

Integrating Digital Software with AppleScript

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Abstract

The ham radio Mac OSX community uses two primary pieces of digital modes software: FLDIGI and WSJTX. The operation of FLDIGI software is enhanced by the addition of FLRIG to control the ham transceiver and a logging program such as MacLoggerDX. WSJTX is enhanced by the addition of JT-Bridge that passes contact information between WSJTX and MacLoggerDX. FLDIGI and WSJTX each require a total of three pieces of software to operate well. AppleScript, is a built-in scripting language that allows the direct control of both Mac applications and the Mac operating system itself. This presentation will provide a system of integrated AppleScripts that allow the ham operator to fluidly move between the FLDIGI and the WSJTX software sets, control the operation of the sets, and offers enhancements that reduce operator time and increase operator efficiency.

The presentation will first focus on linking QSO information between FLDIGI and MacLoggerDX with the simple click of a button. Controlling the running of the two software sets through the use of a “smart” AppleScript that determines if either of the software sets are running. If a software set is running, a dialog is displayed so the operator can then select which set of software will be run and the three associated pieces of software for the selected set are run. If one of two software sets are running, that set is automatically shut down and the other set is run. This allows for the rapid change between such digital modes as PSK-31 and FT8. A routine that quits either of the running software sets is then presented. A useful AppleScript for logging a QSO in both the WSJTX software and MacLoggerDX is discussed. A final AppleScript

provides the ability to insert a custom personalized message into the email that MacLoggerDX creates with an attached QSO card to the contact without any intervention by the operator.

Information about where the package of AppleScripts should be placed within any Mac OSX computer so they will run immediately will be presented. Some adjustments to one of the AppleScripts is required so the operator can insert their own name and callsign. This simple process will be demonstrated using the AppleScript Editor. The session concludes with the presentation of three different AppleScript code snippets that are included in the AppleScript package that the attendees should find interesting and useful in the future.

This presentation does not stress AppleScript programming nor is it for techies only. It follows the motto of “Keep It Simple Stupid” to help the attendees make their ham radio experience easier and more enjoyable.

Presentation Requirements

- Video projector to project the computer with and without Powerpoint.
- Screen for video projector
- Microphone if room is of sufficient size
- Access to internet

Contact Information

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Integrating Digital Software with AppleScript Outline

I. Overview

A. Using AppleScripts to link

1. FLDIGI
2. WSJTX
3. MacLoggerDX
4. JT-Bridge
5. Apple Mail

II. Linking FLDIGI to MacLoggerDX

A. Loading A Pre-Made Logging AppleScript That Works

1. Locating the pre-made AppleScript
2. The AppleScript is loaded into a hidden script folder within FLDIGI
 - a) Use Command + Shift + (period) to unhide the selected folder.
 - b) Use Command + Shift + (period) to rehide the unhidden folder.
 - c) The hidden folder that needs to be unhidden is .fldigi located in the home folder.
3. You can add your own AppleScripts to FLDIGI

B. Creating A FLDIGI Button to Run an AppleScript

1. Create the button
2. Label the button
3. Add the FLDIGI macro code to run the script.

C. Try It Out

III. AppleScripts to Interlink Digital Software

A. Locating the ready to run AppleScripts to download

B. Placing the AppleScripts so they will work properly

C. Modifying AppleScripts to work for you

D. Using the AppleScripts

IV. Primary AppleScripts and What They Do

A. Open Digital Software.scpt

1. Identifies the status of FLDIGI and WSJTX

2. If neither are running, a dialog appears where the desired software can be selected.
3. If one is running, its associated software is quit, and the other software set is run.

B. Quit Digital Software.scpt

1. Identifies which software set is running FLDIGI or WSJTX
2. The set that is running is quit

C. Log Both WSJTX.scpt

1. If WSJTX is running, the QSO will be logged in both WSJTX and MacLoggerDX.
2. For this script to work,
 - a) it is important that the contacts entire call sign is selected and
 - b) a cursor is in the Name field of the WSJTX Logging dialog

D. Message For QSL Email.scpt

1. Prior to running this script, click on the Email button on the QSO panel of MacLoggerDX
 - a) This will cause the QSO card to be created in Apple Mail.
2. Run the Message For QSL Email script.
 - a) This will create a few custom lines in the email to personalize it
 - b) It then signs your email with
 - (1) 73,
 - (2) Your first name
 - (3) Your callsign

V. Adjustments to the AppleScripts So They Work for You

A. Make certain the topmost folder of the scripts is “Ham Radio” at the top level of the scripts folder in the library folder (“Macintosh HD:Users:username:Library:Scripts:”)

1. All the file paths used by the scripts are based on the fact that they are within the folder “Ham Radio” at this location

B. Edit the Message For QSL Email.scpt

VI. Interesting Code Snippets

A. Folder and File Paths

B. What Digital Software Is Running?

C. Customize QSO Email

1. Open the Message For QSL Email.scpt within the Script Editor
 - a) This can be done by double-clicking on the file in the “Ham Radio” folder or
 - b) Using the open file command from within the Script Editor
2. Edit the top two property commands
 - a) Place your first name within the double quotes in the myFirstName property
 - b) Place your call sign within the double quotes in the myCallSign property

3. Checking your work
 - a) Make certain your first name is spelled correctly and within double quotes
 - b) Make certain your callsign is correct and within double quotes
4. SAVE the script
 - a) Your information will then be permanent in the script

VII. Interesting Code Snippets

A. Folder and File Paths

1. Provides a way to locate all files on any Mac OSX computer

B. What digital software is running?

1. Determine what, if any, digital software set (FLDIGI, WSJTX) is running

C. Customize QSO Email

1. Sends your contact a customized email containing the QSO card created by MacLoggerDX

Resources

A Helpful Hint

A wealth of material for different aspects of loading digital software and using various digital modes is readily available on YouTube. Just type in what you are interested in the search field and you will probably get a lot of hits with the information you need.

Apple Scripting

AppleScript Language Guide

https://developer.apple.com/library/archive/documentation/AppleScript/Conceptual/AppleScriptLangGuide/reference/ASLR_cmds.html

FLDIGI

FLDIGI Download <https://sourceforge.net/projects/fldigi/>

FLDIGI User's Manual http://www.w1hkj.com/files/fldigi/fldigi_help.pdf

JT-Bridge

JT-Bridge Download <https://jt-bridge.eller.nu/downloads/>

JT-Bridge Help <https://jt-bridge.eller.nu/documentation/>

MacLoggerDX

MacLoggerDX Download <https://www.dogparksoftware.com/MacLoggerDX.html>

MacLoggerDX Manual

<https://www.dogparksoftware.com/MacLoggerDX%20Help/MacLoggerDX%20Help.html>

MacLoggerDX WSJT-X And JT-Bridge How To <https://k0pir.us/macloggerdx-wsjt-x-jt-bridge/>

WSJTX

WSJTX Download <https://sourceforge.net/projects/wsjt/>

WSJT-X User Guide <https://wsjt.sourceforge.io/wsjtx-doc/wsjtx-main-2.6.1.html>