



**Flash**



Session 5: URLRequest and XML



# ActionScript Review

Last time...

```
var swfLoader:Loader = new Loader();  
swfLoader.load(new URLRequest("testproj.swf"));  
stage.addChild(swfLoader);
```

We made an external preloader using the Loader class.

We “fetched” the external SWF with a URLRequest (which was then loaded)

Can we use this same class to load other files from the internet?

(like Ajax in javascript)



# ActionScript Syntax

## URLRequest

```
import flash.net.*;
```

```
var request:URLRequest = new URLRequest("YOUR_URL");
```

Encompasses an entire HTTP request.

Some methods you may be interested in:

```
request.contentType = "text/xml";  
request.data = "the inner html";  
request.method = URLRequestMethod.POST;
```

But it does nothing just by itself...



# ActionScript Syntax

## URLLoader

```
var loader:URLLoader = new URLLoader();  
    loader.load(a_URLRequest);
```

Flash's HTML request maker. (think of it as ajax)

```
loader.addEventListener(event_type, function(){});
```

Some events that may interest you:

```
ProgressEvent.PROGRESS  
Event.COMPLETE
```

```
HTTPStatusEvent.HTTP_RESPONSE_STATUS  
IOErrorEvent.IO_ERROR  
SecurityErrorEvent.SECURITY_ERROR
```



# ActionScript Notes

## URLLoader notes

The event function takes a parameter of an [Event](#).  
Do `event.target.data` to get the [innerHTML](#) data.

It functions like the File class in java when target is on local computer (loads instantly, no [ProgressEvents](#) are called)

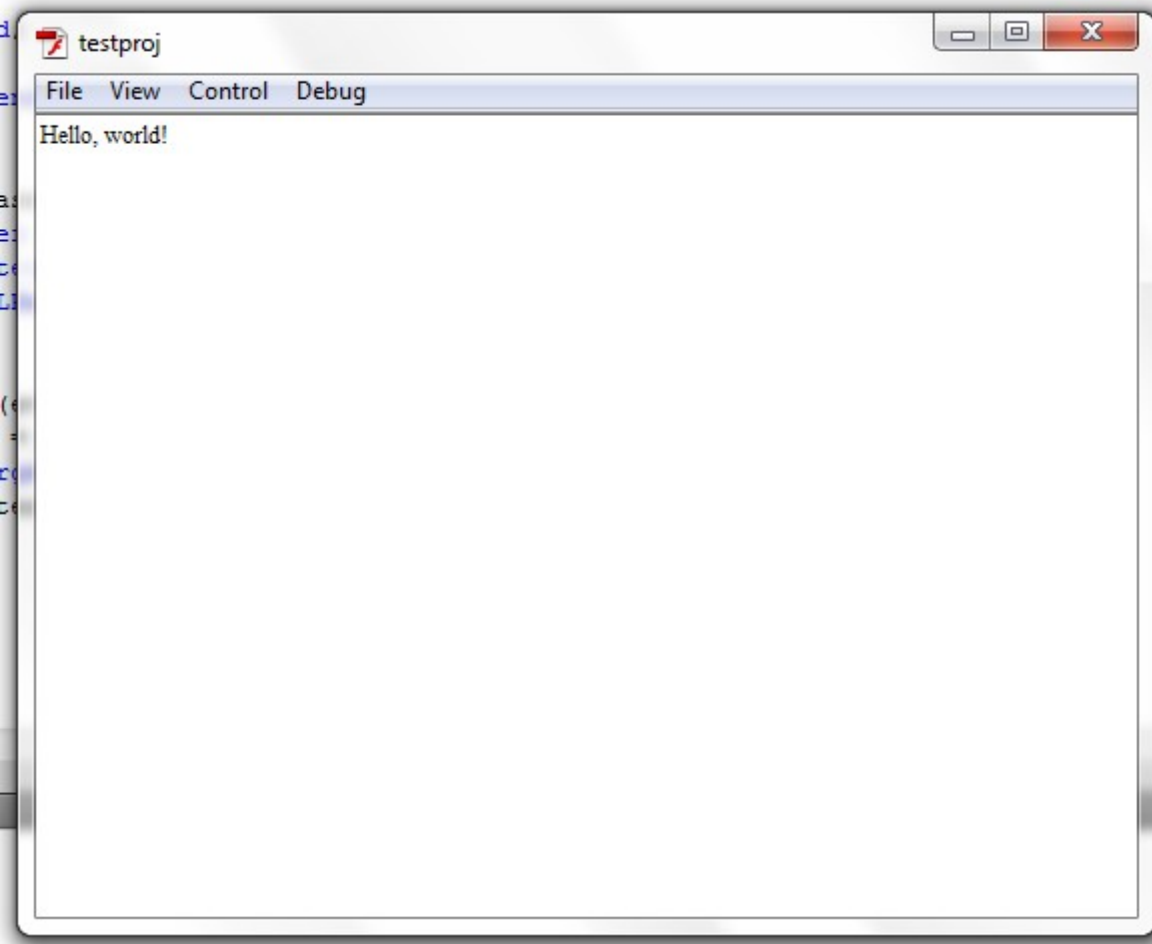
Functions like an Ajax request when target is on a remote server.

Same cross-site server protection like Ajax,  
but you can connect to any webservice when the .swf is run  
from a local computer. (with the right flash settings)



# ActionScript Sample

Loading from a webservice



Make a URLRequest to:

<http://staff.washington.edu/shinyy/test.php>  
(Or other webservice of your choice)

And then put the responseText in a  
TextWindow.

Then try entering some other websites! (note problem with https)

<http://stackoverflow.com/questions/1387608/can-a-swf-using-urlloader-access-https-webservice>



# ActionScript Syntax

## XML

```
import flash.xml.*;  
var my_xml:XML = new XML(a_string);
```

It will attempt to create an XML file from the String provided (and print an error if it is malformed or otherwise fails)

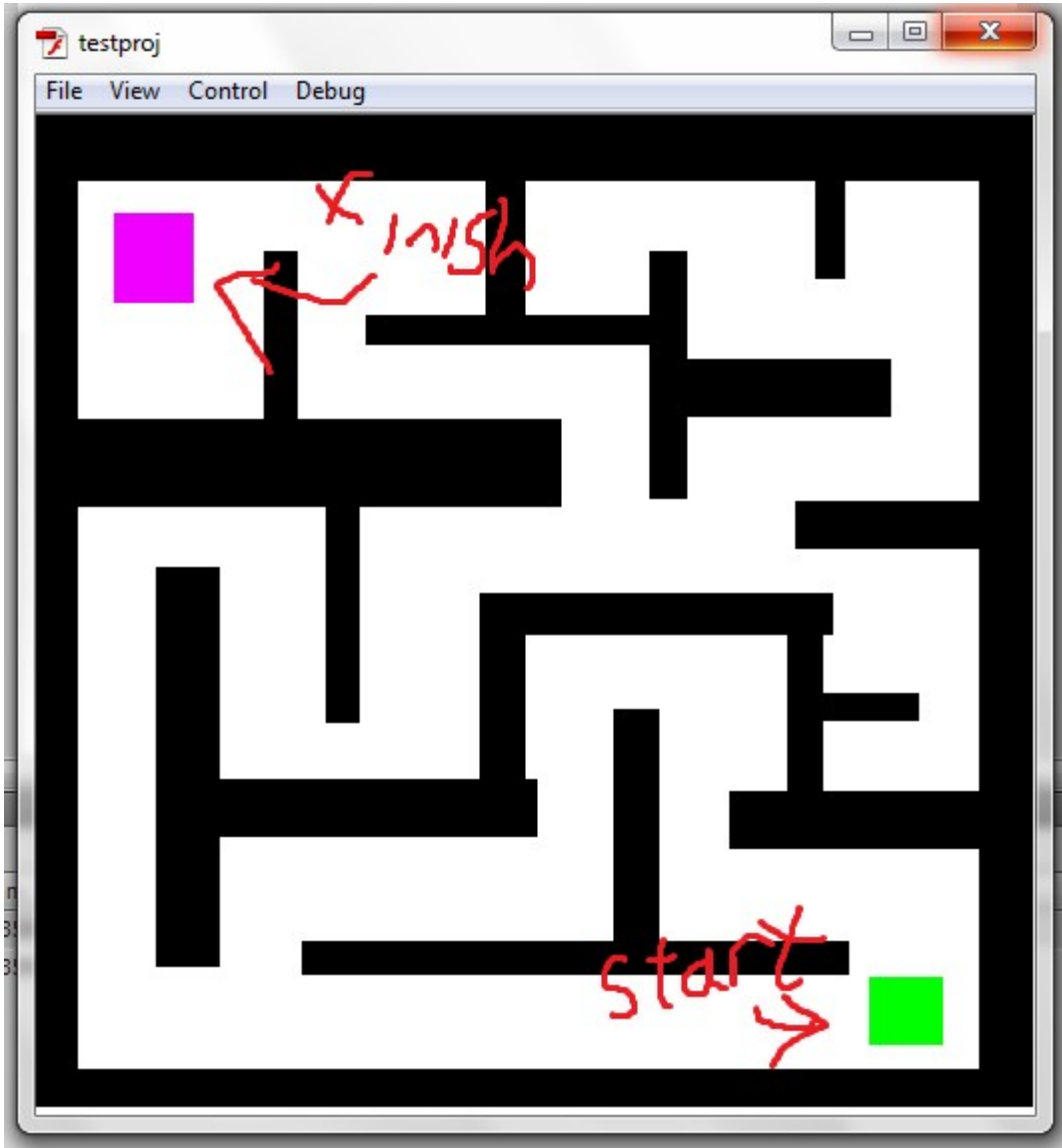
```
for each (var node:XML in my_xml.tagtype) {  
    node.@attribute; //contains attribute value  
    node.text(); //contains inner text value  
}
```

Note that XML is in a tree structure, so there are lots of tree-related methods (firstChild, anyone?) for processing XML as well. It's not fun.



# ActionScript Homework

XML-Loading game



Make a game that loads a maze from an XML file.

(example "level.xml" given)





# ActionScript Homework

level.xml schema

```
<?xml version="1.0" encoding="UTF-8" ?>
<level>
  <wall x="133" y="413" width="274" height="17"></wall>
  <goal x="454" y="465" width="-37" height="-34"></goal>
  <start x="79" y="94" width="-40" height="-45"></start>
</level>
```

<wall> tags should be rendered as walls, the player should not be able to walk through these.

<start> tags should be where the player initially spawns (there should be only one of these).

<goal> tags should end the game when the player hits them

x and y attributes are self explanatory, width and height specify width and height of the given block (it should be able to take negatives)



# ActionScript Homework

## Wall Hit-Detection



After any move of  $X$  speed in a given direction, check whether you are hitting any walls.

If so, move  $X+1$  (just to be safe) speed in the **OPPOSITE** direction of the direction you just moved.

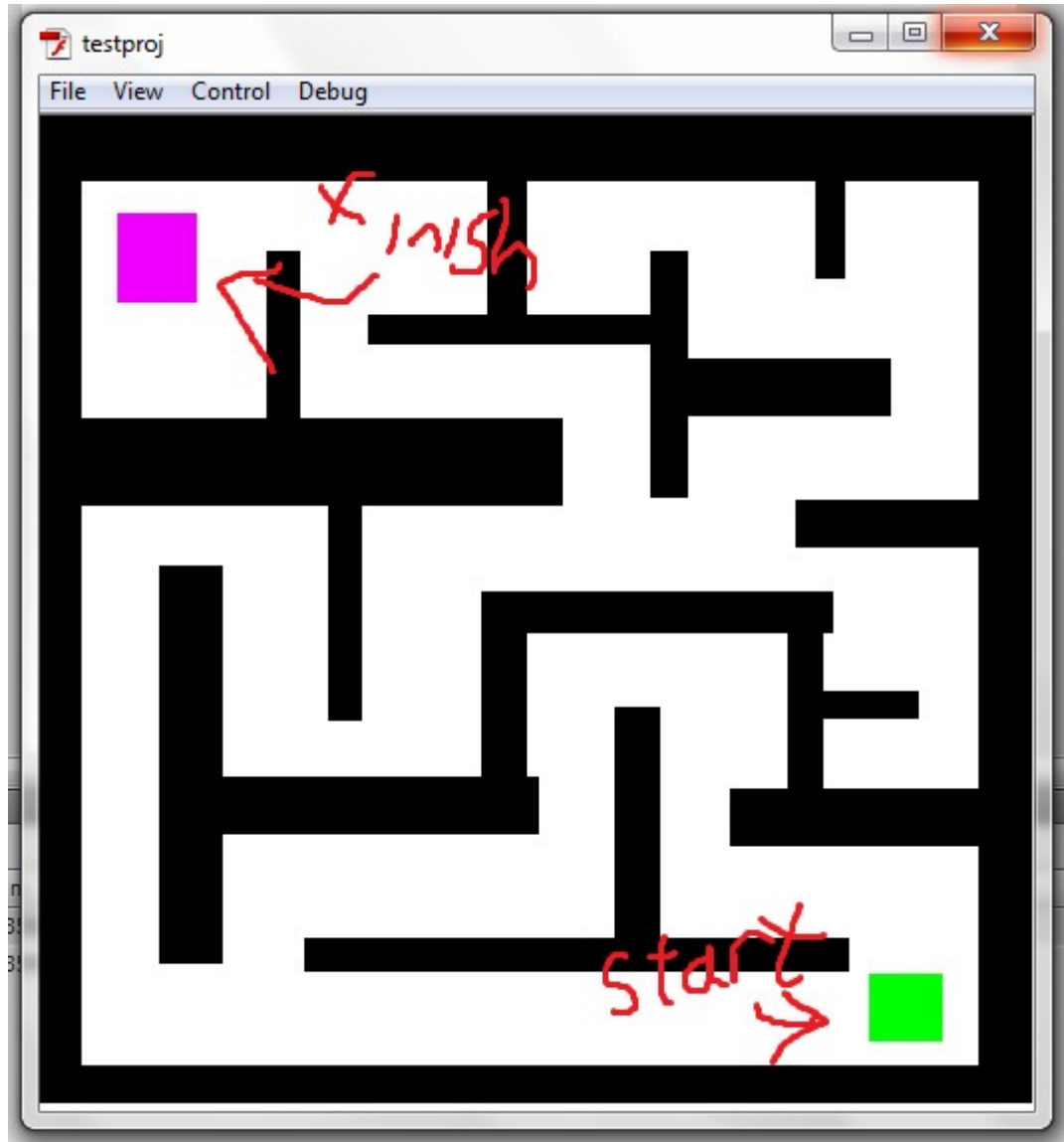
(This is assuming you are directly changing  $X$  and  $Y$  values when pressing keys, with no  $v_x$  or  $v_y$  involved. If you have velocities, it gets a bit more complicated. HINT - inverse  $v_x$  and  $v_y$ )

If you feel that you can improve upon this, feel free to implement it!



# ActionScript Homework

Misc



The screen should be [500x500](#).

The game should load XML levels from the server/local computer using a [URLRequest](#).

Included on the website is [LevelEditor.as](#) (and Boost, FalldownBlock and Wall.as, which it needs) if you want to make your own XML levels in a similar format.

Please include your own [customlevel.xml](#) with the turnin.

**Be creative!** If you come up with a cool idea, implement it! If you have any questions, google them! (or email)

# THE END

Be creative! You can do anything!  
Use your newfound flash powers to create amazing things!

(If you want to continue your learning, here are a few of the many possible resources out there)

- A couple common game libraries:

- <http://flixel.org>
- <http://flashpunk.net/>

- Books:

- <http://www.amazon.com/Essential-ActionScript-3-0-Colin-Moock/dp/0596526946>
- <http://www.amazon.com/Foundation-ActionScript-Animation-Making-Things/dp/1590595181>

- Tutorials:

- <http://www.gotoandlearn.com/index.php>
- <http://www.kongregate.com/games/Kongregate/shootorial-0>