



Internet Computing

Advanced Multimedia Development (AMMD)



2004



Flash & Basic ActionScript

Internet Computing

- Flash Animation - Creativity
- Animation effects
- Flash ActionScript Basics
 - Script Types
 - Event handlers
 - Output Panel
 - Variables & Operators
 - Types



Flash Animation - Creativity

Last week, we learned the basic Flash animation technology and what Flash can do

- Buttons (Interactivity)
- Frame-by-Frame Animation
- Tweened Animation
- Speed (Ease In / Ease Out)
- Shape Tween / Morphing
- Sound
- Scenes

What can we do with them?



Flash Animation - Creativity

What can we do with them?
Use them to creative, to achieve things

We can learn from our experiences
Or we can learn from others (books / web)

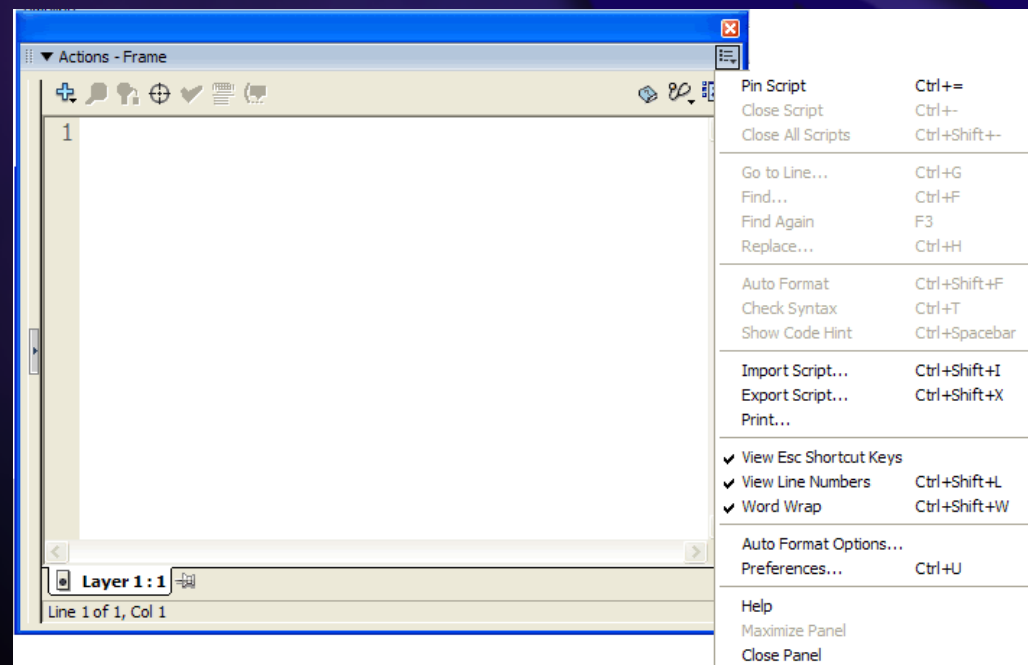
How to use what we learned
Animation Technique / Flash Technology
Show Examples



Flash ActionScript

Our goal => creating video games
We need more power than the authoring tools
provides => ActionScript

Actions Panel





Flash ActionScript

Where does the script go?

The script we type in Actions Panel is attached to something in our movie

We select different frames in the timeline

We select instances on the stage

=>

Any script attached to them will show up in the Actions Panel

- Frame Script
- Frame Script in Movie Script
- Instance Script



Frame Script

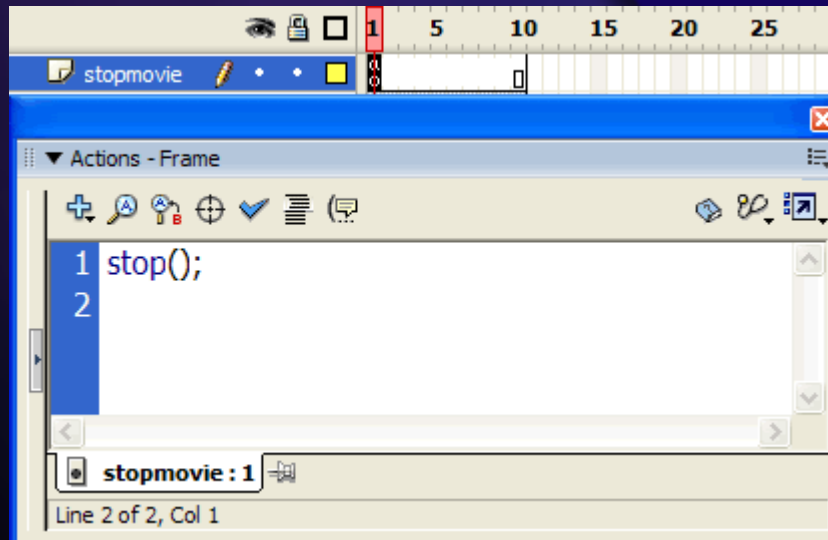
Frame Scripts

⇒ Put a script in any keyframe in any timeline

Add a new layer, name it

Insert a keyframe

Type in ActionScript in Actions Panel





Frame Script in Movie Clips

Frame Scripts in Movie Clips

=>

Movie Clip has a timeline (similar to main movie timeline)

We can add frame script to movie clip symbol
(To allow instances of this symbol to have same effects)



Instance Scripts

Instance Scripts

=>

We can attach script to movie clip instances on the stage

Event Handlers

=>

A script that sits and waits for a special event to occur



Event Handlers

Event Handlers (called when...)

Load = instance enters the stage

Unload = instance leaves the stage

Enterframe = Called once every frame (when the instance exists on the stage)

MouseDown = User presses the mouse button

MouseUp = User releases the mouse button

MouseMove = Called once each frame if the mouse has been moved since the last frame

KeyDown = User presses a key on the keyboard

KeyUp = User releases a key on the keyboard



Output Panel

Output Panel

- ⇒ A tool to use while developing and testing
- ⇒ Test Move, syntax errors will be displayed
- ⇒ Display information for you

Trace function

To send message to yourself while testing movie

```
Trace("Hello!");
```



Variables & Operators

Variables

- ⇒ space in the computer's memory where data can be kept
- ⇒ For example: `life = 100;` (life points)
- ⇒ `life = 100 - 5;` (hit by a sword, life points drop)

Operators

- ⇒ Symbols allow us to manipulate variables
- ⇒ `+, -, *, /, <, >, =, &, |, &&, ||`
- ⇒ Operator Precedence (P42, Table 2.1)



Semicolons & Keywords

Semicolons

- ⇒ ; tells Flash that a statement is over
- ⇒ Nearly all statements in ActionScript should end in a semicolon

Keywords

- ⇒ Special words reserved in Flash
- ⇒ Cannot be used as variable names
- ⇒ break; case; class; continue; default; ...

Comments

- ⇒ // = single line comment
- ⇒ /* */ = multi-line or block comment



Types

Types

In Flash, a variable's type can change over time depending on the data you assign to it

Strings

```
myString = "Strings are easy in Flash";
```

Numbers

Boolean

```
Myboolean1 = true;  
Myboolean2 = false;
```



More Operators

Greater than $>$, $>=$

Less than $<$, $<=$

Equivalence $==$

Not equal to $!=$

Not operator !

Curly Braces $\{ \}$

Curly braces define a code block



Conclusion

We covered the basic ActionScript