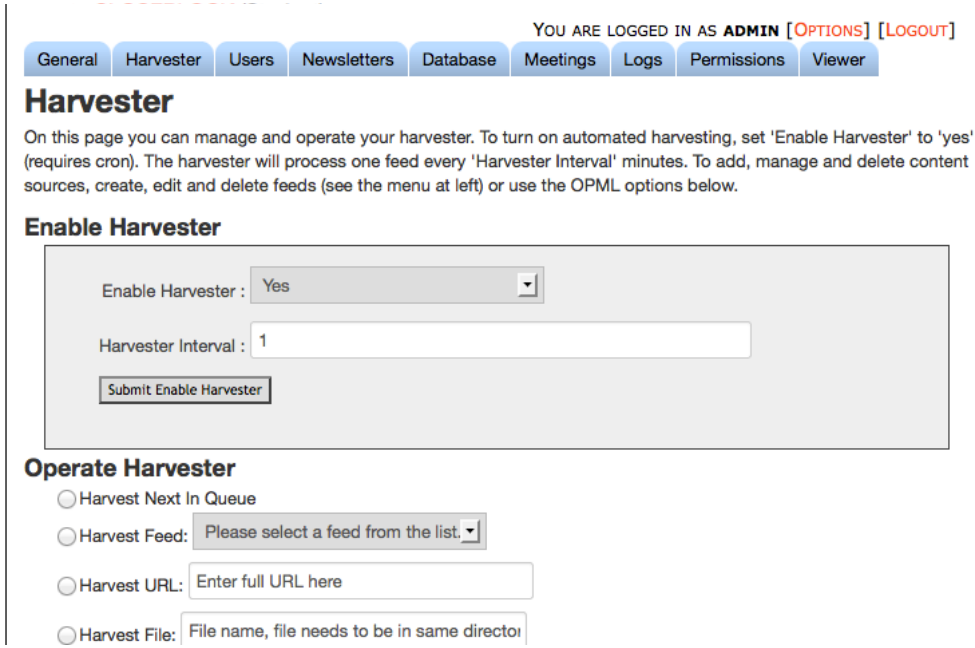
gRSShopper Flow



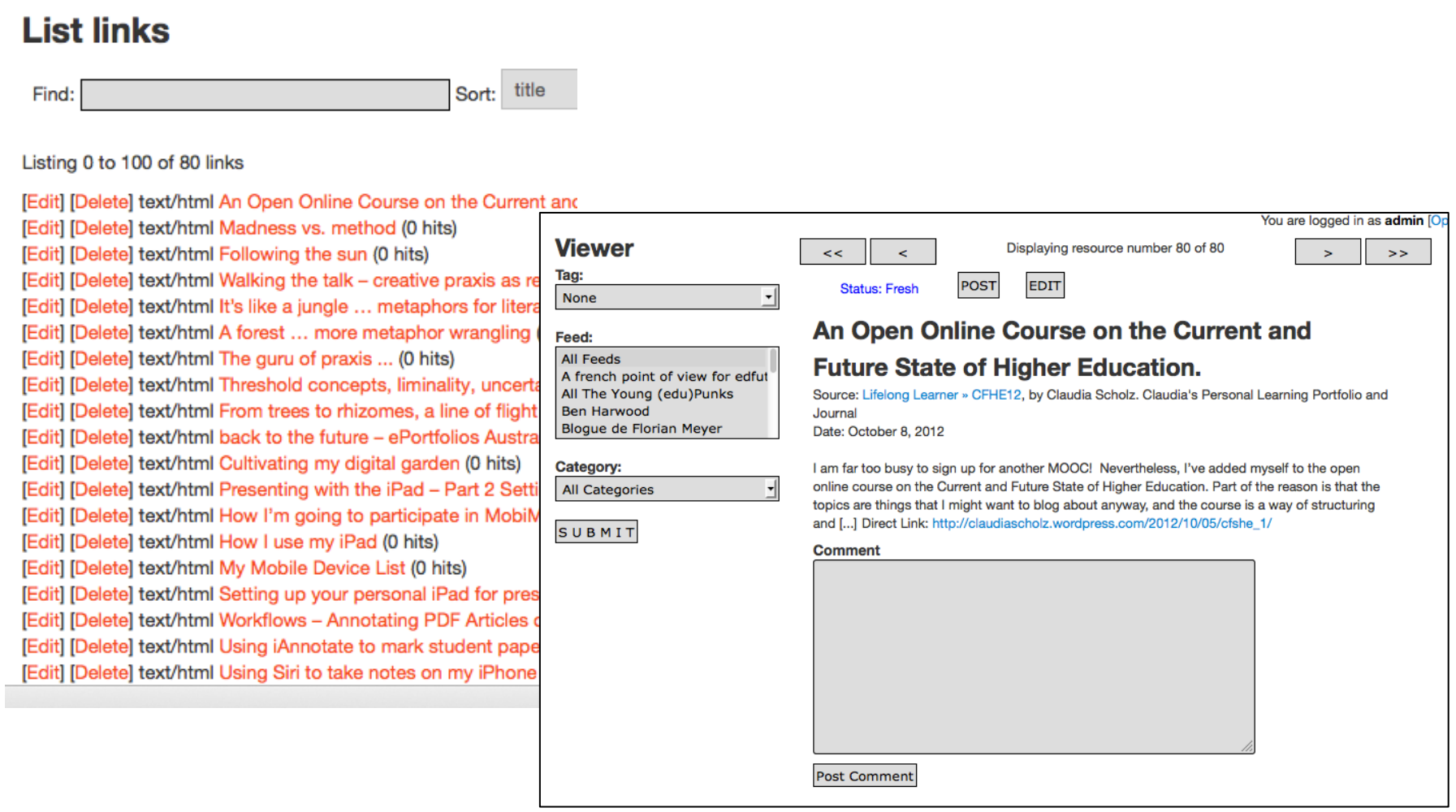
http://grsshopper.downes.ca

Feed Harvesting





Viewing and Posting



Mixing and Publishing

Publishing Options

Publish to: http://edfuture.mooc.ca/ newsletter.htm

Archive page? yes [View Page Archive]

Autopublish? yes How often? Hourly

Note that pages are also autopublished and archived when sent as newsletters.

Newsletter Options

Enable newsletter subscriptions? yes

Auto-send newsletters turned on? yes

Autosubscribe to this newsletter? yes

Weekdays	Days of Month	Time
Sunday Monday Tuesday Wednesday Thursday	01 02 03 04 05	9 : 00

When should the newsletter be published and sent? Select more than one weekday or date as desired

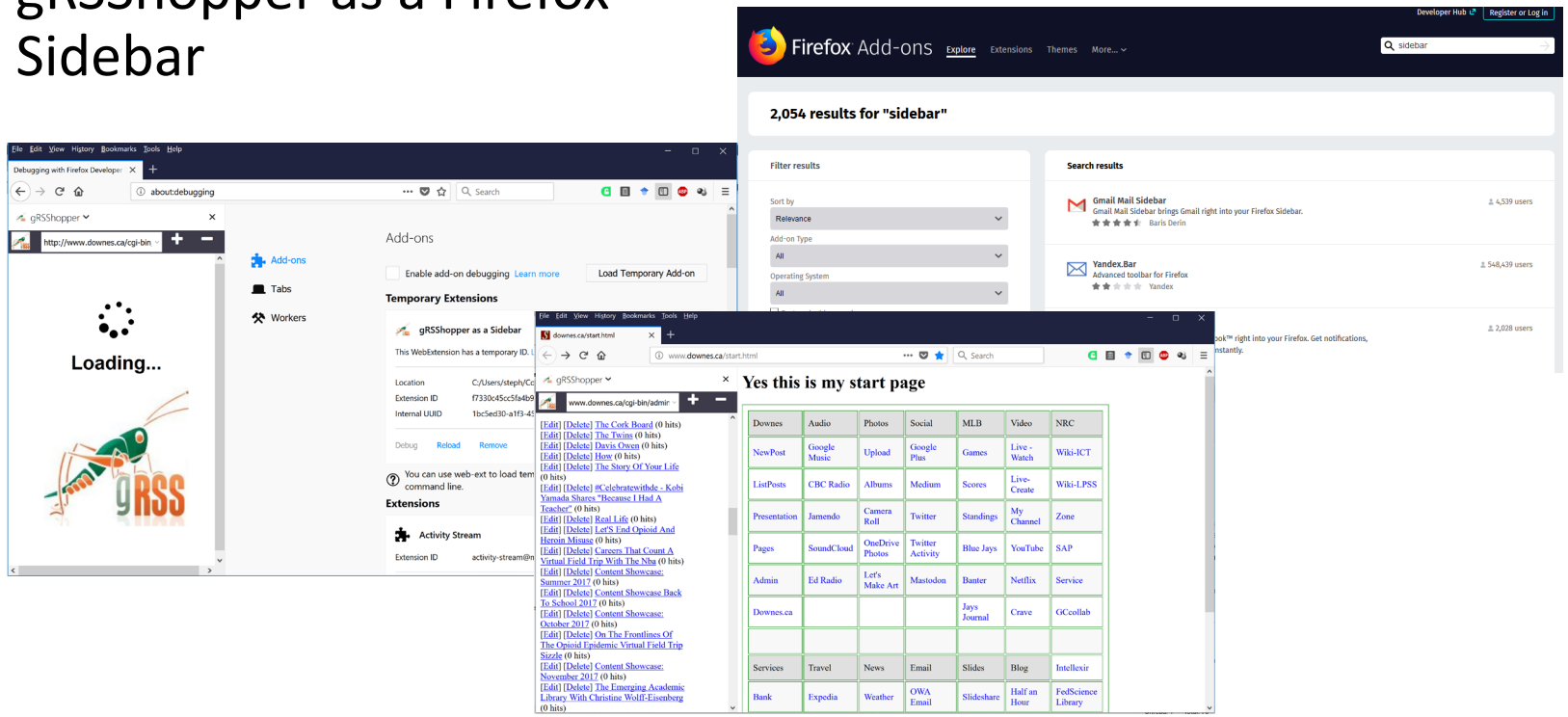
Update Record

Description

```
<h2>Discussion Posts</h2>
<p style="font: 400 12pt/16pt Verdana,Arial, sans-serif; color:
#000040;">Discussion posts will be available here.
</p>

<h2>Delicious Links</h2>

<p style="font: 400 12pt/16pt Verdana,Arial, sans-serif; color:
#000040;">Links from the shared bookmarking site delicious.
<a href="http://www.delicious.com/tag/cck11">Add your own
bookmarks</a> and be sure to tag them as CCK11.</p>

<keyword db=link;expires=24;truncate=500;format=email;
feedid=2637;all;sort=crdate DESC>

<keyword db=link;expires=24;truncate=500;format=email;
feedid=2641;all;sort=crdate DESC>

<h2>Twitter Posts</h2>

<p style="font: 400 10pt/12pt Verdana,Arial,
sans-serif;color:#000040;">
<keyword db=link;type=twitter;format=twitter;sort=crdate
DESC;expires=24>
</p>
</div>
```

gRSShopper as a Panel

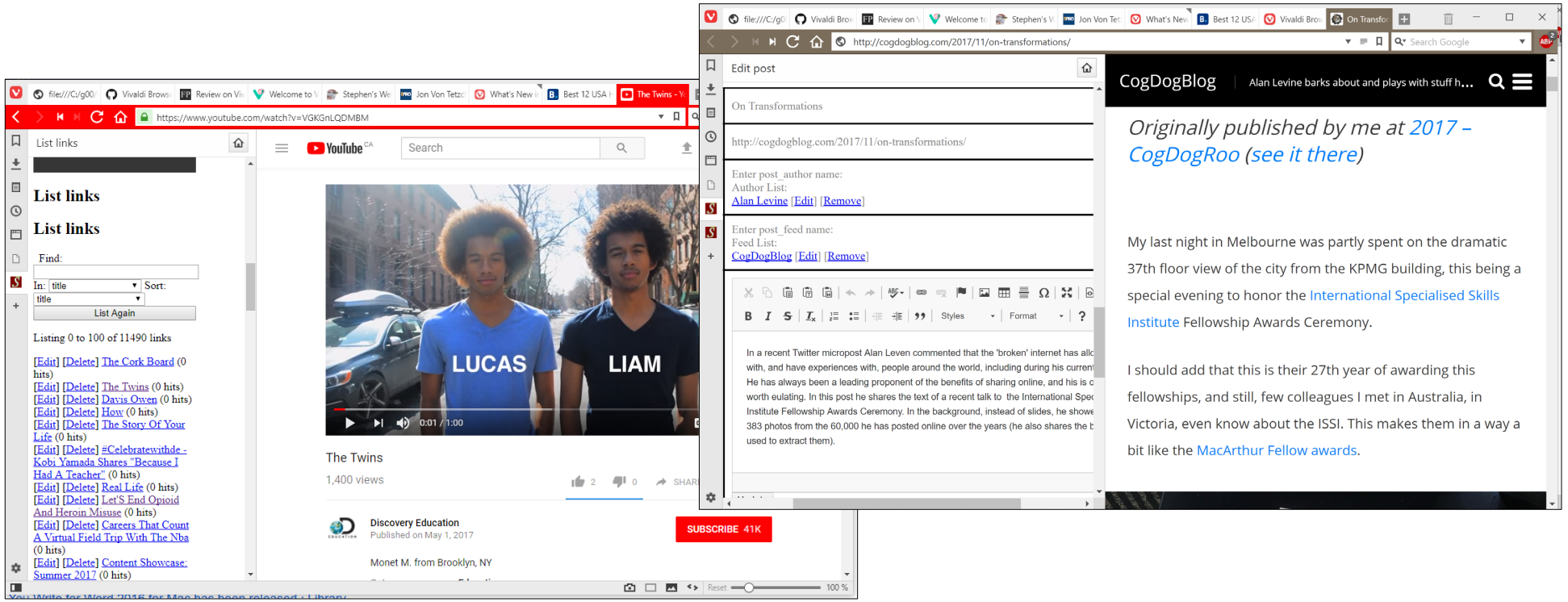
- gRSShopper as a Firefox Sidebar



https://addons.mozilla.org/en-US/firefox/search/?q=sidebar&platform=WINNT&appver=58.0

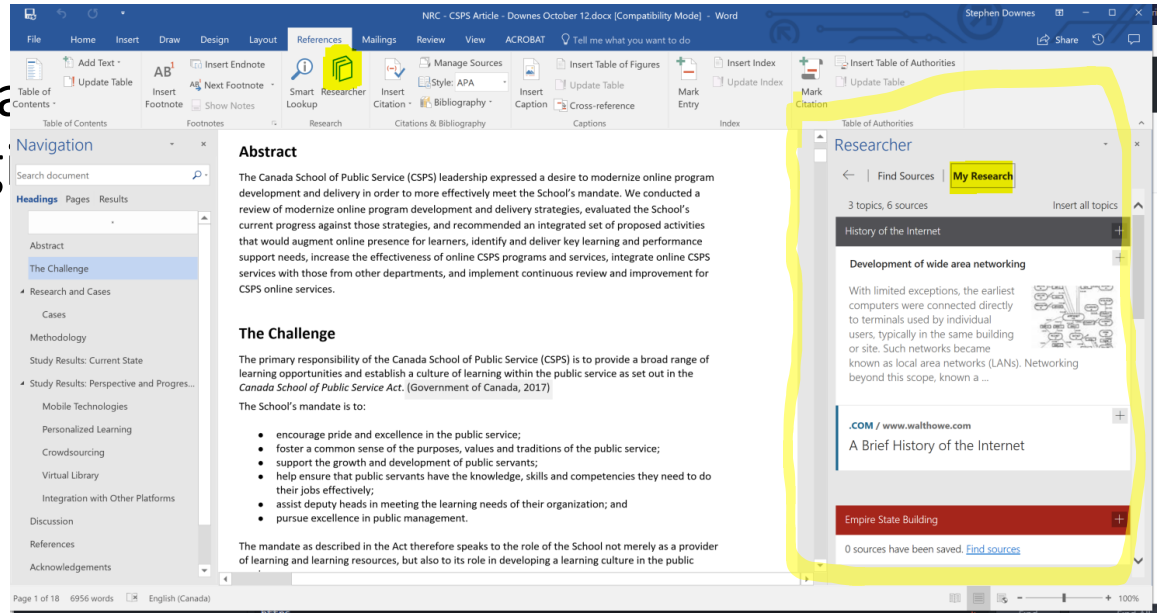
Applications in Other Applications

- gRSShopper in Vivaldi



Applications in Other Applications

Research and References in a MS-Word Plug



https://www.officetooltips.com/office_2013/tips/advanced_research_with_research_pane.html