Developing a Love for Developer Tools

Session M274

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Senseption

Apple Certified Trainer, ACSA 10.3

Apple Certifications for 10.3.x

Course Names	Certification Level	Length (days)
Mac OS X Help Desk Essentials	ACHDS	3
Mac OS X Server Essentials	ACTC (with Help Desk Essentials)	4
System Administration of Mac OS X Clients	Apple Certified System Administrator	5 days each course
System Administration using Mac OS X Server		

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XCode

- Development environment provided with OS X Developer Tools
- Provides templates for projects
  - Initial configuration files
  - Organized structure that is project type-specific
  - VERY configurable

Developing on OS X

- Applescript Studio
  - Interface Builder
- Cocoa
  - Interface Builder
- WebObjects
  - EOModeler
  - WebObjectsBuilder
- Unix scripting: sh, bash, TCSH, Perl, Python
  - Text editor of your choice :-)

Developer Tools will Improve Our Lives

- Problems we will solve today with Developer Tools
  - Disk Quota reporting
  - Web interface to view database information

Disk Quotas

- OS X has a built-in, powerful disk quota system
- It is UNIX-based, no GUI
- Set up quotas on server providing the share points on a volume
- Quota reporting MUST be run on the server that is providing the share points, not on the client that wants to know what their quota usage is
- OS X Finder does NOT provide quota info on volumes (local or remote)

Getting quota info

- Automated cron jobs can be set up to email a user when they have exceeded their quota
  - People would often like to check their own quota before they get any nastygrams
- The Unix command that reports quota information for a user is `quota`
- There is no default GUI client tool to provide quota information
- A user can `ssh` into each server that provides a share point for them, and run `quota` from the CLI

Unix quota script

- A simple script can be written to remotely grab quota info and present it to the user
- The script can get the output of the `quota` command and:
  - Return it exactly as output by `quota`
  - Parse it and make it a little more friendly (either for further parsing or for human consumption)
- We'll use Perl to write the script

Bringing Unix script into AppleScript

- Here's an AppleScript that acts as an interface to our Perl script
- Can be double-clicked by user from dock or desktop

AppleScript Studio: Adding a GUI

- We can now take our AppleScript and add a GUI to it

Enhancements

- Store share point server hostname in config file
- Store user's password in config file
  - Potential security issues

Problems

- What if user has NO IDEA what host serves their sharepoints?
- What if user does not have ssh login privileges to the sharepoint server?
- What if user wants to get ALL of their quota info for ALL of their sharepoints all at once?

A Centralized Solution

- If we create an application to do all the data collection for us, we can present the info easily
- The user can check ALL of their quotas
- Application can be pre-configured securely with user's passwords
  - The application can be locked down and only it can have ssh access to get `quota` info off each sharepoint server
  - We can use the `repquota` command (available only to admin users) instead of `quota` to get ALL user and group quotas
    - necessary if ssh disabled per-user
    - alleviates need to store individual user passwords

Cocoa: Creating a Desktop Application

- We can use the Cocoa development frameworks to create a real live desktop application that interfaces either to our Perl script directly, or to the AppleScript
- Can create custom icon so more easily seen on desktop or dock
- Can securely store the login/password information encrypted within the application

WebObjects: Creating a Dynamic Web App

- WebObjects applications incorporate JAVA code and scripts to provide info in browser
- We can write a WO app that will store each user's config information
  - hosts that serve their sharepoints
  - passwords for them on each host
- Advantages over Desktop Application:
  - Don't need to update each user's application when changes are made
  - login/password information NOT accessible by users

Quotas

- We have now seen a few different solutions to solving our quota issue

WebObjects to Provide a Web View of a DB

- WebObjects uses the Enterprise Object Framework (EOF) to interface with databases
- A file called an EOModel is created to map database tables into Enterprise Objects (EO)
  - EOs are independent of the database type
- Once this is done, WebObjects (and Cocoa apps) can access the database through the EOs

WebObjects Direct-To-Web

- Direct-to-Web provides a great way to easily create dynamic web pages against a database
- Usually used for prototyping a full-fledges WebObjects application, but often sufficient on its own

Synopsis

- Even non-programmers have the power to harness developer tools
- You can get scripts/programs off the Internet and add fancy GUIs to them
- You can easily create a web interface to your database

Synopsis

- Download the Developer tools
  - http://developer.apple.com/
    - Get ADC membership (Online membership is free)
- Applescript Studio
  - http://www.apple.com/applescript/developers/
  - http://www.apple.com/applescript/studio/
- Cocoa
  - http://developer.apple.com/cocoa/
- WebObjects
  - http://developer.apple.com/webobjects/
- Unix scripting
  - http://www.google.com :-)

Thank You!
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