Flex Monkey, The Test Maker!
http://www.gorillalogic.com/userfiles/flexmonkey/FlexMonkey.pdf
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Who am I and why am I here?

• Owner of the of Flex Monkey open source project
• Senior Consultant, Gorilla Logic, an app development services firm (Flex, iOS, Android, Java)
  – Previously worked in the gaming and entertainment industry for NBC and Disney
  – Before that, I worked in Finance and Insurance (Blue Cross Blue Shield, DST, BBVA, Infinity)
• Passionate about making testing easier
Flex Monkey

- What is Flex Monkey?
- How does one Use Flex Monkey?
- Flex Monkey SDLC Integration.
- How Does Flex Monkey work?
- Flex Monkey for Automated Functional Testing.
What Is Flex Monkey?
The FlexMonkey Open Source Project

- Project created and governed by Gorilla Logic
- Source code repository, compiled binaries, and forums hosted at www.gorillalogic.com/flexmonkey
- GPL (“Copy Left”)
- 1.0 released back in 2009
- More than 15,000 downloads
- Active community
- New features prioritized according to community feedback
- Community code contributions welcome!
What is Flex Monkey?
Monkey See, Monkey Do

• Records and plays back “higher-level” events
  – Does NOT record “Click 150,200”
  – Records “commands” in the context of components
    • Click “OK”
    • Input id=FirstName “Fred”
    • Select id=“StateNameCombo” “New York”

• Verifies selected component properties and bitmaps

• Scripts are readable, editable, and can also be created from scratch without recording
  – “Native” scripts stored as XML
  – Generates pure ActionScript-based tests for FlexUnit4
  – Scripts can be run from Ant and CI environments
How does one Use Flex Monkey?
Touch the Monkey

Your Application
Adobe Automation SWCs
Flexmonkey SWC

Record and Playback

Connection Indicator

Flex Monkey Console (AIR)
How does one Use Flex Monkey?

Add the Flex Monkey SWC

Project Properties Window
How does one Use Flex Monkey?

Add Compiler Arguments

**Step #1:** Select the version of the Flex SDK your application is using:

- 4.1

**Step #2:** Are you using Adobe AIR?:

- [ ]

**Step #3:** Add the FlexMonkey library to your project:

- Drag the automation_monkey4.x.swc file into your Flex project. You can do this by clicking on the icon to the left of this text. In the typical Eclipse project you want to drop this into your *libs* directory.

**Step #4:** Add the following compile arguments to your Flex project:

- `-include-libraries "../../../libs/automation_monkey4.x.swc" "$\{flexlib\}/libs/automation/automation_spark.swc "$\{flexlib\}/libs/automation/automation_agent.swc "$\{flexlib\}/libs/automation/automation_dmv.swc"`

**Step #5:** Set the output directory above in properties window.

**Step #6:** Configure the package name or use the default.

Flash Builder Project Properties

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How does one Use Flex Monkey?
The Console Window

Test Suite Editor

Tool Palette

Connection Indicator

Record Button

Recording Window

Recorded commands will be stored here in this buffer. To save the commands, drag the buffer into an existing or new test.
How does one Use Flex Monkey? FlexMonkey uses “xUnit” test hierarchy

Command Palette – Drag into tests
How does one Use Flex Monkey?

Commands are recorded to a buffer. Keep recorded commands by dragging into a test.
How does one Use Flex Monkey?

Anatomy of a Command

- Component-specific command
- Component Identification
- Component-specific arguments
- Retry parameters
How does one Use Flex Monkey? Component Identification

Defaults when recorded to automationName if it exists, otherwise id if it exists, otherwise monkeyID.

You can specify any property/value pair.

You can further qualify with container property/value pair eg, button="OK" within TitleWindow="Order Info". Container can be anywhere "up the tree". Does not have to be immediate parent.
How does one Use Flex Monkey?

“Retry” synchronizes playback

- If component is not found, will retry until found or timeout
- Eliminates need to add “Pauses” to slow script down
How does one Use Flex Monkey?
Verification Commands

- **Implicit** – Every command verifies the existence of its target component
- **Property** – Verify any property/value pair of a component
  - Optionally verify portion of screen image
- **Expression** – Verify value of a
- **Grid** – Verify value of a row, column

Create verifications by dragging into tests
How does one Use Flex Monkey?
Selenium Plugin

- Integrates with Selenium-IDE and generates Junit for Selenium-RC
- Supports hybrid HTML/Flex application testing
Three Great Ways to Run

- **Interactively (Create)**
  - Run from the FlexMonkey console
  - Scripts stored as XML files
  - Generate ActionScript from XML

- **Linked (Debug and Extend)**
  - Automatically launch FlexUnit suites upon app startup
  - Run under a debugger
  - Scripts can be extended with ActionScript and FlexMonkey API

- **Ant (Run Test Suites)**
  - Launches browser, loads app, runs tests
  - Great for build testing and continuous integration servers
  - Output in standard Junit format and HTML
Flex Monkey SDLC Integration

Code Generation

- Generates Ready-to-Run FlexUnit4 Tests
- Can be extended with ActionScript
- Can be run from Ant
- Can be run “headless” in CI environments
How does Flex Monkey work?
A brief overview

Application Code
Adobe Automation Framework
FlexMonkey

UI Component
UI Event
Automation Delegate
Command
Recorder
UI Event
Automation Delegate
Command
Player
How does Flex Monkey Work?

Automation Delegate

- Registers for Class it is responsible for automating
- Created by AutomationManager whenever UIComponent is created
- Subscribes to events of interest
- Determines what commands to record
- At playback time, runs command by interacting as necessary with associated UIComponent
How does Flex Monkey Work?
The Automation Hierarchy

Generates “ComboBox Open”
Instead of “Button Click”
Flex Monkey for Automated Functional Testing
What constitutes a Test?

Input → Requirement Spec → Expected Output

Function

API

Actual Output

Verifcation

?
Flex Monkey for Automated Functional Testing
What constitutes a unit test?

Test Harness (xUnit)

Input

Requirement Spec

Expected Output

Function

Actual Output

Verification

Actual

Input

API

Requirement

Spec

Expected Output

?
Flex Monkey for Automated Functional Testing

What constitutes a functional test?

Test Harness (xUnit)

UI Action

Expected UI Response

User Interface

HPI

Verification

Actual Output

Requirement Spec
In Summary

• FlexMonkey is easy to install
• It’s easy to use
• It generates code (JavaJUnit, ActionScriptFlexUnit, XML, and coming soon… JavaScript
• You can’t effectively do agile development without it
• It’s free and open source!
• High velocity community