

Mac OS X Tips and Tricks in a Lab Environment

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ABSTRACT

As technology has progressed, the use of Macintosh computers in campus computing labs has changed from independent workstations with no network access to fully networked members of the local domain. However, integrating the newest Mac operating systems into a Windows-based Active Directory environment has presented many new opportunities (otherwise known as challenges) to customize the operating system to meet the needs of thousands of students per week.

This presentation will attempt to demonstrate in brief the various techniques used to customize the OS X operating systems to integrate with the Windows-based Active Directory. Specifically, this will include logout scripts, between-user maintenance procedures, inactivity logouts, printer restrictions, desktop and dock customizations, and other user environment modifications.

Categories and Subject Descriptors

K.6.1 [Management of Computing and Information Systems]: Project and People Management – *systems analysis and design, systems development.*

General Terms: Management, Design, Standardization.

Keywords: Labs, OSX, Macintosh, Dock, Imaging, Configuration, Scripts, Computing Facilities, Security.

1. INTRODUCTION

Although Macintosh OS X-based computers can be one of the most user friendly operating systems for home users, it can be one of the most difficult to manage in a lab environment. It has been said that OS X is more similar to a PC running Windows XP than it is to a Macintosh running OS9. Because of this, even experienced Mac users can have trouble configuring OS X to function well in a lab environment. This document will describe some of the tips and tricks that are implemented at Baylor University.

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2. USER INTERFACE

Part of configuring any operating system is customizing the user interface to reflect a common experience across multiple computers and platforms. This section describes some of the customizations that we use on all OS X systems in computer labs.

2.1 Desktop

Although most users will probably know where to navigate to find common items like the Documents folder and the Downloads folder, we add these items to the user's desktop. Additional web shortcuts for the print management system or other university-wide links are also added to each desktop for the user's convenience.

2.2 Dock

In much the same way we add frequently accessed folder shortcuts to the desktop, we add frequently used applications to the Dock for each user's account to assist users who might not be familiar with the file system's navigation.



Figure 1. User Interface

2.3 Apple Menu

When OS 9 was still used on campus, users were instructed to restart or shutdown the computers in order to "logout." Since OS X is design to be a multi-user operating system, we removed many of the options from the Apple menu including restart and shutdown. This helps present a more groomed appearance for the Apple menu and helps encourage users to logoff instead of shutting down the computers.



Figure 2. Apple Menu

2.4 Application Grouping

To help users find applications that are needed, programs are grouped by category. All graphics and web design applications are grouped in “Graphics and Web Design.” All Internet browsers, chat programs, telnet and ftp programs are grouped in “Internet Applications.”



Figure 3. Application Grouping

3. SYSTEM ADMINISTRATION

Most of the user interface changes are easily seen by lab users. However, much more goes on behind the scenes to make sure that the systems run smoothly.

3.1 Admin Utilities

All administrative tools are moved into a secure folder in a “Library\Admin Utilities” path. Access to this folder and the programs in it are restricted to administrators only. The Terminal, Print Center, Developer Tools, administrative scripts, and other related applications are stored in this folder.

3.2 Classic Owner Name

In order to facilitate the print management system, we developed a simple Applescript stored in the classic Startup folder that would modify the classic environment’s owner name to match the currently logged-in user’s name. This enables users to print from the classic applications within our managed print system.

3.3 User Template Logout Script

Before Panther was released, all Active Directory users shared the same user folder which includes all preferences, desktop items, downloads and documents. Since users have the ability to change user level preferences and download items to the desktop, the generic user profile would easily get corrupted without a user template folder. We use a logout script to delete everything in the generic user’s folder between users. When the new user logs in, a fresh copy of all user preferences, including new desktop and dock shortcuts, are copied to the new generic user’s folder.

With Panther, each user has an individual user folder. These too are deleted after each logout and a fresh copy is created from the template.

3.4 Printer Restrictions

When we first released an OS X image in a lab environment, students quickly learned that they could bypass our managed printing system by installing the printers directly using AppleTalk. The Print Center application is now restricted to administrators only so that students can not modify the installed printers and bypass the charging system.

3.5 By-Host Fix

Since OS X saves certain system preferences by associating them with the MAC address of the original machine, deploying cloned images that contain these customized preferences caused problems on client machines. We wrote a simple shell script that is manually executed on each machine after the image deployment process to change these preferences to match the individual client machine’s MAC address.

3.6 Inactivity Logout

Students often get up and walk away for extended periods of time when using lab machines. Often, they don’t come back which ties up the computer and prevents other people from using it. Using a shell script with a program called ScriptSaver, the computers automatically logoff idle users after a set period of time.

4. ACKNOWLEDGMENTS

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