



# Open Source Web GUI Toolkits

"A broad and probably far too shallow presentation on stuff that will probably change 180 degrees by the time you hear about it from me"



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# Why Web Developers Drink...

Can't get away with knowing one thing

- ♦ A Fairly Typical Web App...
  - MySQL – Data storage
  - PHP – Business logic
  - Javascript - Interactivity
  - HTML – Presentation stuff
  - CSS – Presentation formatting stuff
  - Images – They are... Purdy...
  - httpd.conf, php.ini, etc.

Problems are liable to pop up at any stage...



# The Worst Thing. Ever.

## Browser Incompatibilities!

- ♦ Follow the rules, still lose
- ♦ Which is right?
  - Who cares! You gotta make it work anyways!

## Solutions

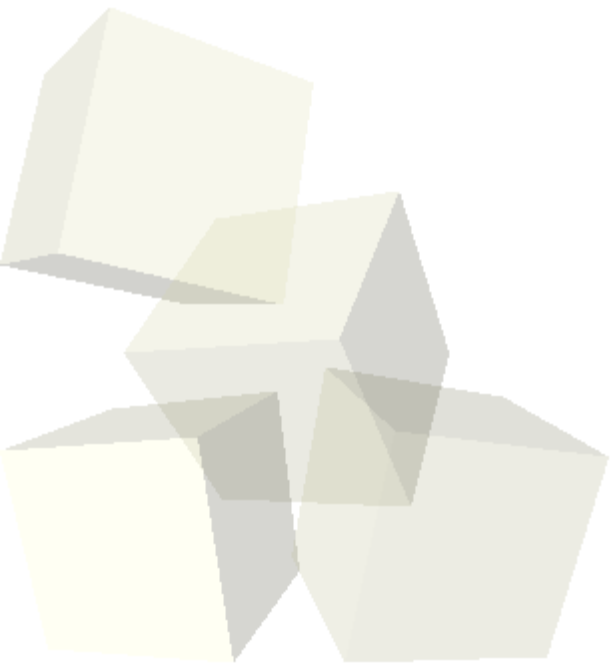
- ♦ More work or less features?
  - Use browser-specific stuff
    - Switch via Javascript
  - Use a subset of HTML that most everyone agrees on



# Web Application?

Web sites are... OK, but... Boring...

- ♦ Bounce users from page to page
- ♦ Stuff gets messed up easily
  - Bookmarks? Scary...
  - Back button

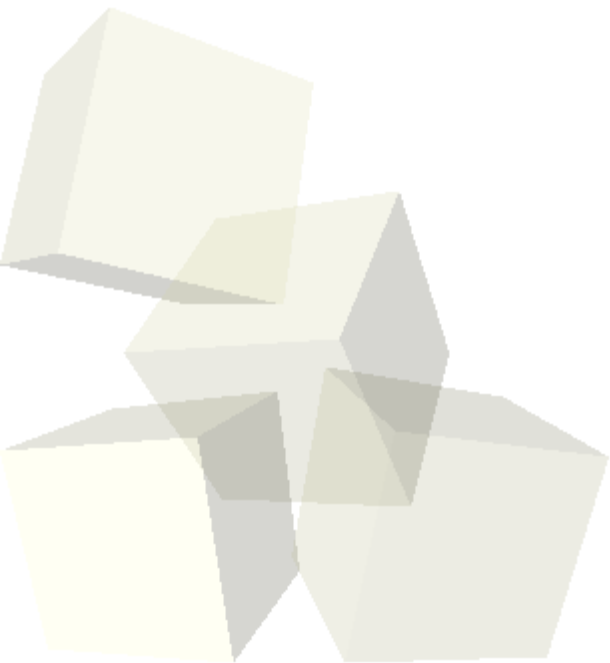




# Why A Web Toolkit?

## Pros:

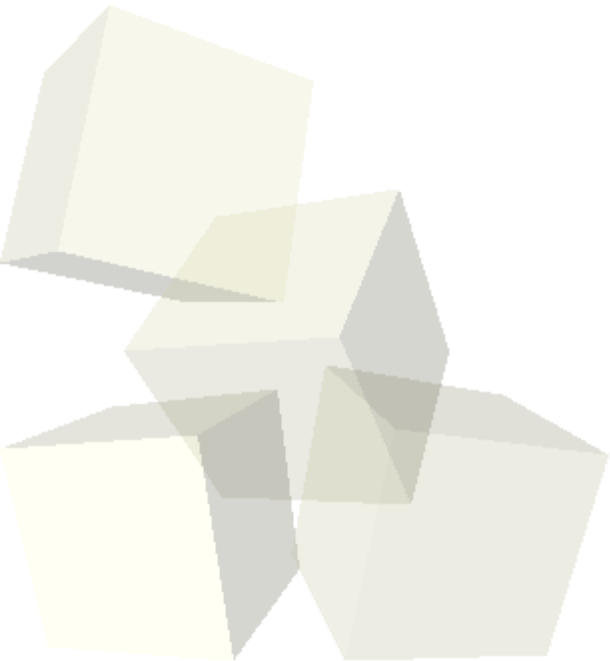
- ◆ Let something else worry about difficult things
  - Layout issues
  - Session management
  - Browser cross-compatibility
  - Annoying RPC stuff





Neat web stuff has been happening lately...

- ♦ AJAX
- ♦ “Web 2.0”
- ♦ Google maps
- ♦ Desktop app characteristics on the web...

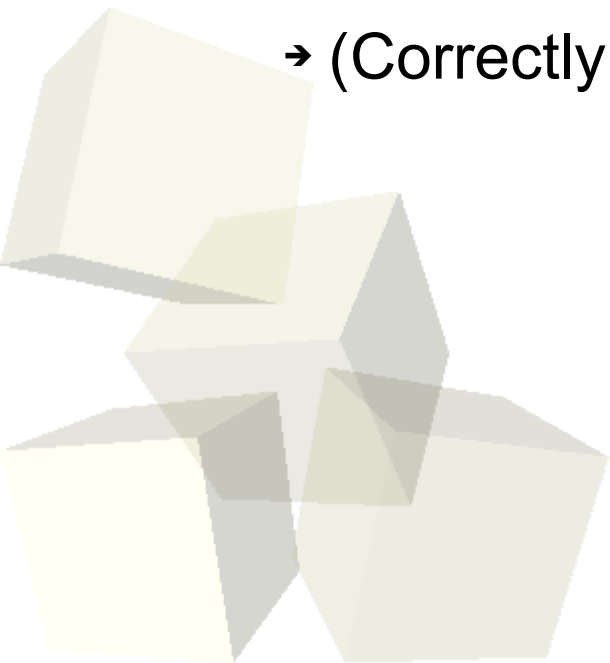


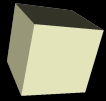


# Problem With >BUZZWORDS<

Nice, but...

- ◆ Lots of flux
  - Technology
  - Expectations of technology
- ◆ Communications can get tricky
- ◆ Yet another thing to program...
  - (Correctly)

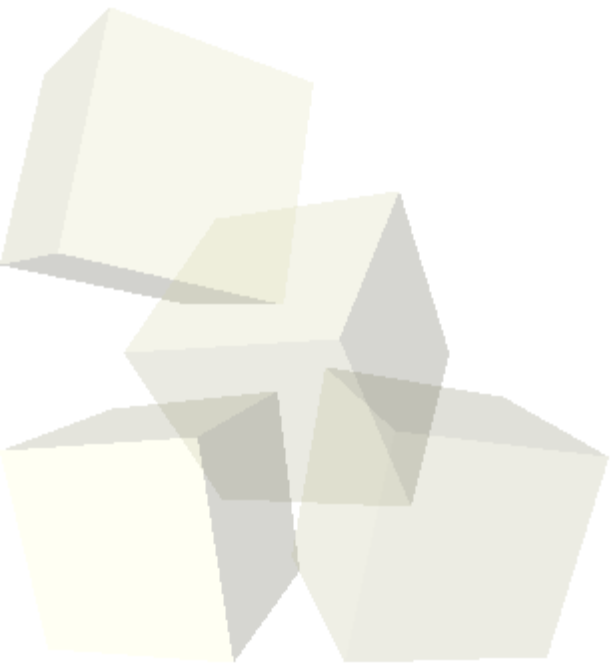




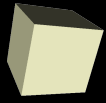
# Why A Web Toolkit?

## Pros:

- ◆ Let something else worry about difficult things
  - Communications management
  - Tested Javascript code
  - Toolkit deals with changes, not the programmer





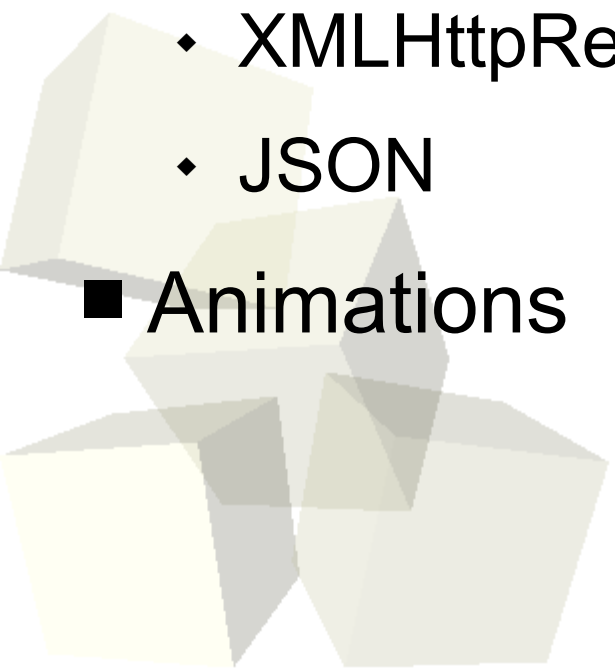


## Bonuses For...

- ♦ A familiar programming language
  - Javascript?
- ♦ Unit test capability
  - Test early, test often, sleep at night
- ♦ Ability to incrementally introduce toolkit
- ♦ Compatibility with existing application
- ♦ Documentation
- ♦ Compelling Examples



# Web Toolkits – Common Features

- Widgets
  - Layouts
  - Manipulation of page elements
    - ◆ DOM access, etc.
  - Communications
    - ◆ XMLHttpRequest
    - ◆ JSON
  - Animations
- 

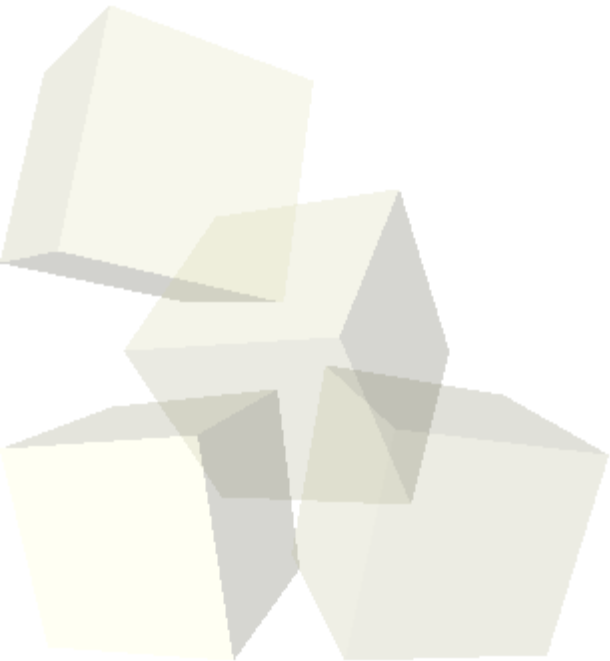


# GWT – Google Web Toolkit

GWT – Google Web Toolkit

<http://code.google.com/webtoolkit/>

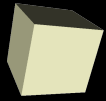
License: Apache 2.0





## Features:

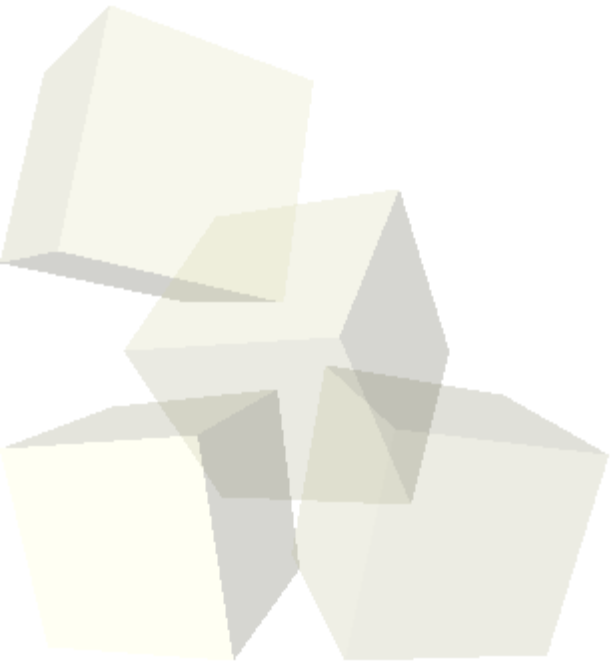
- ◆ Abstracts presentation from logic
  - “Widgets” laid out in “Panels”  
<http://code.google.com/webtoolkit/documentation/com.google.gwt.doc.DeveloperGuide.UserInterface.WidgetGallery.html>
- ◆ JUnit integration
- ◆ Develop using familiar Java tools
  - Eclipse, etc.
- ◆ Errors are caught during compile, not later
- ◆ Don't necessarily have to use Java to run it
- ◆ It's Google



Example:

Desktop App Clone Example Project

<http://code.google.com/webtoolkit/documentation/examples/desktopclone/>

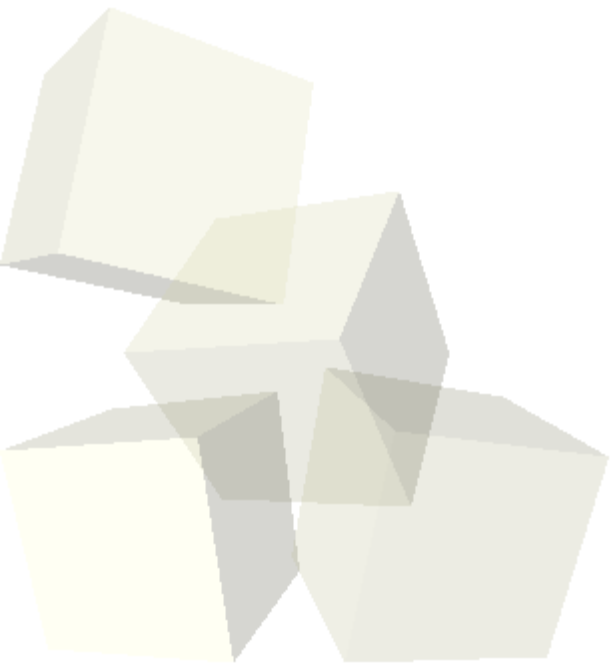


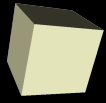


## Dojo

<http://www.dojotoolkit.com/>

License: Academic Free License & BSD





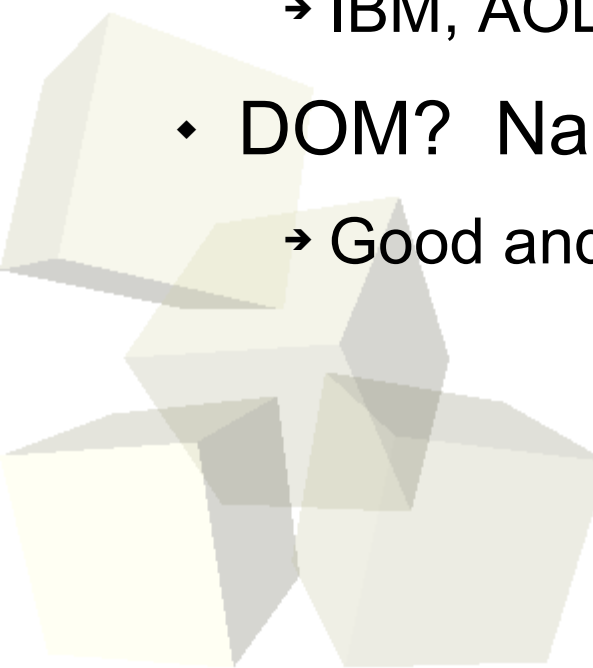
## Features:

- ◆ It does a LOT of stuff
  - Charting [http://archive.dojotoolkit.org/nightly/tests/charting/test\\_engine.html](http://archive.dojotoolkit.org/nightly/tests/charting/test_engine.html)
  - 2D vector graphics API
- ◆ Purely Javascript
- ◆ Widgets
  - Buttons, spinner, slider, wizard, mapping, SVG clocks, etc.
  - Fisheye [http://archive.dojotoolkit.org/nightly/tests/widget/test\\_FisheyeList.html](http://archive.dojotoolkit.org/nightly/tests/widget/test_FisheyeList.html)
- ◆ Containers
  - Accordion [http://archive.dojotoolkit.org/nightly/tests/widget/test\\_AccordionContainer.html](http://archive.dojotoolkit.org/nightly/tests/widget/test_AccordionContainer.html)

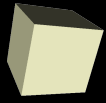


## Features (continued)

- ◆ Future Developments...
  - Javascript Linker
    - Manage your Javascript files
    - Package and deploy only what Javascript code you really need
- ◆ Big names backing the project
  - IBM, AOL, OpenLaszlo
- ◆ DOM? Nah...
  - Good and bad?



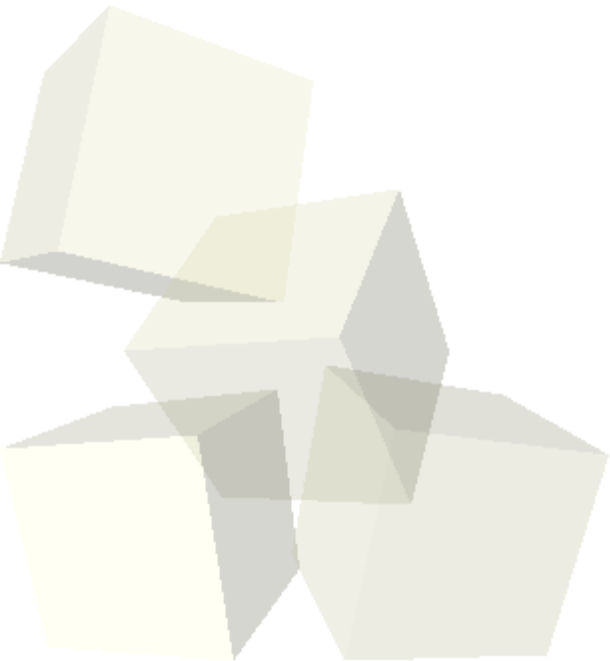




## Open Laszlo

<http://www.openlaszlo.org>

License: Common Public License





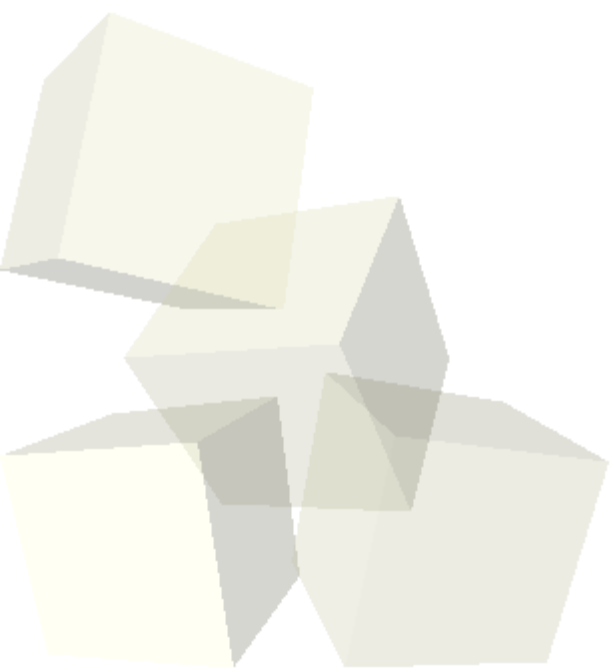
## Features:

- ♦ Common source, multiple runtimes
  - Flash <http://labs.openlaszlo.org/lps-4.0.pr4/demos/lzpix/app-loader.html?lzs=swf7>
  - DHTML <http://labs.openlaszlo.org/lps-4.0.pr4/demos/lzpix/app-loader.html?lzs=dhtml>
- ♦ Many available widgets
  - [http://labs.openlaszlo.org/lps-4.0b1/examples/components/style\\_example.html?lzs=dhtml](http://labs.openlaszlo.org/lps-4.0b1/examples/components/style_example.html?lzs=dhtml)
- ♦ LPS – Laszlo Presentation Server
  - Compiles Laszlo code into target runtime
  - Can deploy on any web server
- ♦ Many future plans
  - New runtimes, tighter integration with Java, etc.



## Features (continued)

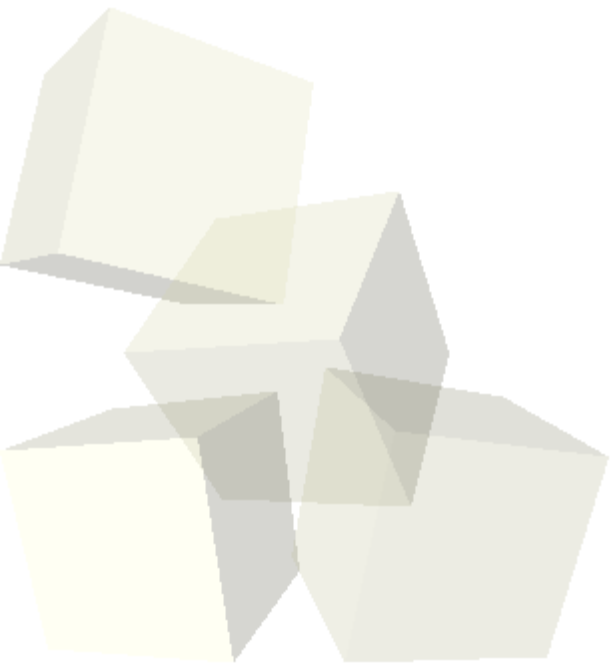
- ◆ Many future plans
  - More runtimes
  - Operation with Java ME

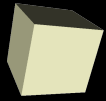




## Programming Syntax:

- ◆ Quasi-XML syntax
- ◆ Javascript-ish actions within this quasi-XML format
- ◆ <http://www.openlaszlo.org/lps/laszlo-explorer/index.jsp?navset=nav10.xml&bookmark=Introduction>





# Yahoo! User Interface Library

YUI - Yahoo! User Interface Library

<http://developer.yahoo.com/yui/>

License: BSD

Used In:

Yahoo! Mail

Yahoo! TV

<http://tv.yahoo.com/listings>



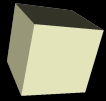
## Features

- ◆ Many available widgets
- ◆ Modular Javascript packaging
- ◆ High degree of customization via CSS
- ◆ Events
  - Timers, mouse clicks, etc.
- ◆ Connection Manager
  - XMLHttpRequest
- ◆ Great documentation
  - Cheat Sheets! Whoohoo!
  - Training videos



## Features (continued)

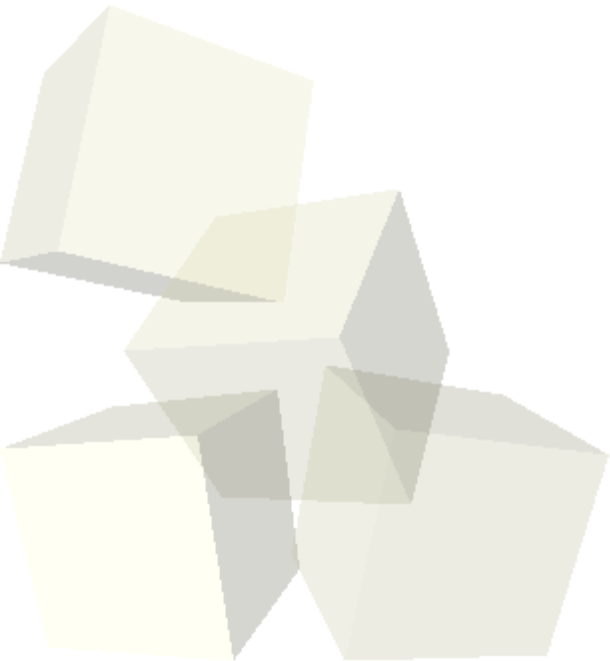
- ◆ Debug window
- ◆ Purely Javascript
- ◆ Modular design allows for gradual introduction of components
- ◆ Emphasis on “Progressive Enhancement”
  - Accessibility for everybody
- ◆ Integration with other Yahoo! Services
- ◆ Shares similar syntax with Yahoo! Widgets



## Programming Syntax

- A slider

<http://developer.yahoo.com/yui/examples/slider/index.html?mode=dist>

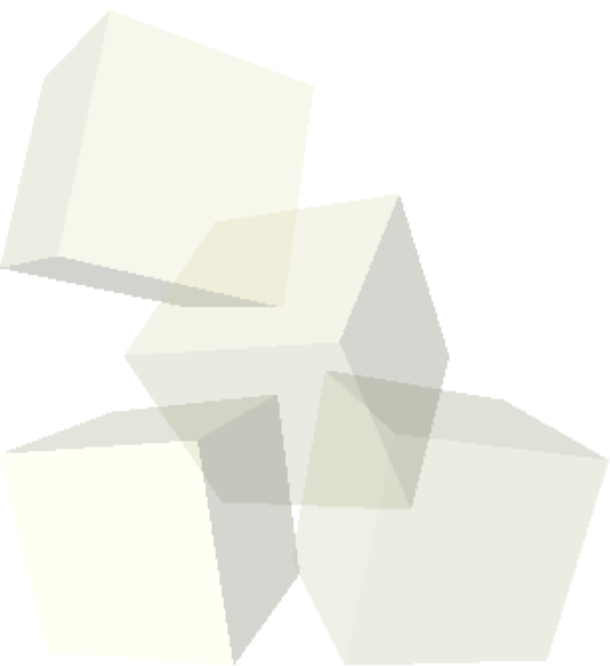






yui.ext

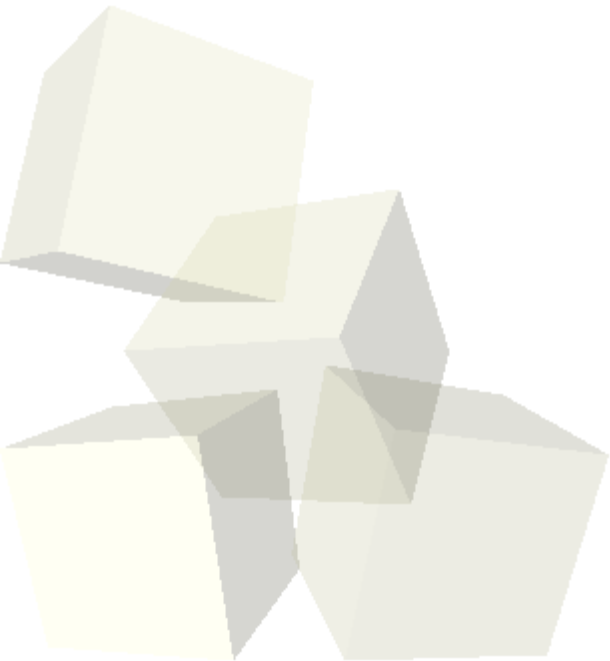
<http://www.yui-ext.com>





## Features:

- ◆ Extends / Embraces YUI
- ◆ Has complex, pre-canned widgets / components
  - Data grids
- ◆ Nice themeing – It looks good!
- ◆ Can pick only components you need



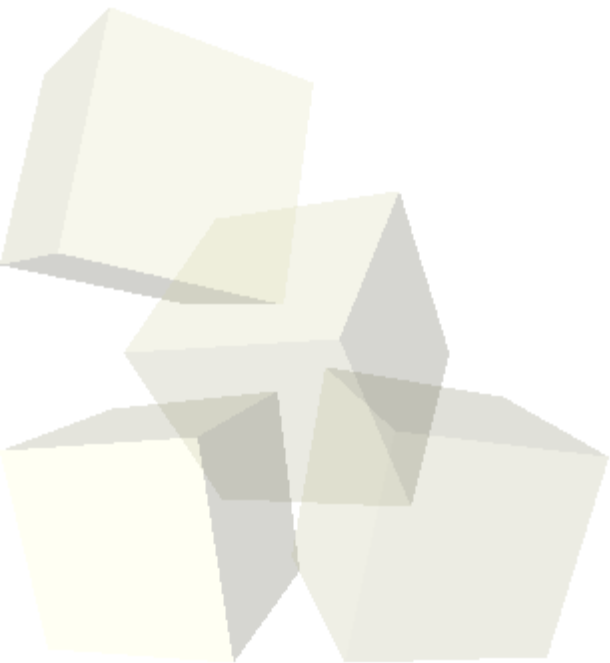


## Example

- ◆ Image Chooser

- Uses JSON to obtain images from a web service

- <http://www.jackslocum.com/blog/2006/12/17/how-to-create-a-reusable-ajax-driven-web-dialog-a-working-ex>





## ■ Prototype

<http://prototype.conio.net/>

- ◆ Ruby on Rails
- ◆ [script.aculo.us](http://script.aculo.us) <http://script.aculo.us/>
- ◆ Rico <http://openrico.org/>

## ■ JQuery

<http://jquery.com/>

## ■ Zimbra

<http://www.zimbra.com/>

## ■ wt

<http://jose.med.kuleuven.ac.be/wt/Home.fcgi>

■ By tomorrow there will probably be others...



Is this good for Linux?

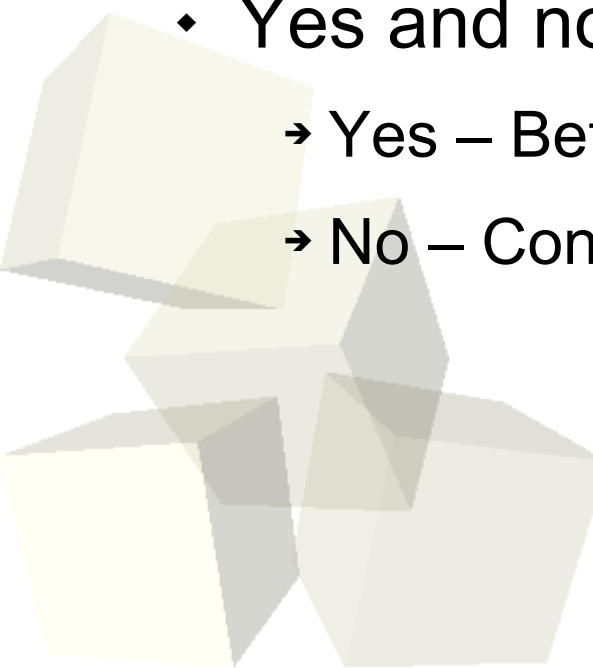
- ♦ I think so?

Is this good for Mobile Devices?

- ♦ Perhaps not quite yet...

Is this good for the end user?

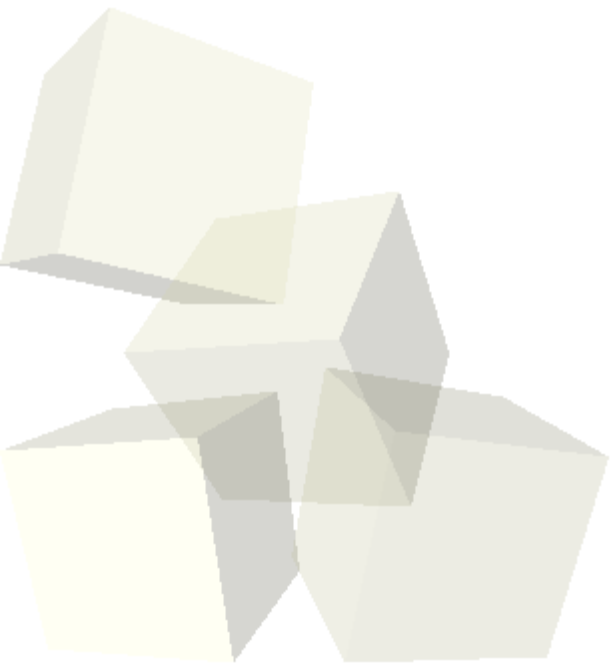
- ♦ Yes and no...
  - Yes – Better applications
  - No – Confusion over new widgets, where to click, etc.





Thats that.

Try one out.





Thanks!

