

Introduction

- Welcome to Writing Macros
- Introduce me
 - For those who don't know me, Frank Dillon
 - Currently Director of development and project management @ Plainblack
 - I've only officially been with Plainblack since May, however I've been developing wobjects professionally since WebGUI's first release in 2001.
 - Written more than 100 assets, wobjects, macros, and hourly scripts ranging from small 4 or 5 line macros to projects that have > 10000 lines of PERL code
 - Been developing with PERL professionally for almost 10 years
 - I've worked with many other technologies which flavor my experience
 - I've done a lot of work with JAVA
 - Web Technologies
 - Cold Fusion
 - BroadVision
 - Oracle Portal API
 - Worked with a wide variety of Databases
 - Oracle
 - MS SQL
 - MYSQL
 - IMS
 - I hold college degrees in both Mathematics and Computer Science

Class Introduction

- Writing Macros – the first lesson in the WebGUI-plugin series
- Assume you have some programming knowledge (not going to cover programming topics)
- Assume you have a working knowledge of the WebGUI API.
 - Yesterday's class covered this topic. If you didn't attend, you can still benefit, but I'm not going to stop and explain API methods, etc.
- Assume you have a working knowledge of the WebGUI Templating language (I'm not going to explain them. I'll very briefly touch on what variables are important to assets)
- Goal is to teach by demonstration, how to develop macros in WebGUI
- Open forum: I will answer questions as they come up, so feel free to speak up if you have questions.
- This class focuses on macros, small pluggins that are used on your site to perform actions on the fly (generate the current date/time, add two number together, make a query to the database, return session information). Since macros are a fairly simple process, this class is going to take a different format. I'm going walk you through the basics of building macros, after which we will take a look at a few simple macros. Then we'll do a bit of interacting by asking you to write a very simple macro, and put it to use.. The last 20 minutes or so, we will spend building an asset of your choosing right here in class, from scratch, and posting it to the WebGUI contributions area for everyone in the community.
- **Summary**
 - What is a Macro?
 - The Basics

- Setup
- The Process Method
- Plugging into WebGUI
- Using your Macro
- Demos
 - Addition Macro (add two numbers together)
 - Commify Macro
 - Macro that returns the total number of users in the system
 - Macro to return list of logged in users out of the user session table
- Individual Project
 - Modify the Addition Macro to add n numbers together
- Group Project
 - Suggestions from the class
- Q&A

What is Macro

- WebGUI macros are used to create dynamic content within otherwise static content. For instance, you may wish to show which user is logged in on every page, or you may wish to have a dynamically built menu or crumb trail.
 - Query data from the database
 - Perform Mathematical Operations
 - Show updated dates and times
 - They can be extremely complex too
 - Display a login form
 - Add or delete users from groups on the fly
 - Change the header of the page based on current session information

The Basics

- **Setup** – Creating your macro is extremely simple. Create a file in the WebGUI::Macro package that uses WebGUI::Session, and WebGUI::Macro.
- **The Process Method**
 - You only need one mandatory method in your macro, the process method.
 - The process method accepts one variable which is a formatted list of variables. Each macro processes its variables in the same way, using the getParams method from the Macro API. You, the creator of the macro, determine the number of variables your Macro requires. GetParams returns to you an array of all the variables passed in the order they were passed.
 - One more rule, the process method must return a string. Whenever macros are processed, they are replaced with the string returned by the process method.

Plugging Into WebGUI

- To plug your macro into WebGUI, simply add your package to the WebGUI config file and restart apache. Your macro is now ready to use. You specify how to call your macro in the config file

Using Your Macro

- Macros can be used in many places. Some examples: templates, articles, SQL reports. To add your macro, prepend the macro name you specified in the config file with a ^, then wrapping any variables passed into your macro in parenthesis (). Always end your macro with a semi-colon ';'

```
^mymacro(var1,var2);
```

When the macro is processed, this statement will be replaced with the string returned by your macro.

Demos

The End

Well, I hope you've all benefited from this class. I'll take any questions you have in just a moment. You'll find all of the demo macros on your CD and the macro we created can be downloaded from the plainblack user contribs site. Enjoy.