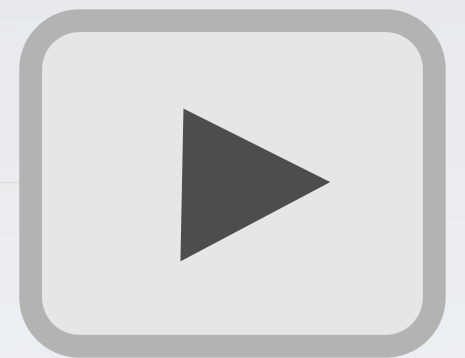


The Accessible Video Interface

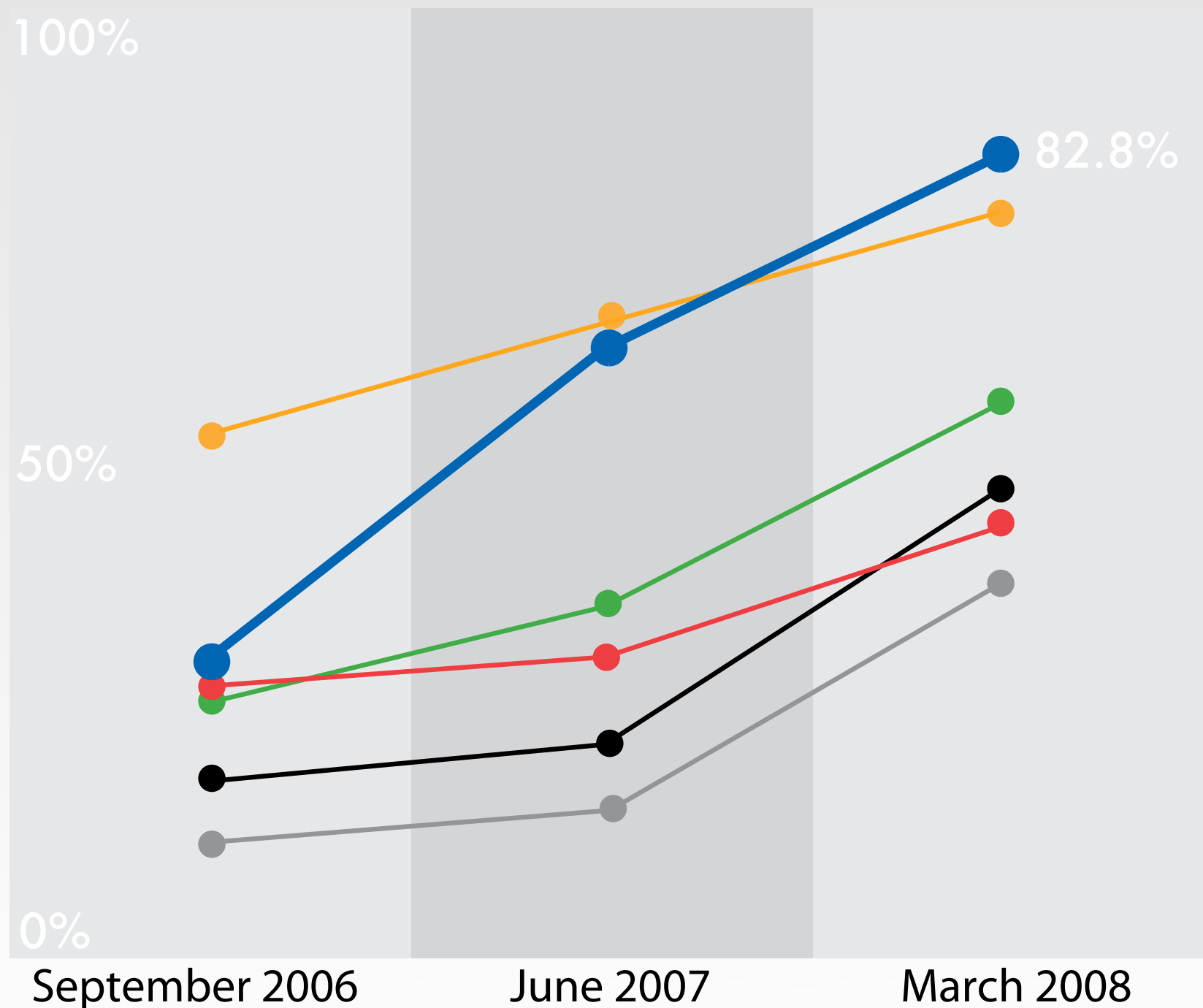
Gabriel [McGovern](#) - Portland Community College



Internet killed the TV star



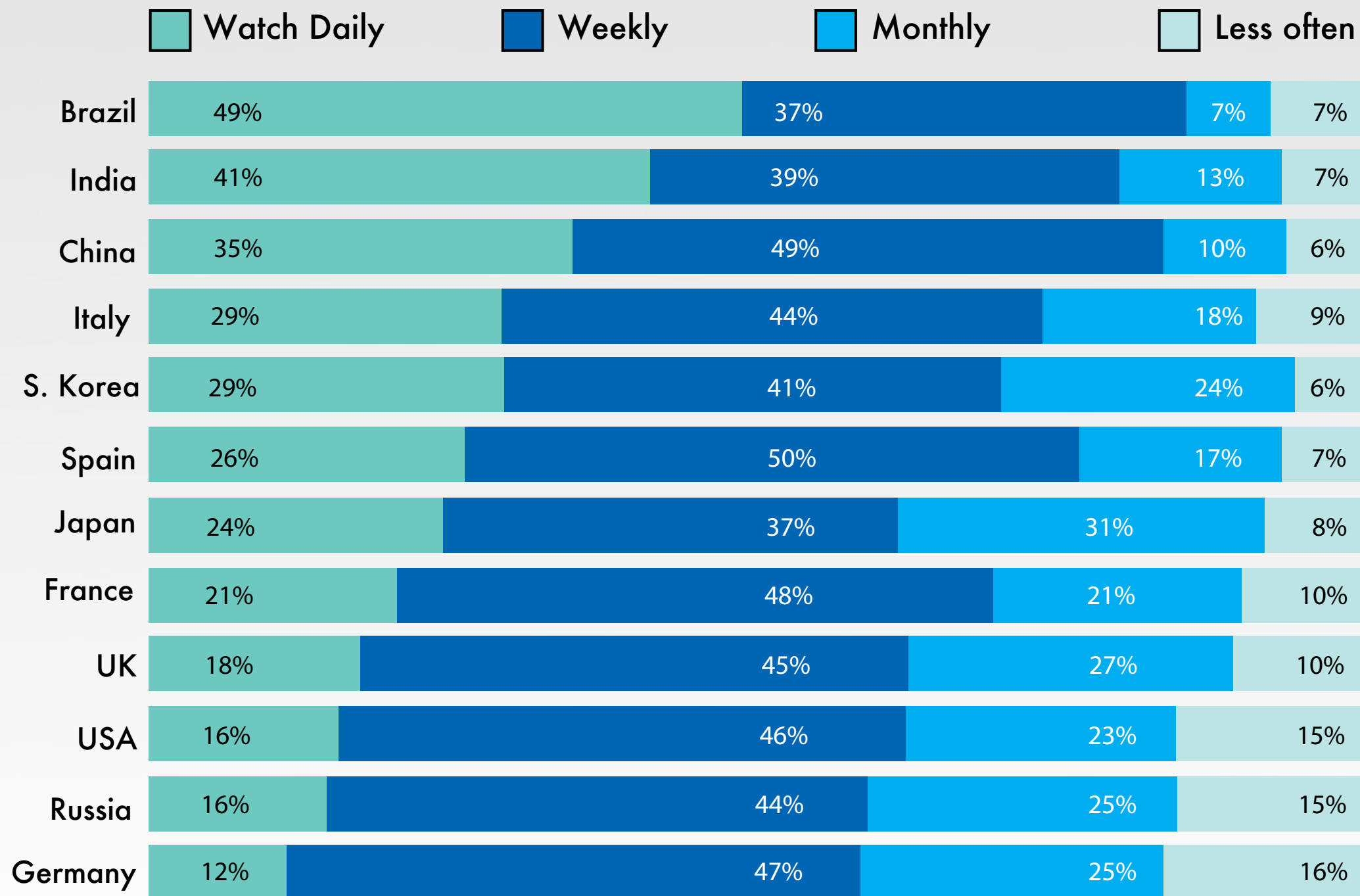
Internet killed the TV star



“Thinking about using the Internet, which of the following have you ever done?”

- Watch video clips online
- Read blogs
- Join a social network
- Download a podcast
- Start a blog
- Subscribe to an RSS feed

Internet killed the TV star



Internet video in education

When granted admission to PCC, you received a MyPCC login. Getting to know how to use MyPCC is important, so make sure to login and get familiar with all that it has to offer. Here is a quick overview of some of the information you'll find in MyPCC.

Getting Started
When you use MyPCC for the first time you will need to use your assigned MyPCC login (example: jones.doe). Your initial password is your 6 digit birth date (example: if your birth date is November 15, 1980, your initial password is 111580). This password will expire immediately after logging into MyPCC. You will be asked to create a new password at that time.
PCC conducts official college business and sends information and announcements to students through MyPCC. Therefore, it is important that you log into MyPCC regularly and is expected that you will monitor your MyPCC account and email often to receive the most up-to-date information from the college.

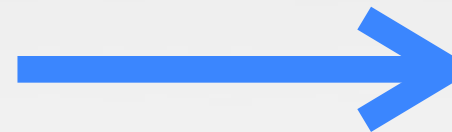
The Home tab
Once you've successfully logged into MyPCC the home tab is your starting point and gives you access to college announcements, news, events, email and important links.
• Instructors and PCC staff will send important Announcements and Email to you regularly. Information about deadlines, registration dates, class assignments, and college resources are important details you'll find in your Announcements and Email.
• By clicking on My Profile in the Quick Links channel, you can view your PCC ID, which is the identification number assigned to you. Your PCC ID number is important to have when doing:
• You can use Ask the Panther to search or submit questions.

Help tab
The MyPCC Help tab has information on how to get technical help from the Student Help Desk, including frequently asked questions about MyPCC that might help you get started. Conclusion:
You will use MyPCC throughout your education here at PCC. Get familiar with MyPCC. Log in regularly to check announcements and email, register, view your student account, and research the various services we have for you here at PCC.

College Business tab
From the College Business tab you can register for classes, pay your PCC bill, find out how to pay for school and get information about other business services at PCC.
• You don't have to wait in line to pay your PCC tuition, buy books or parking permits. Instead, you can go to the "Don't Wait in Line" channel to take care of these important business services.
• The Registration Services channel takes you step by step through the important aspects of registration.
• The Money Matters channel has useful info to help you understand your account summary, veteran's services and student loans.

PCC Life tab
The PCC Life tab has information about the various opportunities and services available on campus, everything from athletics, dining options, resources, and on-campus jobs. This is your guide to PCC.
• If you want to participate or attend events on campus, you'll want to check out the Today's Events channel which lists the multiple activities and events hosted at each of our campuses.
• The Student Services channel has a comprehensive list of PCC services to assist you in meeting your educational goals, including academic advising, student government, career centers, childcare, and resource centers to name a few.
• On Campus Student Jobs can be found in the On Campus Student Jobs channel.

My Courses tab
The My Courses tab is useful for getting information about courses you are currently taking.
• You can view your assigned course schedule, access course files, and link to your instructor's email address.
• You can also view other guides, the academic calendar, advising services, and student rights and responsibilities.



Find Your Courses:

Browse the Schedule:

Summer 2007: [Credit Classes](#), [Non-Credit Classes](#), [Added/Canceled](#)

Fall 2007: [Credit Classes](#), [Non-Credit Classes](#), [Added/Canceled](#)

Search the Schedule

Search Term:

for Keywords:

in Program(s):

Reading the Schedule

Requirements



Accessible

The degree to which a system can be used by the population.



Sustainable

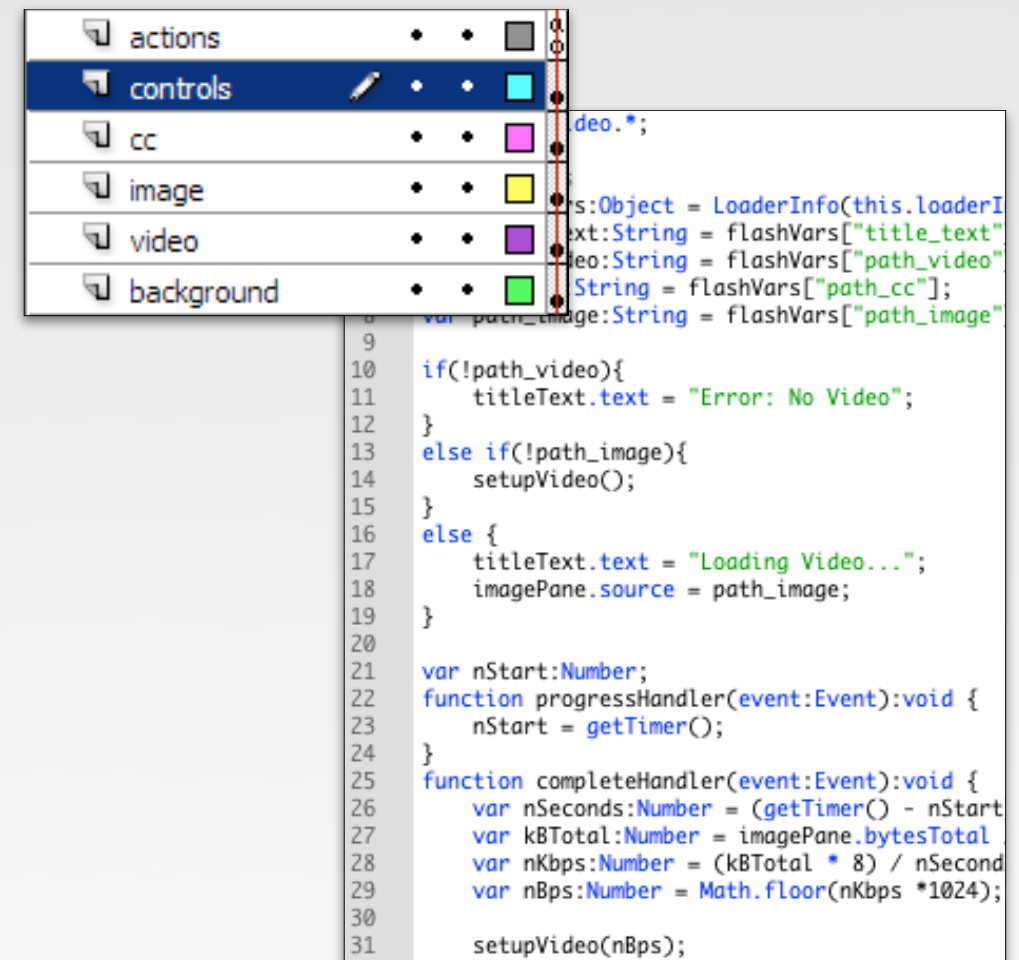
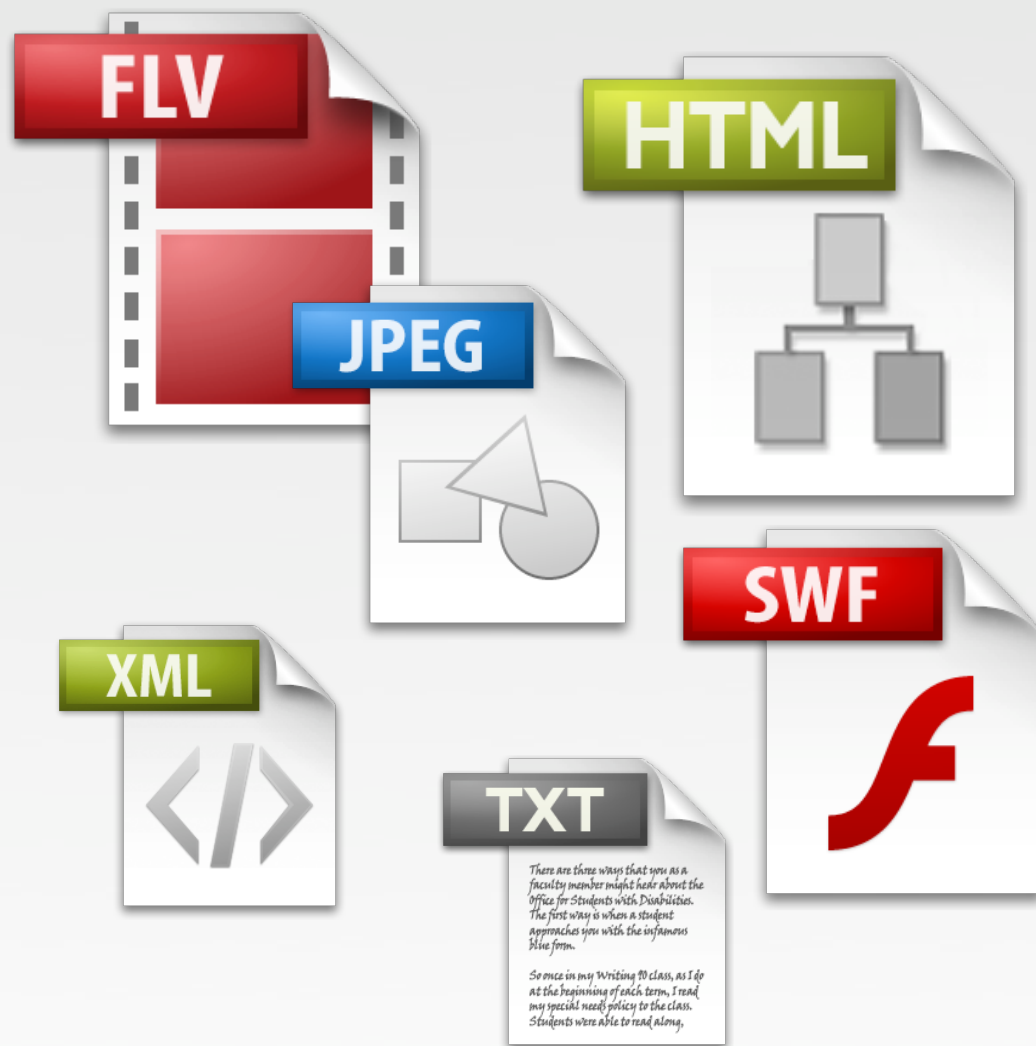
The ability to maintain a system or process indefinitely.



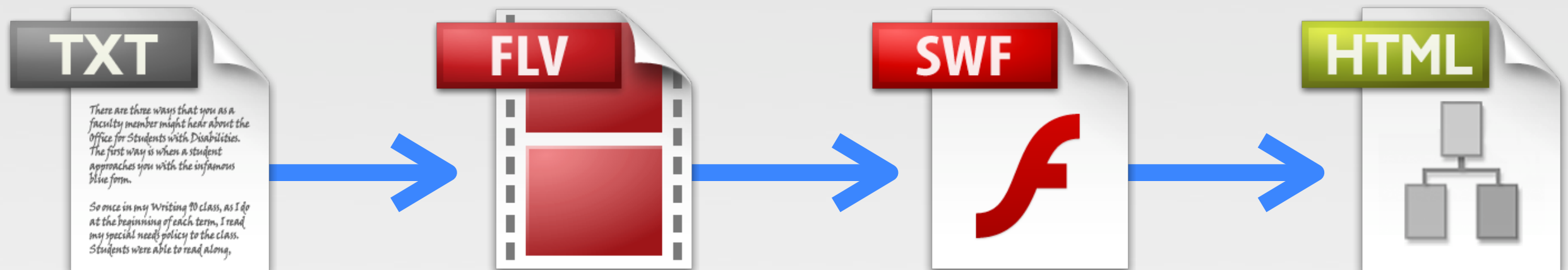
Customizable

The capacity to adapt the system to meet your changing needs.

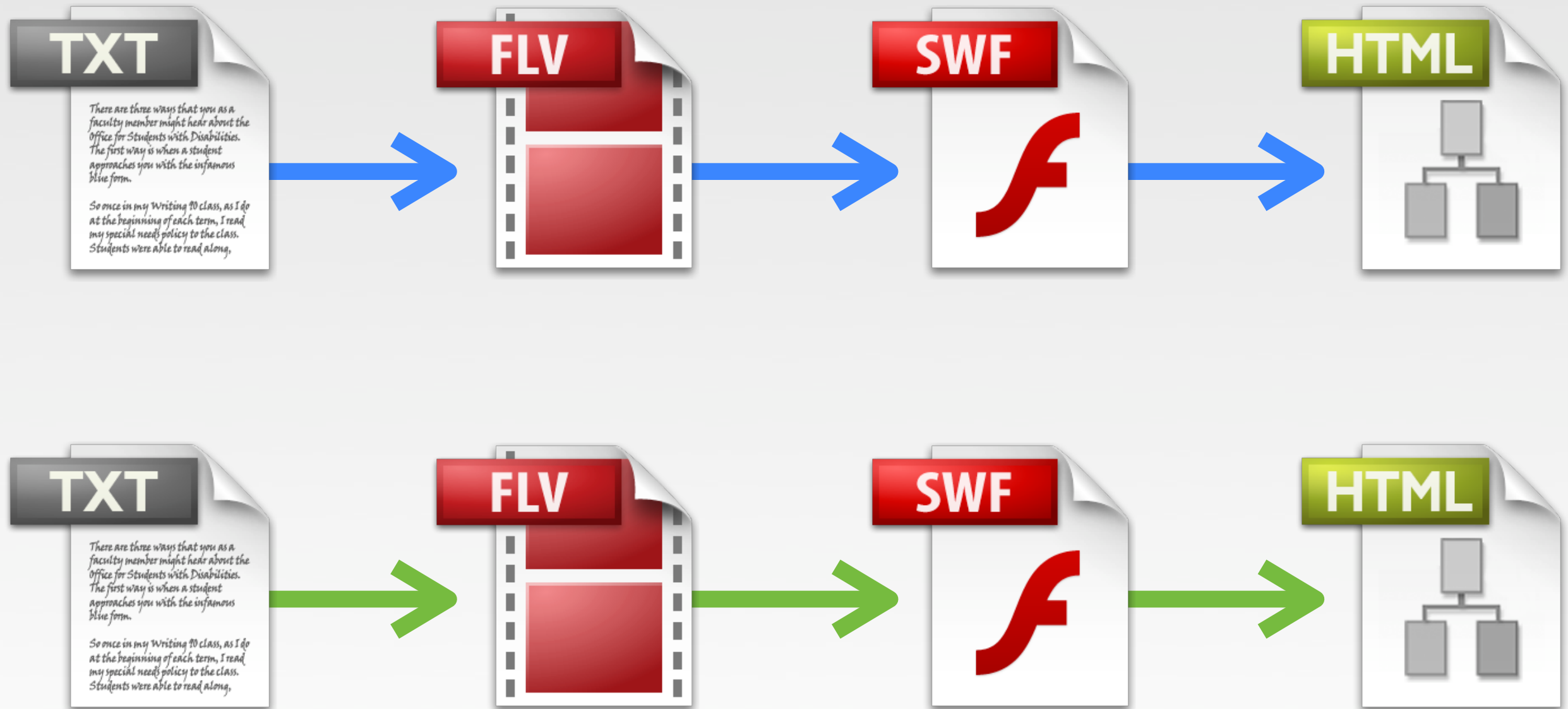
What's Involved?



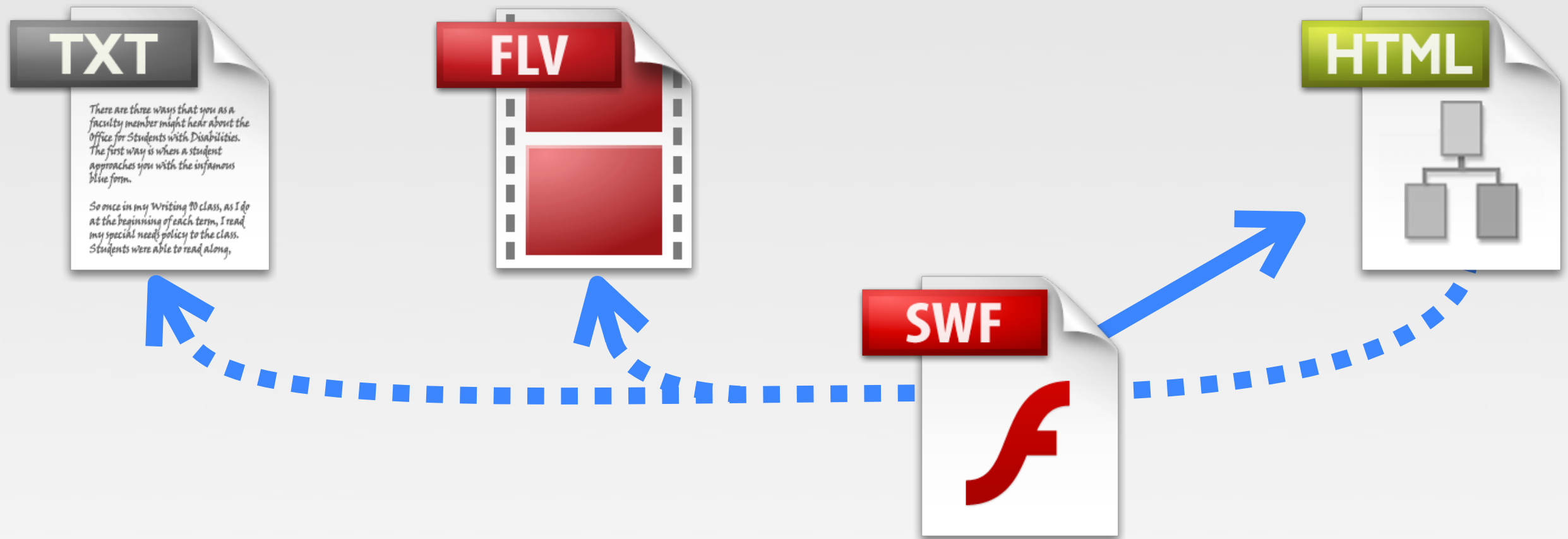
Gather the Pieces



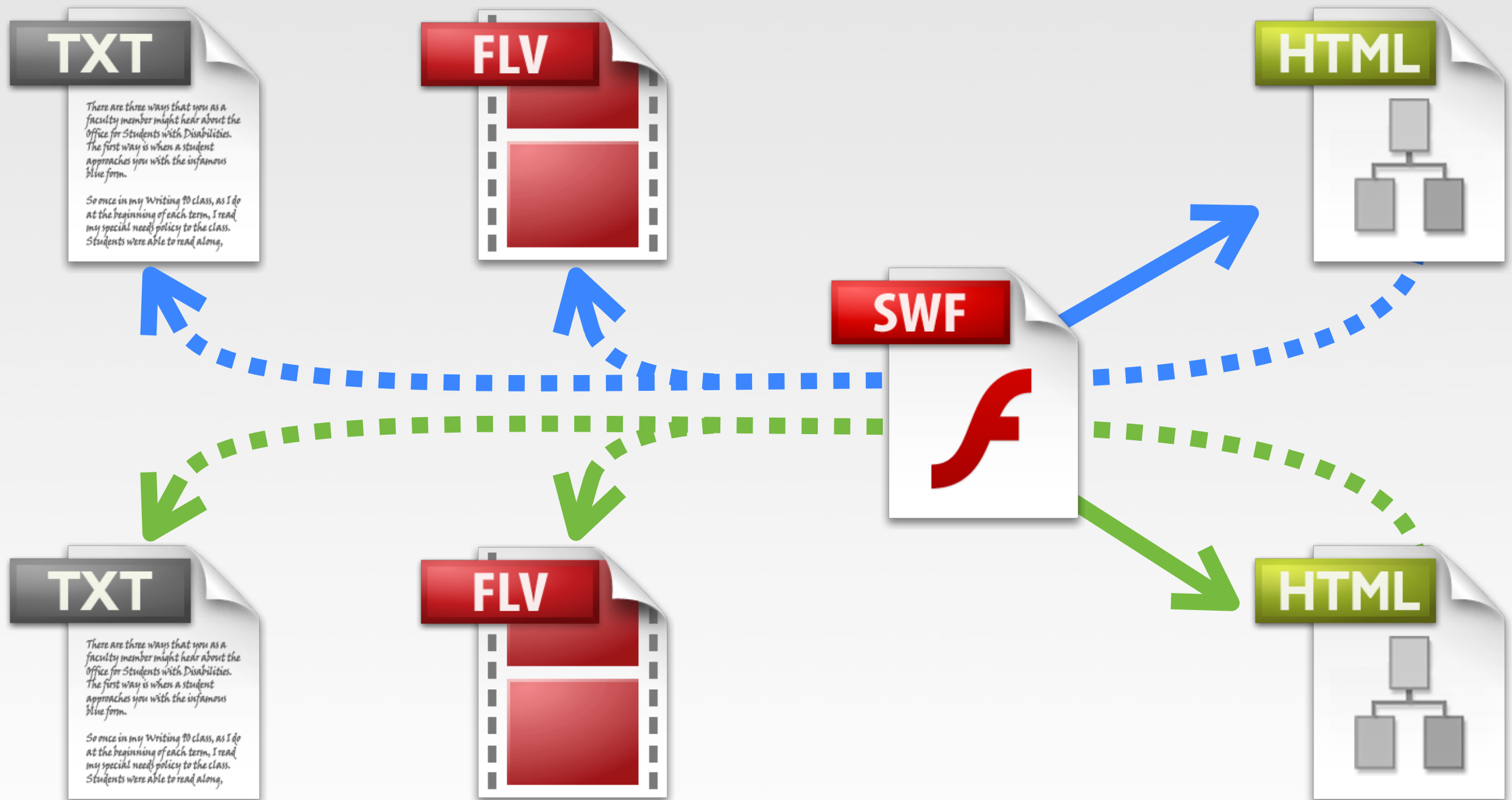
Gather the Pieces



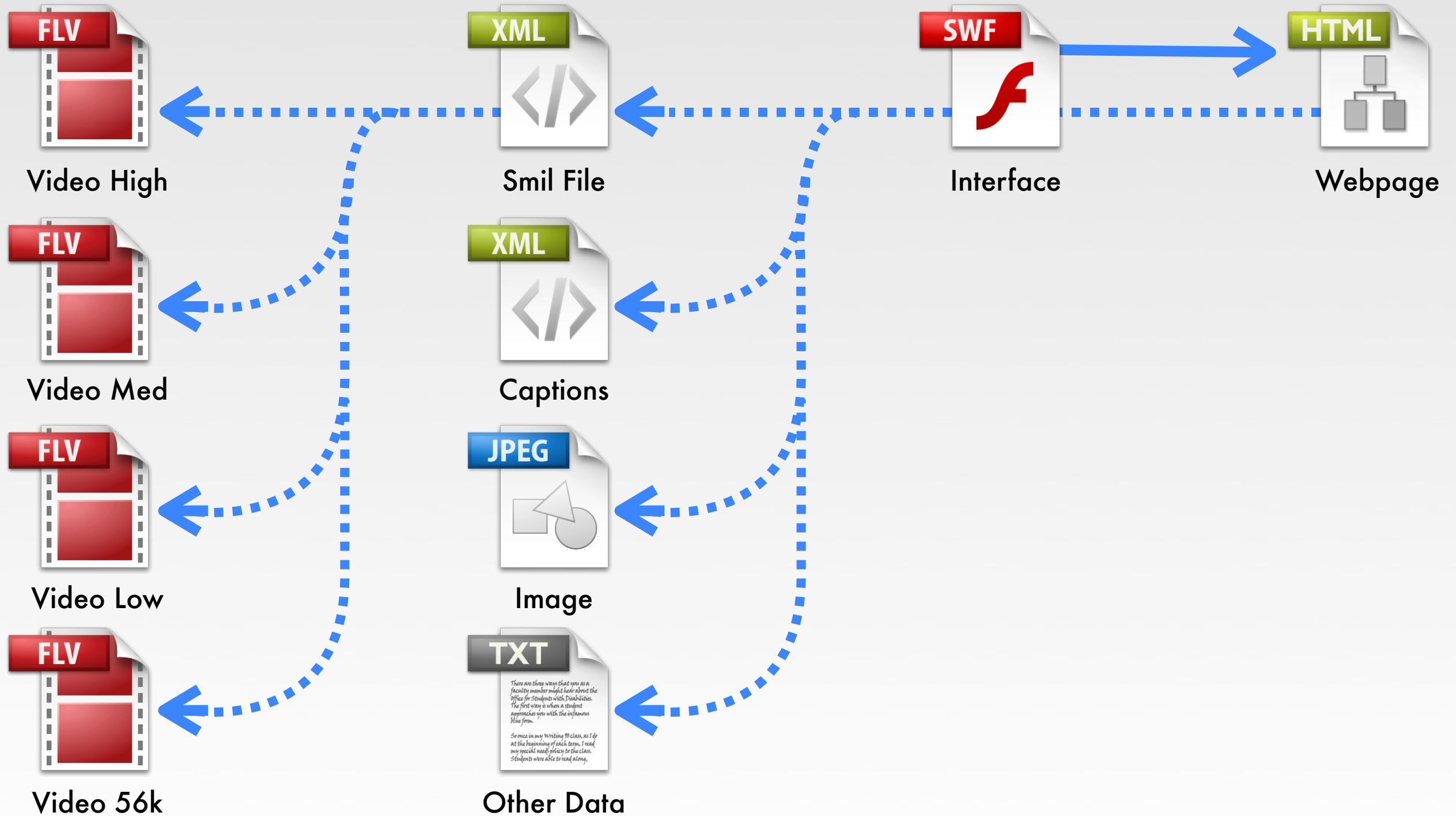
Gather the Pieces



Gather the Pieces



Gather the Pieces



Gather the Pieces: Compress the Video

Flash Video Encoder

To start encoding, drag video files into the queue or click Add.

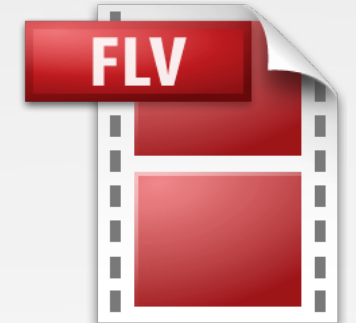
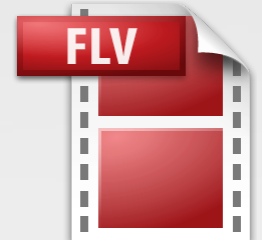

Source File	Settings	Status
.../about/bond/media/pres-welding.mov	Flash 8 - High Quality (700kbps) - Advanced	Encoding
.../about/bond/media/pres-welding.mov	Flash 8 - Medium Quality (400kbps)	Waiting
.../about/bond/media/pres-welding.mov	Flash 8 - Low Quality (150kbps) - Advanced	Waiting
.../about/bond/media/pres-welding.mov	Flash 8 - Custom Profile - Advanced	Waiting

Add... Duplicate Remove Settings... Stop Queue

Source file: .../gabrielmcgovern/Sites/www.pcc.edu/about/bond/media/pres-welding.mov
Output file: /Users/gabrielmcgovern/Sites/www.pcc.edu/about/bond/media/pres-welding.flv
Video codec: On2 VP6 Audio codec: MPEG Layer III (MP3)
Video data rate: 700 kbps Audio data rate: 128 kbps (stereo)

Elapsed time: 00:05:45
Time left: 00:40:46

Elapsed queue time: 00:05:46



Gather the Pieces: Create the smil.xml

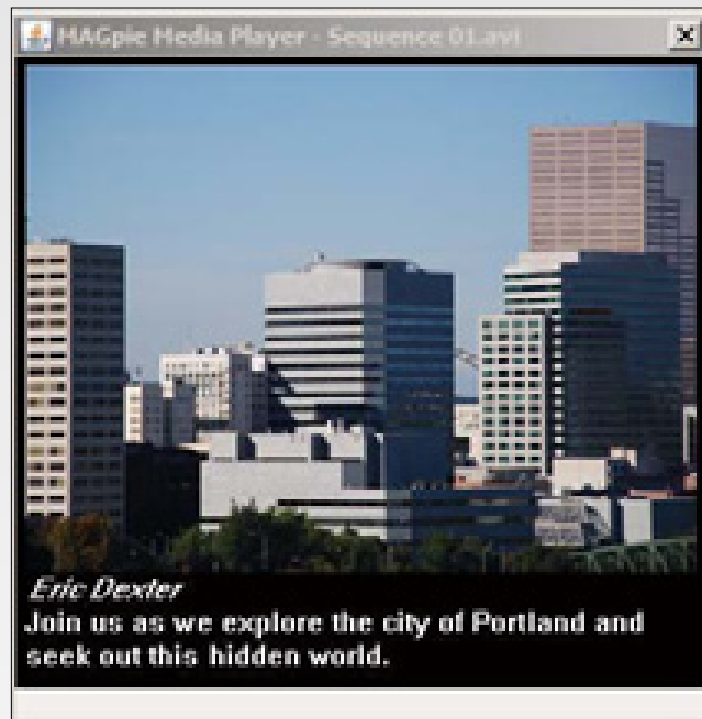
XML



```
1 <smil>
2   <head>
3     <!-- path for progressive download -->
4     <meta base="/resources/web/documentation/video/media/" />
5     <layout>
6       <root-layout width="320" height="240" />
7     </layout>
8   </head>
9   <body>
10    <switch>
11      <!-- Show video: "base+src" When users connection is: "system-bitrate"-->
12      <video src="eric-vp6-700kb.flv" system-bitrate="700000" />
13      <video src="eric-vp6-400kb.flv" system-bitrate="400000" />
14      <video src="eric-vp6-150kb.flv" system-bitrate="150000" />
15      <!-- If connection is even slower, just use the following -->
16      <ref src="dexter/eric-vp6-56kb.flv" />
17    </switch>
18  </body>
19 </smil>
```

```
<!-- path for streaming -->
<meta base="rtmp://flash-r1.vitalstreamcdn.com/portlandpcc_vitalstream_com/_definst_/public/dexter/" />
```

Gather the Pieces: Now for the Captions



Export Playback Help

Plain Text...

QuickTime - SMIL 1.0 format

RealPlayer - SMIL 1.0 format

Windows Media Player - SAMI format

Adobe Flash - W3C DFXP

XML



MAGpie - eric.maggie

File Tracks Edit Style Captions Audio Export Playback Help

0:00:00.00

Caption - Captions

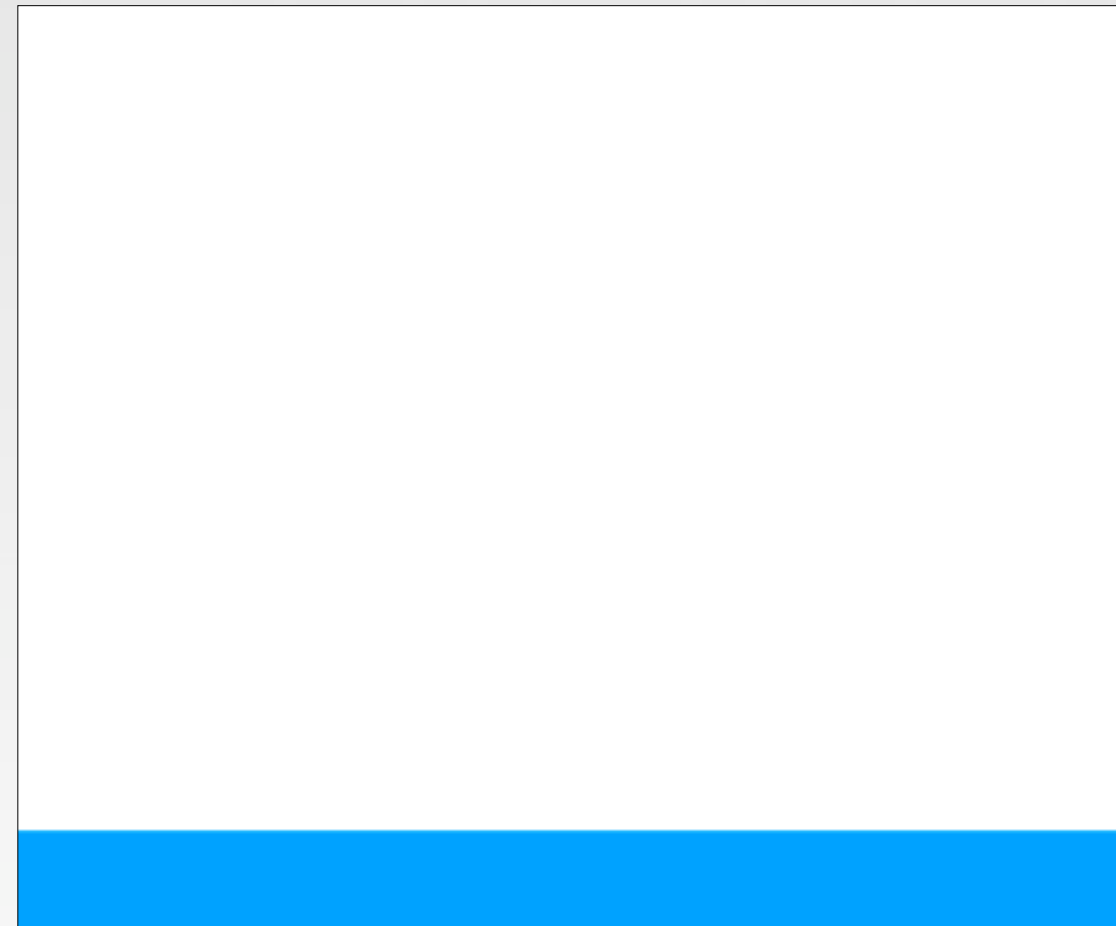
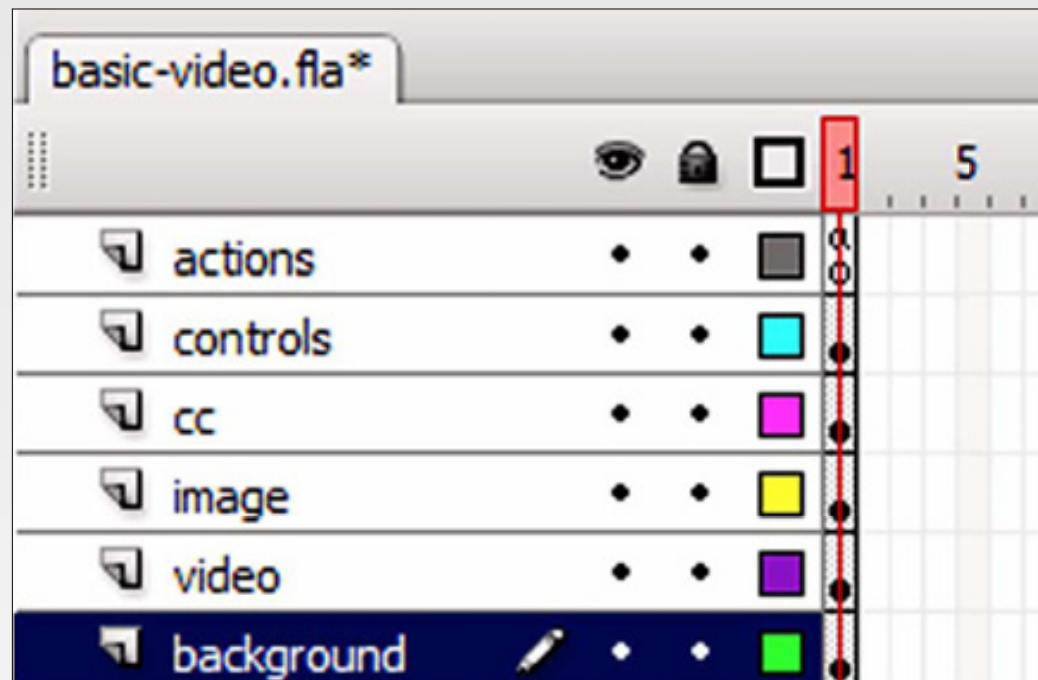
SansSerif 12 White Black

Row	Start Time	End Time	Speaker	Caption
1	0:00:00.00		Eric Dexter	
2	0:00:02.02		Eric Dexter	The city of Portland is bustling metropolis of escalators, buses and skyscrapers.
3	0:00:08.48		Eric Dexter	However, to those who look for it, there is another hidden world ...
4	0:00:12.40		Eric Dexter	The world at our feet.
5	0:00:22.00		Eric Dexter	Join us as we explore the city of Portland and seek out this hidden world.
6	0:00:57.78		Eric Dexter	Our journey begins at Oaks Bottom wildlife refuge.
7	0:01:10.06		Eric Dexter	Found just a few minutes from the heart of Portland,
8	0:01:13.00		Eric Dexter	the refuge 140 acres of wetland reclaimed from a landfill.
9	0:01:19.50		Eric Dexter	This preserve does not just provide refuge for animals;
10	0:01:23.00		Eric Dexter	it provides refuge for humans seeking escape from the demands of city
11	0:01:48.34		Eric Dexter	We come here not as passive observers, but as participants.
12	0:02:16.25		Eric Dexter	The spider takes a defensive posture in response to our voices,
13	0:02:20.65		Eric Dexter	raising its legs with every word.
14	0:02:29.00		Eric Dexter	Watch as the spider removes a seedpod that has fallen into its web.
15	0:03:00.00		Eric Dexter	The next stop on our journey introduces us to the nutria.
16	0:03:15.00		Eric Dexter	First brought to Oregon by the fur trappers for a replacement to the beaver,

Gather the Pieces: Poster Image



Construct the Interface



Construct the Interface: Components



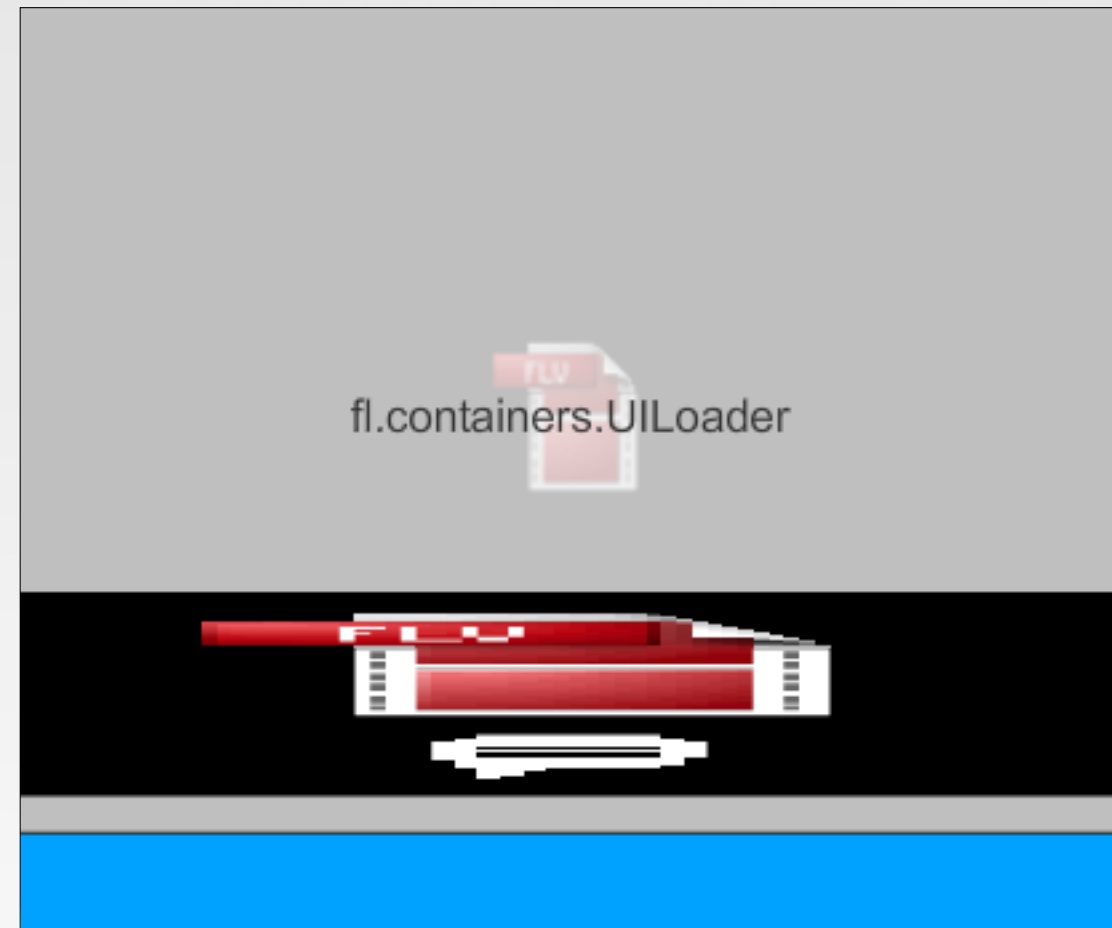
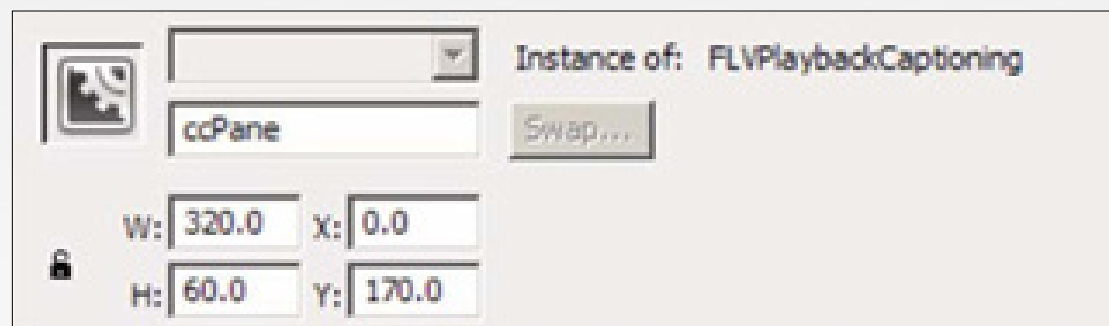
FLVPlayback



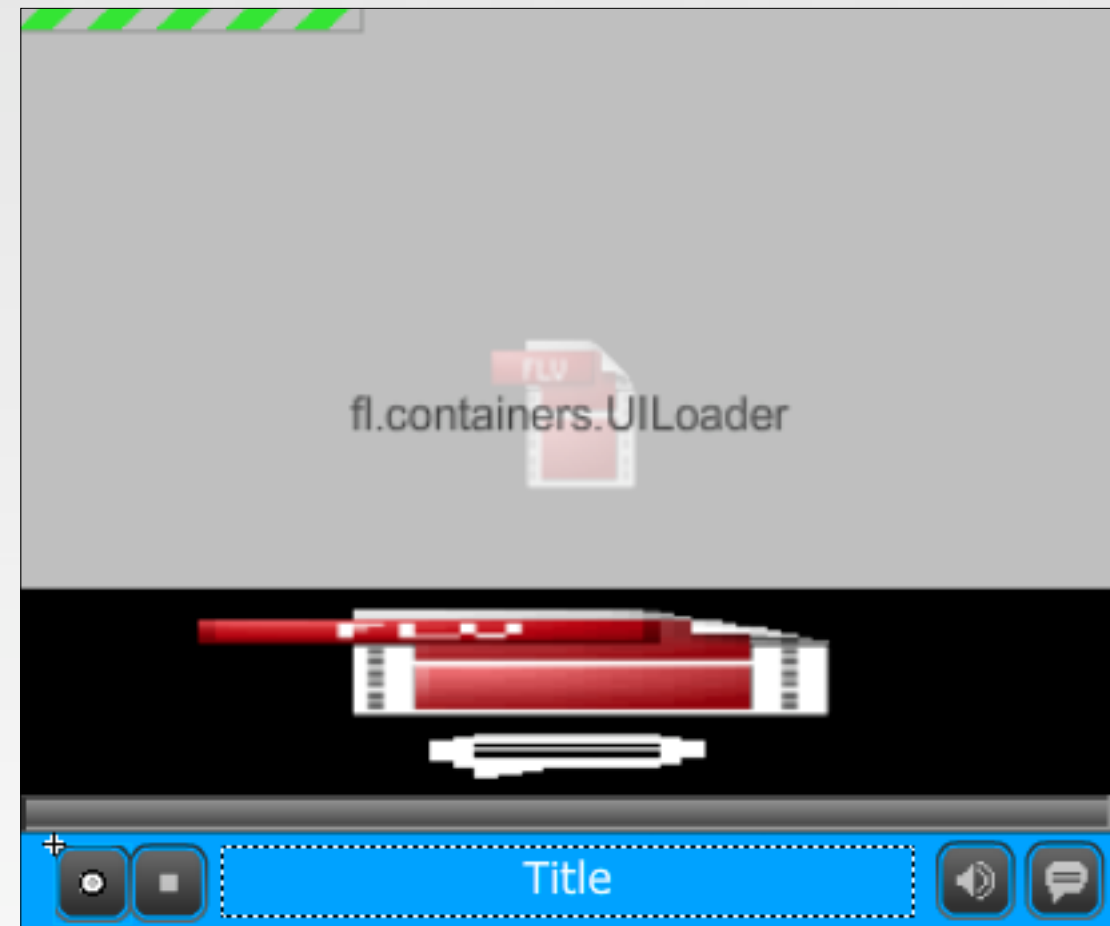
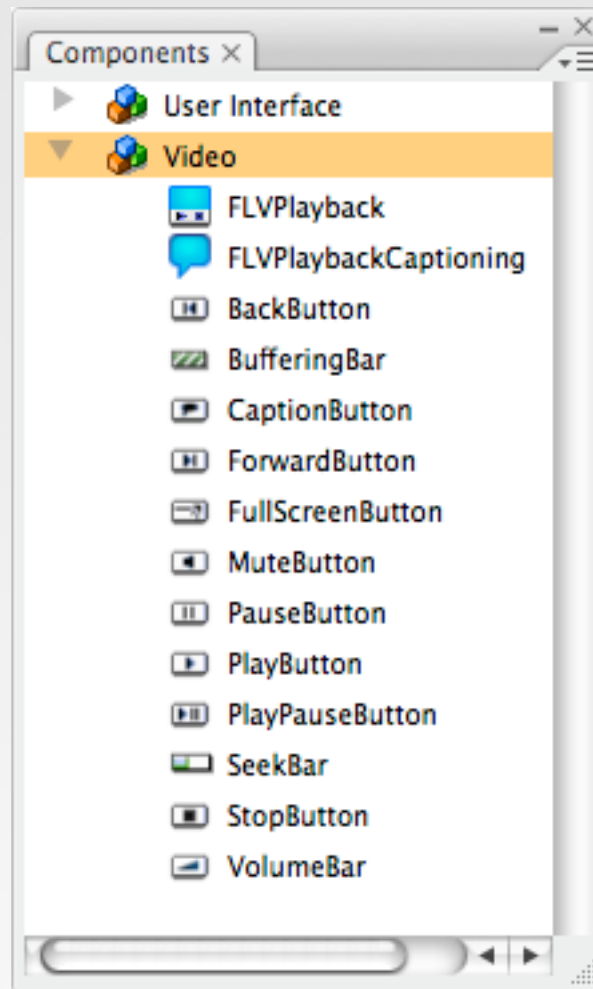
FLVPlaybackCaptioning



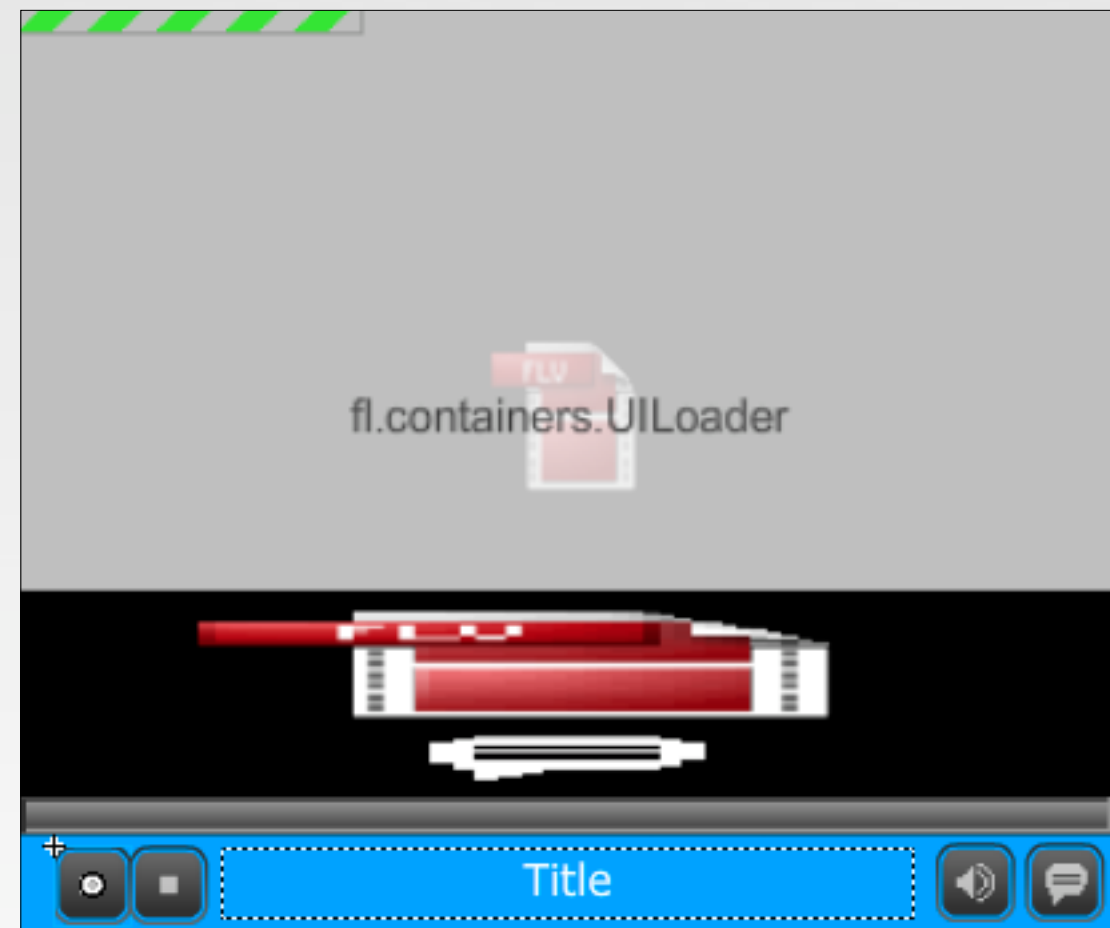
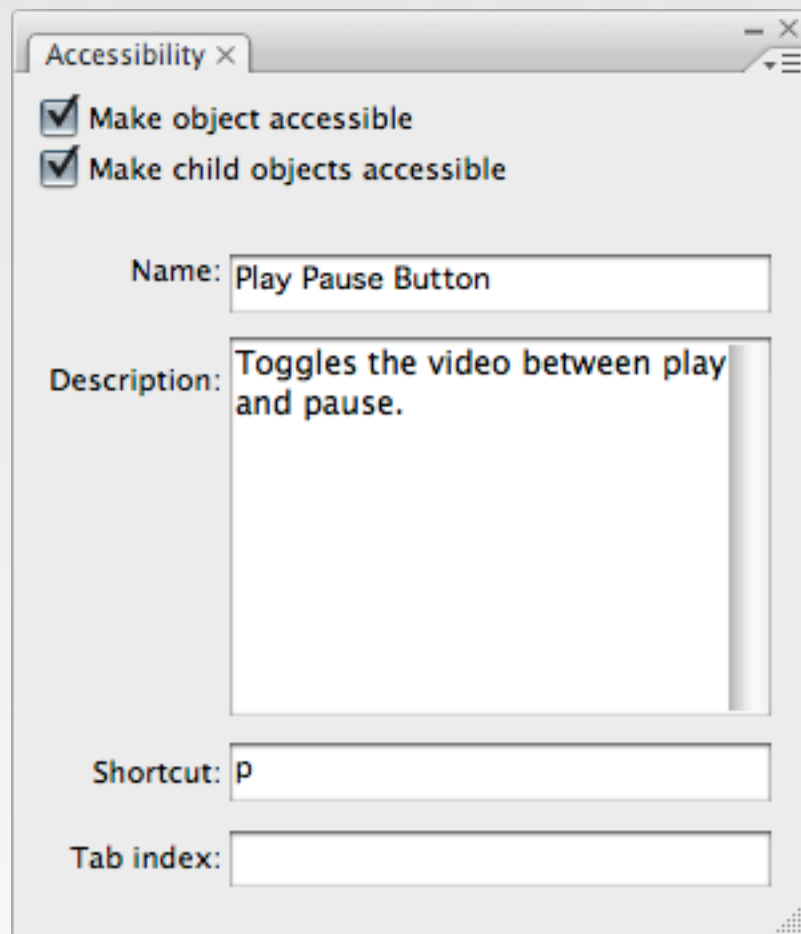
UILoader



Construct the Interface: Add Controls



Construct the Interface: Accessibility Panel



Construct the Interface: **ActionScript**

For what the components can't do directly:

- Read variables from the html.
- Set up the video and handle video events.
- Estimate the bandwidth.
- Add the access key behaviors.

Construct the Interface: Read Variables

```
3  // Load Variables
4  var flashVars:Object    = LoaderInfo(this.loaderInfo).parameters;
5  var text_title:String   = flashVars["text_title"];
6  var path_video:String   = flashVars["path_video"];
7  var path_cc:String      = flashVars["path_cc"];
8  var path_image:String   = flashVars["path_image"];
...
18 // Lets see what we have to work with...
19 if(!path_video){
20     textTitle.text = "Error: No Video";
21 }
22 else if(!path_image){
23     setupVideo();
24 }
25 else {
26     textTitle.text = "Loading Video...";
27     imagePane.source = path_image;
28 }
```


Construct the Interface: Video Events

```
30 // Set up the video
31 function setupVideo(bitRate:Number = 0):void{
32     videoPane.autoPlay = false;
33     videoPane.autoRewind = true;
34     videoPane.source = path_video;
35     videoPane.bitrate = bitRate;
36
37     if(path_cc){
38         ccPane.source = path_cc;
39         ccPane.showCaptions = false;
40     }
41     textTitle.text = text_title;
42 }
```

```
60 // FLVPlayback Event Handler
61 function videoStateHandler(event:VideoEvent):void{
62     if(videoPane.state == "playing"){
63         imagePane.visible = false;
64     }
65     else if(videoPane.state == "stopped"){
66         imagePane.visible = true;
67         ccPane.showCaptions = false;
68     }
69 }
70 videoPane.addEventListener( VideoEvent.STATE_CHANGE, videoStateHandler);
```

Construct the Interface: Bandwidth

```
44 // Estimate the user's bandwidth
45 var nStart:Number;
46 function progressHandler(event:Event):void {
47     nStart = getTimer();
48 }
49 function completeHandler(event:Event):void {
50     var nSeconds:Number = (getTimer() - nStart)/1000;
51     var kBTotal:Number = imagePane.bytesTotal / 1024;
52     var nKbps:Number = (kBTotal * 8) / nSeconds;
53     var nBps:Number = Math.floor(nKbps * 1024);
54
55     setupVideo(nBps);
56 }
57 imagePane.addEventListener(Event.OPEN, progressHandler);
58 imagePane.addEventListener(Event.COMPLETE, completeHandler);
```

Construct the Interface: Access Keys

```
72 // Set up access keys
73 function keyPressed(event:KeyboardEvent):void{
74     //trace("Key.getCode = " + event.charCode);
75     switch ( event.charCode ) {
76         case 101:
77             videoPane.stop();
78             break;
79         case 112:
80             if(videoPane.state == "playing"){
81                 videoPane.pause();
82             }
83             else{
84                 videoPane.play();
85             }
86             break;
87         case 114:
88             videoPane.seek(videoPane.playheadTime-5);
89             break;
90     }
91 }
92 stage.addEventListener(KeyboardEvent.KEY_DOWN, keyPressed);
```

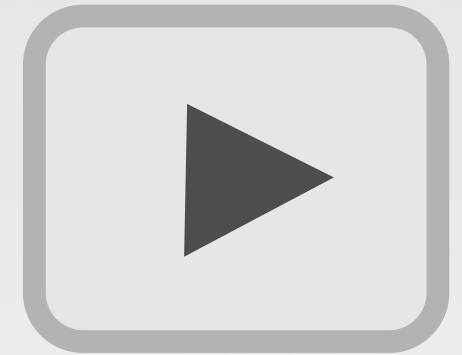

Beyond the basic



Share and share alike

www.gabrielmcgovern.com

The sample files, source code and more.



Special thanks to:

The National Center for Accessible Media for creating MAGpie

Geoff Stearns, the author of SWFObject

Robert Reinhardt for his quick help on the GoToAndPlay forum

Everyone on the PCC web team

Screenshots and data:

Chart data from 'Power to the PeoPle SoCIAI MeDIA trACKer' by www.universalmccann.com

www.youtube.com, tv.boingboing.net, www.comedycentral.com

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