## macromedia FLASH M

## **ACTIONSCRIPTING**

**ADVANCED** 

## TRAINING FROM THE SOURCE

Derek Franklin / Jobe Makar



## **CONTENTS**

INTRODUCTION	1
LESSON 1 INTRODUCING ACTIONSCRIPT	6
Why Learn ActionScript?	
ActionScript Elements	
The Planning Process	
Writing Your First Script	
Testing Your First Script	
LESSON 2 USING EVENT HANDLERS	32
What Event Handlers Do	
Choosing the Right Event Handler	
Using Mouse Events	
Making the Most of Attaching Mouse Events to Movie Clips	
Using Frame Events	
Using Clip Events	
Orchestrating Multiple Events	
Understanding Event Handler Methods	
Using Event Handler Methods	
Using 'Listeners'	

LESSON 3 UNDERSTANDING TARGET PATHS	84
Understanding Multiple Timelines	
Targeting the Current Movie	
Targeting the Main Movie	
Targeting a Parent Movie	
Targeting Movie Clip Instances	
Targeting Movies on Levels	
Targeting Movie Clip Instances on Levels	
Understanding Multiple Identities	
Creating and Referencing Global Elements	
LESSON 4 UNDERSTANDING AND USING OBJECTS	122
What Objects Are and Why They're Useful	
Object Types	
Using the Color Object	
Using the Key Object to Add Interactivity	
Working with String and Selection Objects	
LESSON 5 USING FUNCTIONS	150
Creating Functions	
Adding Parameters to Functions	
Using Local Variables and Creating Functions that Return Results	
LESSON 6 CUSTOMIZING OBJECTS	172
Understanding Object Mechanics	
Defining a Custom Class and Creating Instances of that Class	
Genetically Programming an Object by Customizing Its Prototype	
Instance-Level Properties	
Creating Subclasses	
Creating Custom Methods for Custom Classes	
Watching Properties	
Enhancing Existing Object Methods	
Defining Custom Methods for Prebuilt Objects	
Registering Classes	

LESSON 7 USING DYNAMIC DATA	236
Creating Variables	
Creating Arrays	
Creating Dynamic Text Fields and Retrieving Information	
Retrieving the Data	
LESSON 8 MANIPULATING DATA	264
Data Types	
Building Expressions	
Operators	
Manipulating Numerical Data Using Math	
Manipulating Strings	
LESSON 9 USING CONDITIONAL LOGIC	282
Controlling a Script's Flow	
Determining Conditions	
Reacting to Multiple Conditions	
Defining a Boundary	
Turning Power On/Off	
Reacting to User Interaction	
Detecting Collisions	
LESSON 10 AUTOMATING SCRIPTS WITH LOOPS	310
Why Loops Are Used	
Types of Loops	
Writing and Understanding Loop Conditions	
Nested Loops	
Loop Exceptions	
LESSON 11 GETTING DATA IN AND OUT OF FLASH	336
Understanding Data Sources and Data Formats	
Get vs. Post	
Using the loadVars Object	
Using Shared Objects	

LESSON 12 USING XML WITH FLASH	366
Learning XML Basics	
Using the XML Object	
Introducing Socket Servers	
Using the XMLSocket Object	
LESSON 13 VALIDATING AND FORMATTING DATA	396
The Logic Behind Validating Data	
Using Validation Routines	
Handling Errors	
Validating Strings	
Validating Sequences	
Validating Against a List of Choices	
Validating Numbers	
Dynamic Text Formatting with HTML	
Creating and Controlling Text Fields with ActionScript	
Using textFormat Objects	
LECCON 4.4. CONTROLLING MOVIE CLIRC DVMAMICALIV	
LESSON 14 CONTROLLING MOVIE CLIPS DYNAMICALLY	448
Creating Movie Clip Instances Dynamically	448
	448
Creating Movie Clip Instances Dynamically	448
Creating Movie Clip Instances Dynamically Using attachMovie()	448
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons	448
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons Using ActionScript to Dynamically Draw Lines	448
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons Using ActionScript to Dynamically Draw Lines Using the Draw Methods	448
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons Using ActionScript to Dynamically Draw Lines Using the Draw Methods Creating Filled Shapes Dynamically	448
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons Using ActionScript to Dynamically Draw Lines Using the Draw Methods Creating Filled Shapes Dynamically z-Sorting Movie Clip Instances	448
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons Using ActionScript to Dynamically Draw Lines Using the Draw Methods Creating Filled Shapes Dynamically z-Sorting Movie Clip Instances Dragging and Dropping Movie Clip Instances	448 494
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons Using ActionScript to Dynamically Draw Lines Using the Draw Methods Creating Filled Shapes Dynamically z-Sorting Movie Clip Instances Dragging and Dropping Movie Clip Instances Removing Dynamically Created Content	
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons Using ActionScript to Dynamically Draw Lines Using the Draw Methods Creating Filled Shapes Dynamically z-Sorting Movie Clip Instances Dragging and Dropping Movie Clip Instances Removing Dynamically Created Content  LESSON 15 TIME- AND FRAME-BASED DYNAMISM	
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons Using ActionScript to Dynamically Draw Lines Using the Draw Methods Creating Filled Shapes Dynamically z-Sorting Movie Clip Instances Dragging and Dropping Movie Clip Instances Removing Dynamically Created Content  LESSON 15 TIME- AND FRAME-BASED DYNAMISM The Use of Time in Flash	
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons Using ActionScript to Dynamically Draw Lines Using the Draw Methods Creating Filled Shapes Dynamically z-Sorting Movie Clip Instances Dragging and Dropping Movie Clip Instances Removing Dynamically Created Content  LESSON 15 TIME- AND FRAME-BASED DYNAMISM The Use of Time in Flash Determining Current Date and Time	
Creating Movie Clip Instances Dynamically Using attachMovie() Building Continuous-Feedback Buttons Using ActionScript to Dynamically Draw Lines Using the Draw Methods Creating Filled Shapes Dynamically z-Sorting Movie Clip Instances Dragging and Dropping Movie Clip Instances Removing Dynamically Created Content  LESSON 15 TIME- AND FRAME-BASED DYNAMISM The Use of Time in Flash Determining Current Date and Time Determining the Passage of Time	

LESSON 16 SCRIPTING FOR SOUND	524
Controlling Sound with ActionScript	
Creating a Sound Object	
Dragging a Movie Clip Instance Within a Boundary	
Controlling Volume	
Controlling Panning	
Attaching Sounds and Controlling Sound Playback	
LESSON 17 LOADING EXTERNAL ASSETS	556
The Ins and Outs of Loading External Assets	
Loading Movies into a Target	
Loading JPGs Dynamically	
Creating an Interactive Placeholder	
Loading Movies into a Level	
Controlling a Movie on a Level	
Loading MP3s Dynamically	
Reacting to Dynamically Loaded MP3s	
455511 A 555611555	<b>504</b>
APPENDIX A RESOURCES	594
INDEX	596