

Making A Slick Max Standalone

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Defective Records Software

Expo '74
New York
October 15, 2011

About Me

- Late 1980's: club DJ in Baltimore, MD - industrial / alternative / techno
- Early 1990's: “Glitch” – releases on multiple labels: R&S, Fax, Industrial Strength, Radikal, Antler-Subway... Collaborations with Richie Hawtin, Lenny Dee, and others.
<http://discogs.com/artist/Glitch>
- Mid 1990's: Created our own label, Defective Records
- Moved to Boston

Firefox ▾

Defective Records

http://defectiverecords.com/

Google

defective

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Fungus of Terror
New green vinyl LP!
Featuring remixes by
[Tipsy](#), [Solar X](#) &
[Snakeoiler](#)

Watch classic videos from
Defective's own
GLITCH
"Closed Mind", "Synaptic Breakdown" & "Surge"
(1993, 1993 & 1992)

Get our releases digitally!

Cambodian Psych-Out
14 track Cambodian rock compilation

<http://defectiverecords.com>

About Me

- Defective Records now home to my software creations, almost all of which are Max creations
 - **VSTi Host** - lightweight VST instrument (and effect) host
 - **MC-202 Hack** - program the Roland MC-202's sequencer
 - **Major Malfunction** - Pluggo-based “glitch” plugin
 - **Klee Step Sequencer**
 - **M-185 Step Sequencer**
 - **MC-4 Hack** – program the Roland MC-4's sequencer

defective records software

M-185

software step sequencer



NEW Roland System 100m step sequencer -
now in software!



a collaboration with



MC-202 Hack



MC-202 Hack v2.0
a better way to program
your Roland MC-202



Klee

software step sequencer



the most interesting step sequencer around -
now in software! **v2.1**



a collaboration with
electro-music.com



pc1600 user
the unofficial Peavey PC1600™
& PC1600X™ pages

VSTI HOST

Use your VST instruments
& effects without a bulky host
environment

PARTY FAVOR



A software utility for the **WTPA**
8-bit bendable sampler



OMS Convert
Convert your OMS patch name
files to Cubase 5 & SX formats

major malfunction



mangle, glitch and FSU plugin for
Ableton Live
version 2.0 with Multi Mode!



M-185

software
step
sequencer

who's using it:

(Daniel Miller, Mute Records founder)



cEvin Key

(Skinny Puppy, Cyberaktif, Tear Garden, Doubting Thomas, etc...)



Klee

software
step
sequencer

major
malfunction
.mangle, glitch &
fsu in ableton live.
.version 2.0.

who's using it:

Vernon Reid
(Living Colour)



BT



Joey Beltram



Chris Carter
(Chris & Cosey,
Throbbing Gristle)



Daniel Miller
(Mute
Records)



Richard Devine



Taylor
Deupree
(12k.com)



Mark Bell
(LFO)



Kid Beyond



Blank & Jones



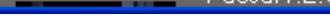
Mijk van Dijk
(Microglobe)



Chris Fortier

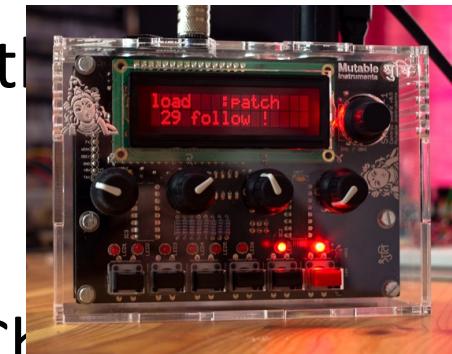


Pascal F.E.O.S.



About Me

- Contributor to Jack OS X (Mac port of J Connection Kit, <http://jackosx.com>)
- DIY synth builder (x0xb0x/x0xi0, Shruti, etc...)
- Day job: Pediatric Endocrinologist & Clinical Information Officer, Children's Hospital



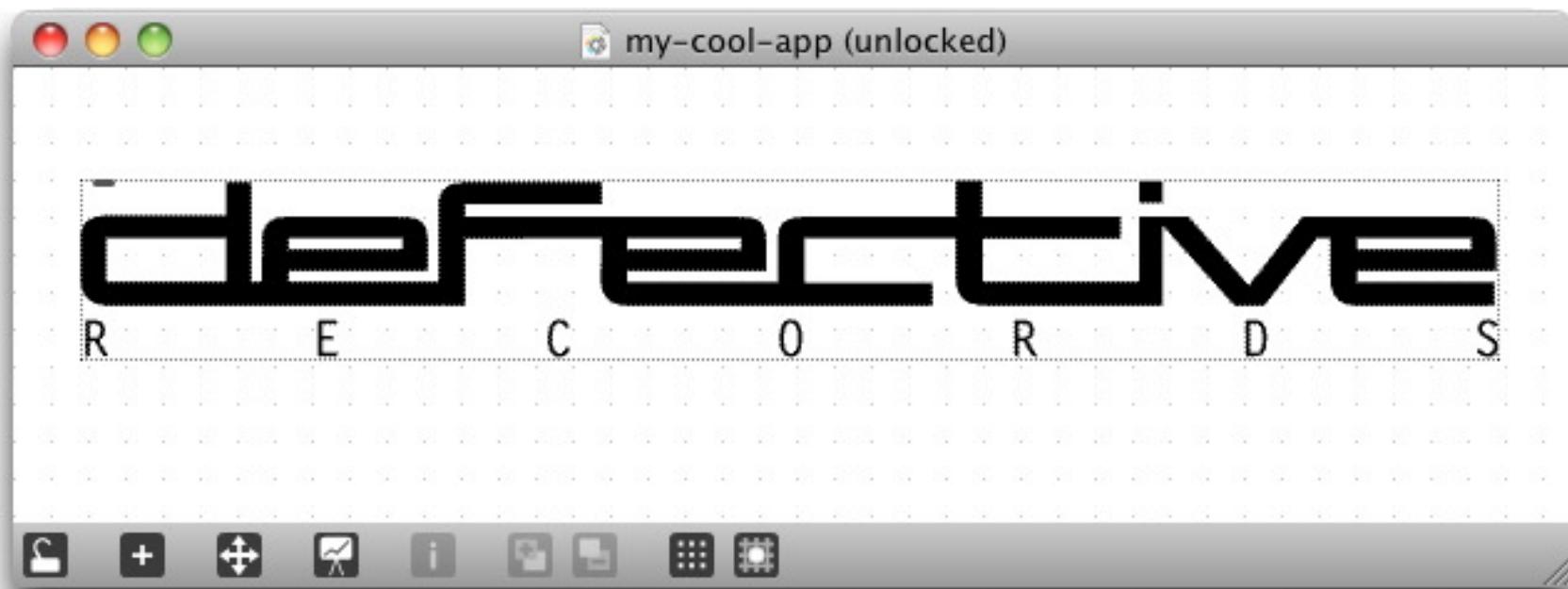
Presentation available at:

<http://defectiverecords.com/expo74/standalones.pdf>

What I Will Cover

- Work our way through slickify-ing an app – from very basic to slightly less basic
- NOT going to talk about how to make fancy graphics – if I knew how to make them, I would! ☺
- Will try to cover both Mac and Windows

The original patcher



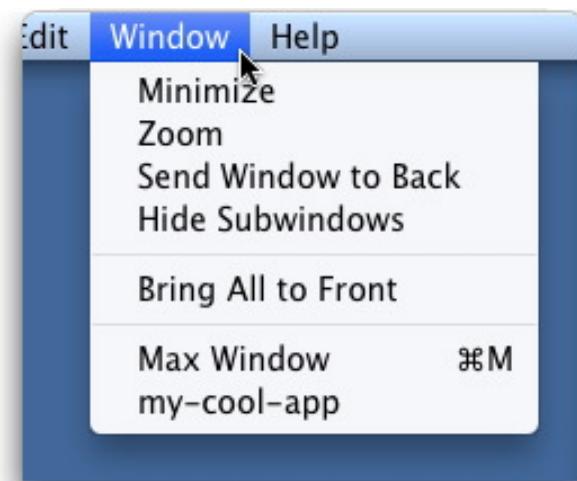
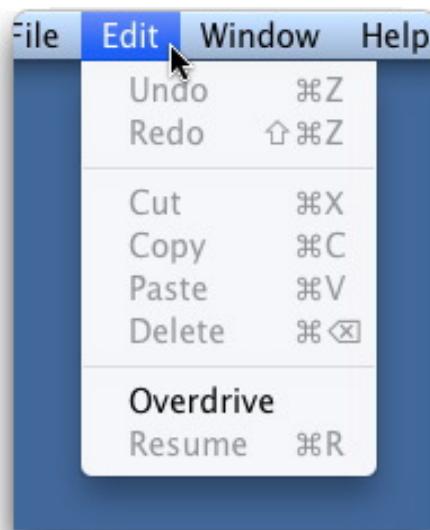
The resulting app



5

my-cool-app

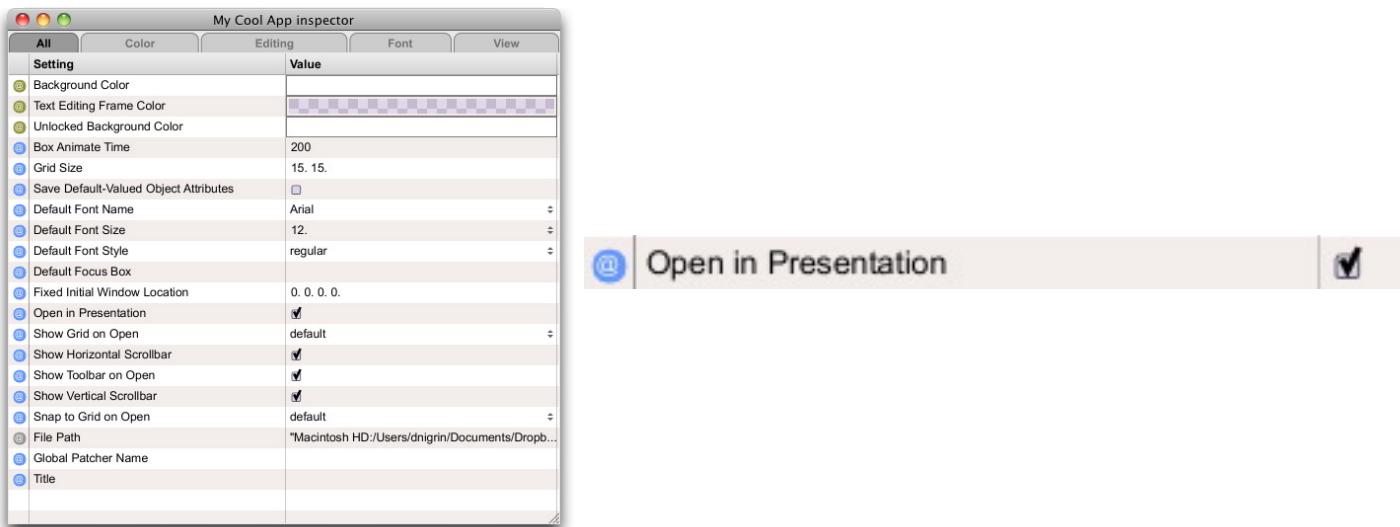
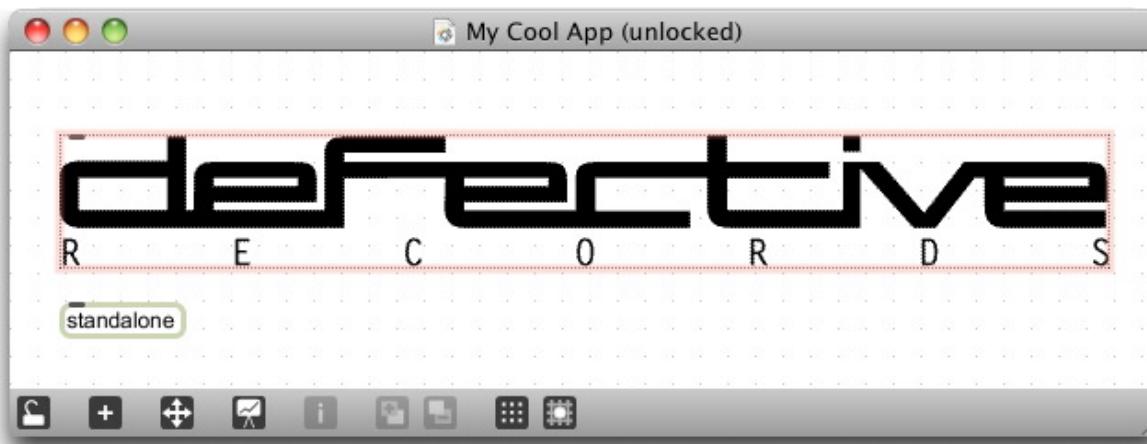
The resulting app's menus



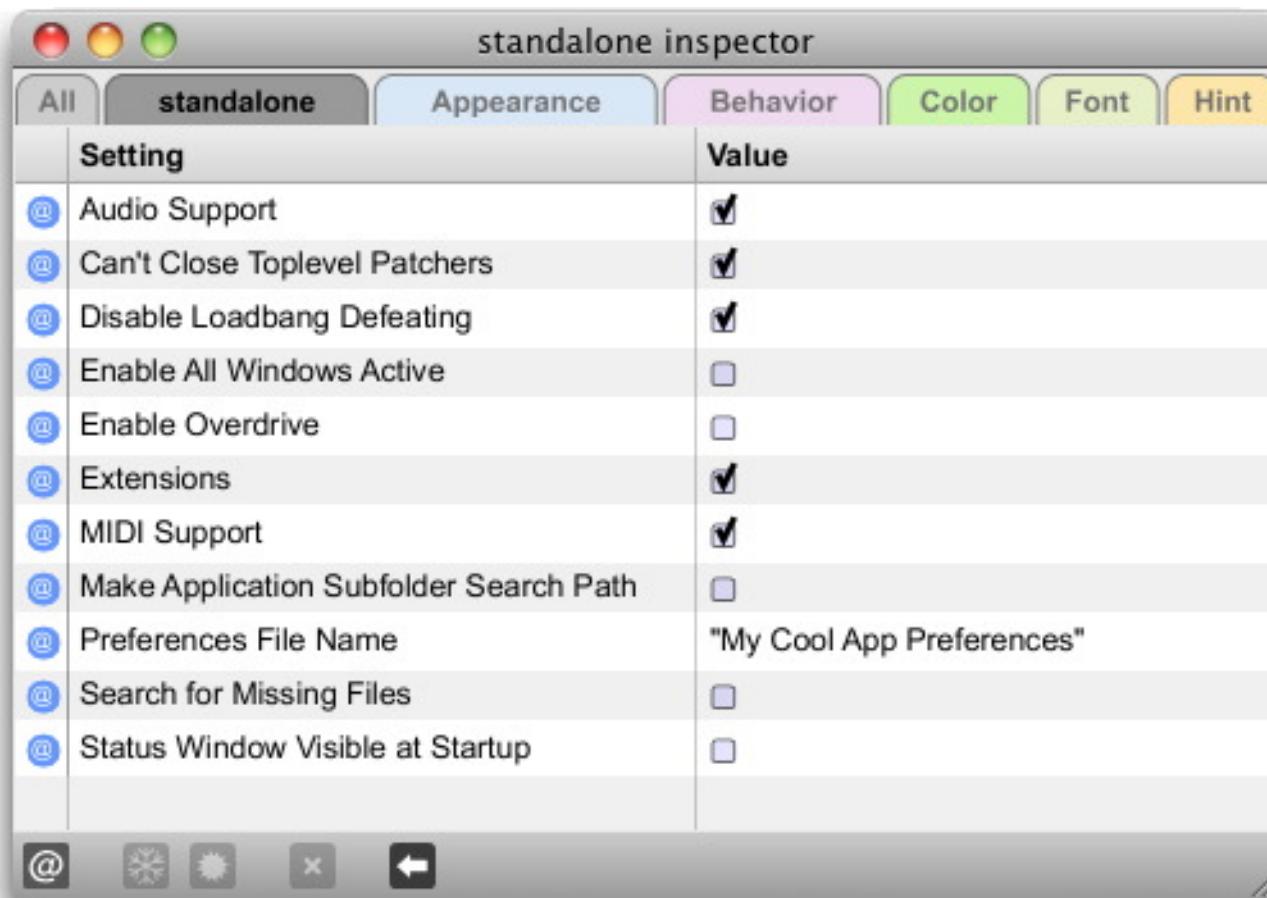
Fix the app name



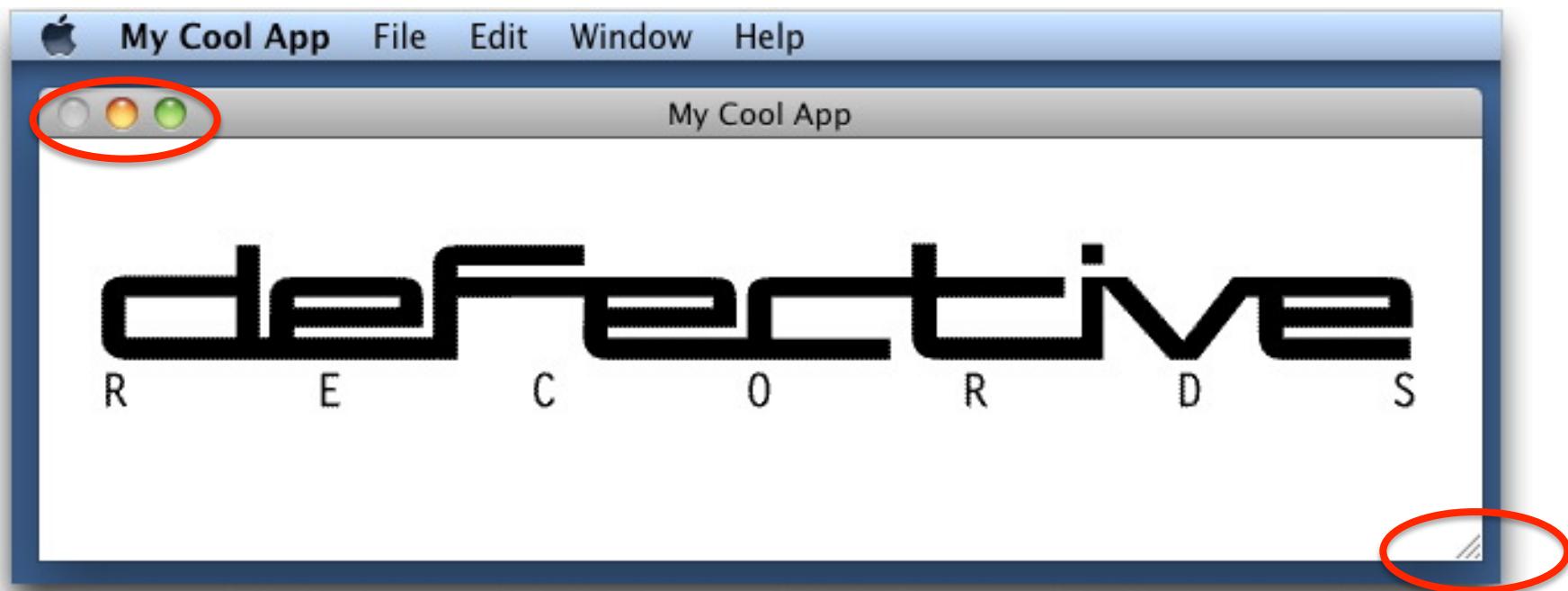
Standalone object, presentation mode



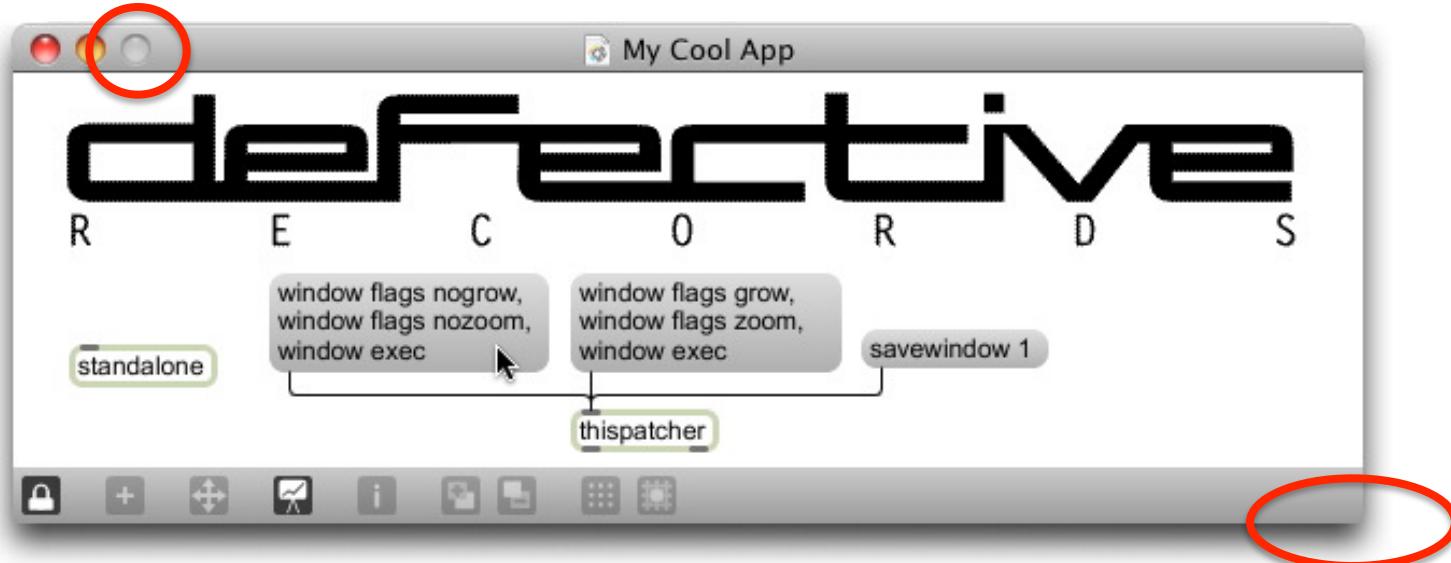
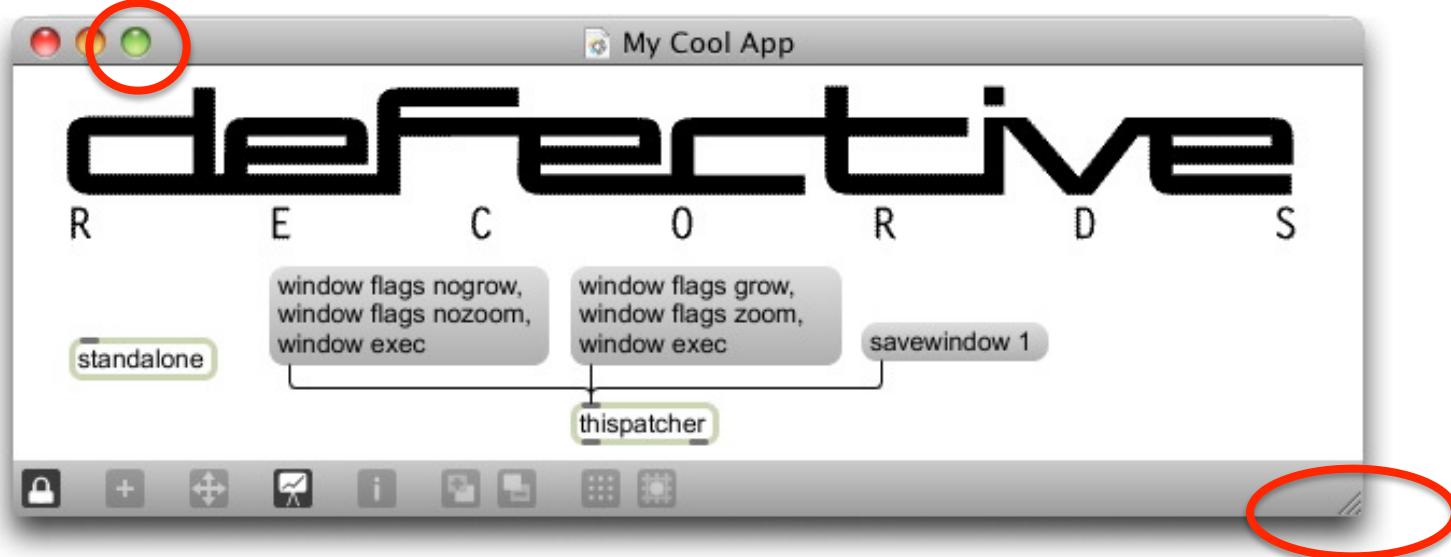
Standalone object Inspector, Preferences, Max window, Loadbang defeating, etc...



Current status



Window settings



Current status



Custom app icon



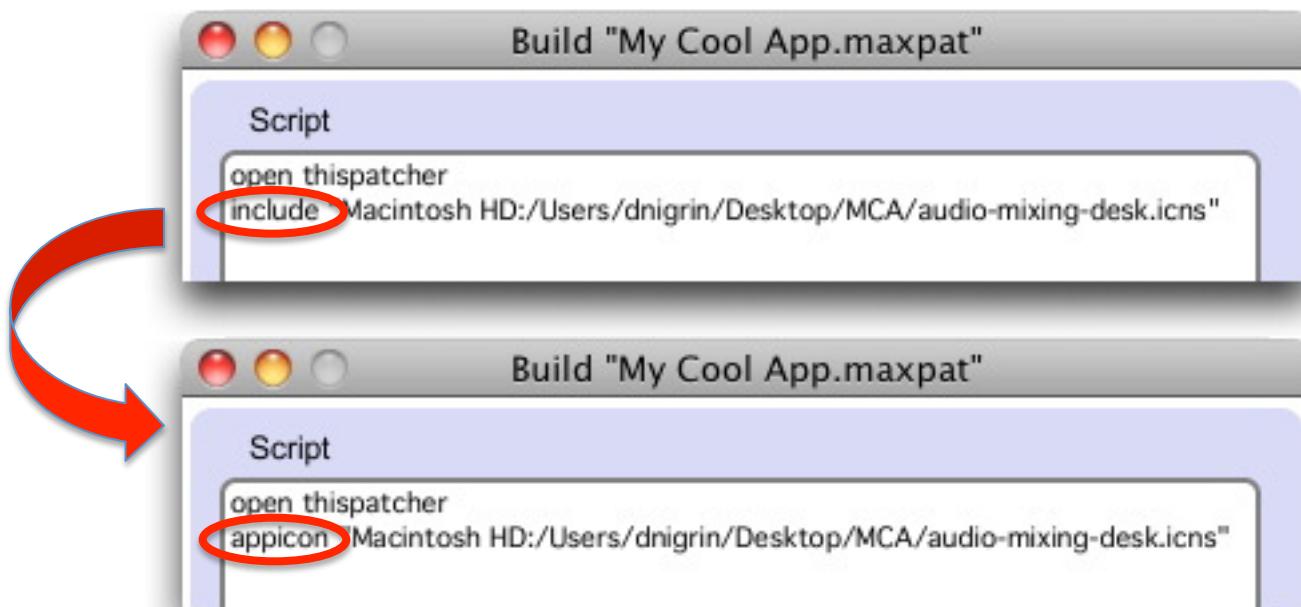
Mac: use.icns file (audio-mixing-desk.icns)

Win: use.ico file (audio-mixing-desk.ico)

icon from iconshock.com

Build app to include custom icon

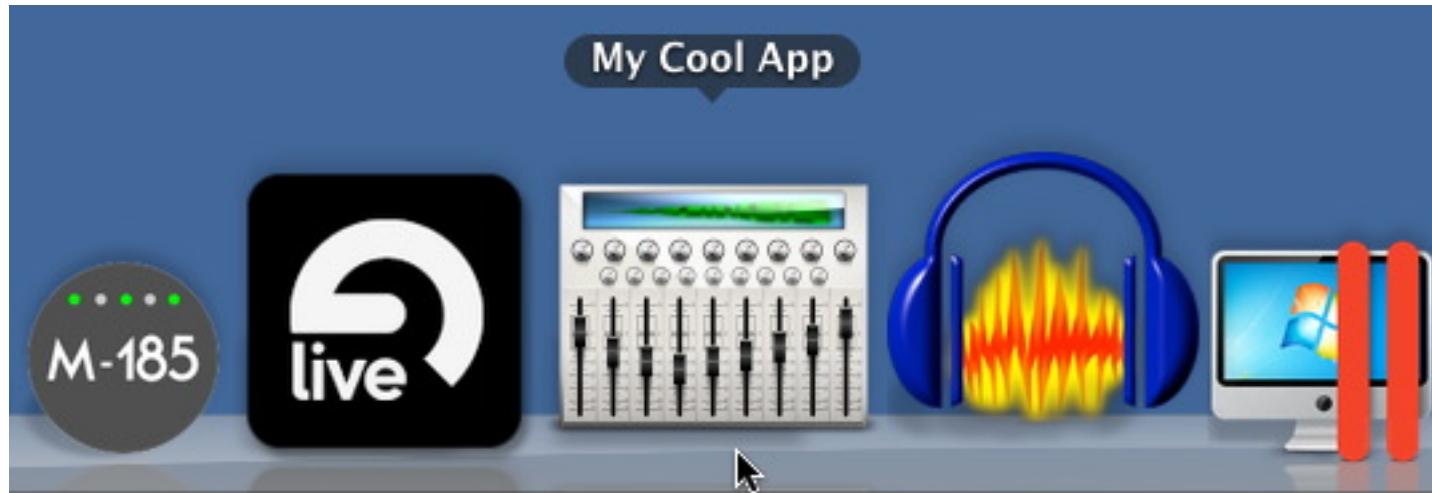
- “Include File...” in Build window, navigate to your icon file and select it
- Change “include” to “appicon”
- Now Build your app



custom app icon result



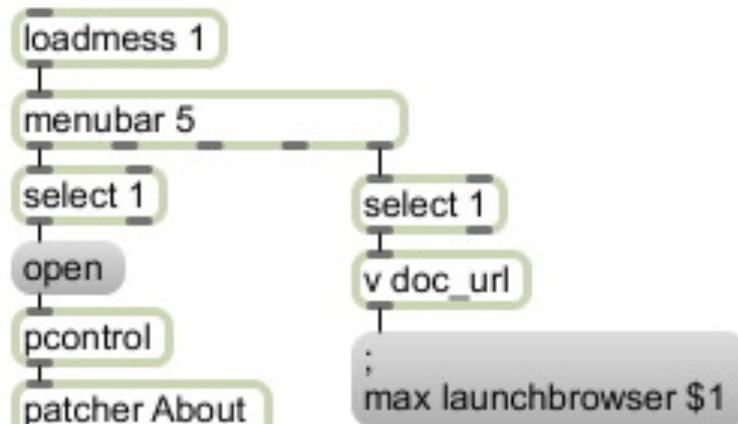
My Cool App



Tip: Include high resolution (256 x 256) versions within icon files

Menu tweaking

- menubar object
- Make an About My Cool App entry, and one for Documentation



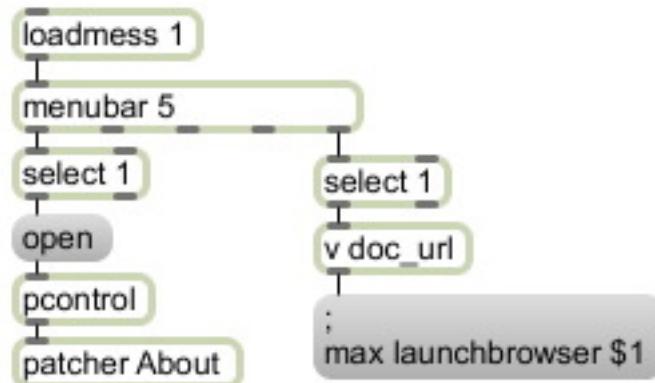
menubar script

```
#X about About My Cool App; ←
#X closeitem;
#X menutitle 5 Documentation;
#X item 5 1 My Cool App Documentation; } ←
#X end;
```

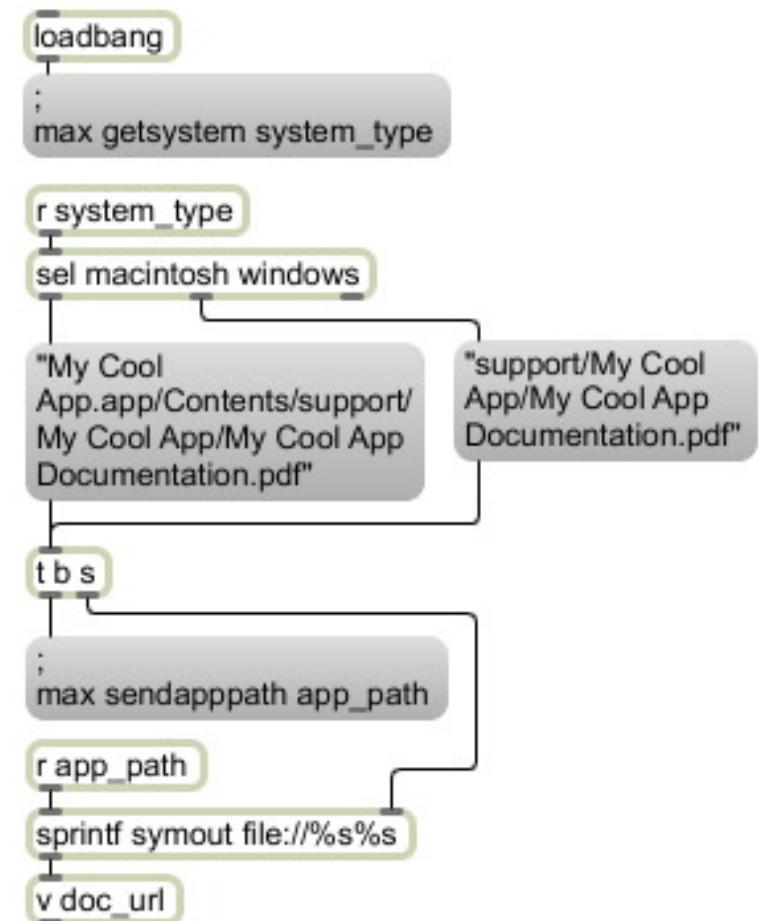
Cancel

OK

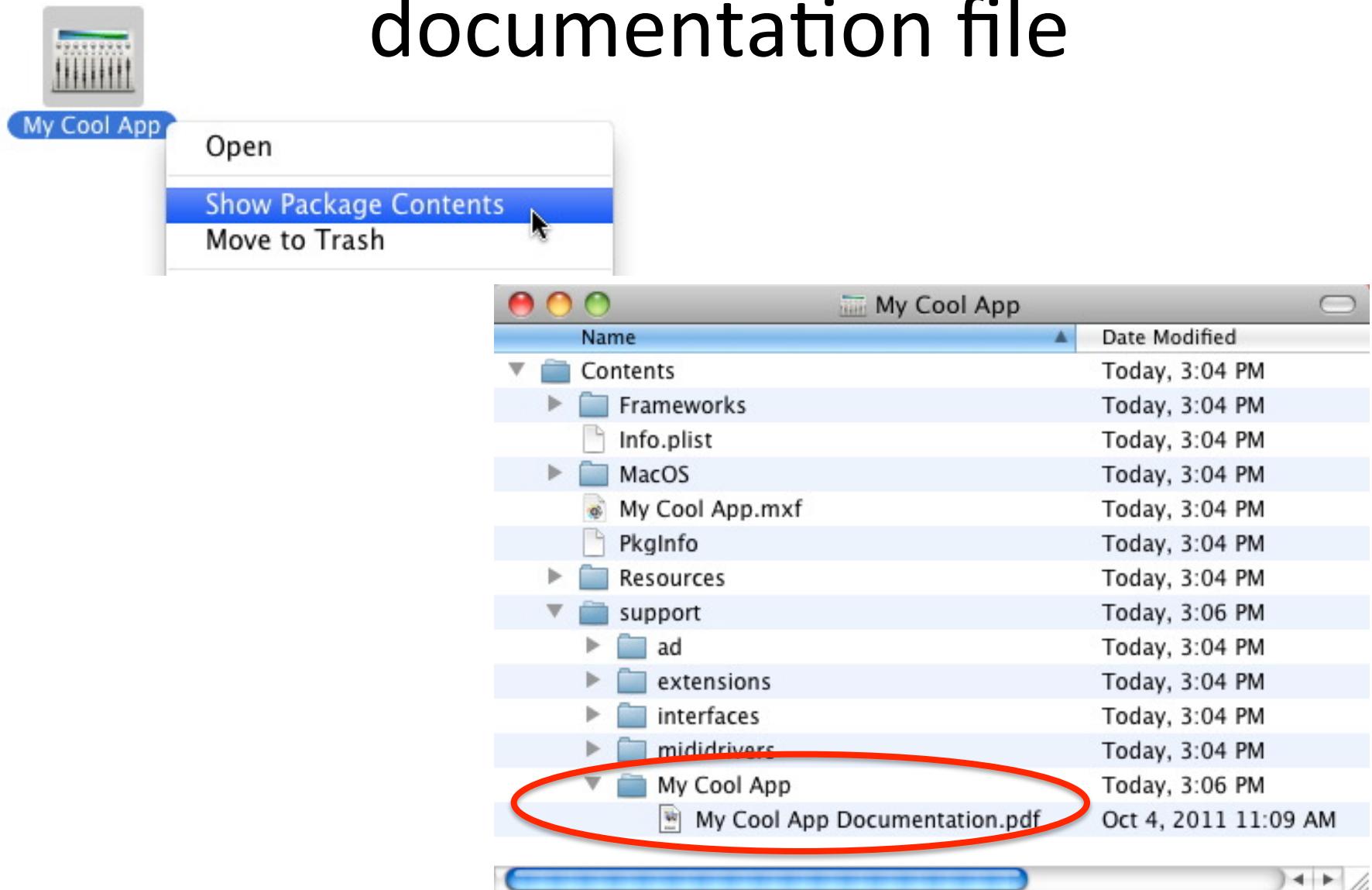
Defining location of documentation file



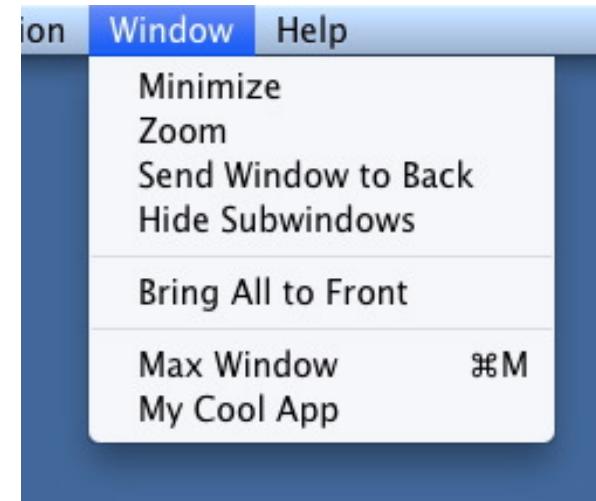
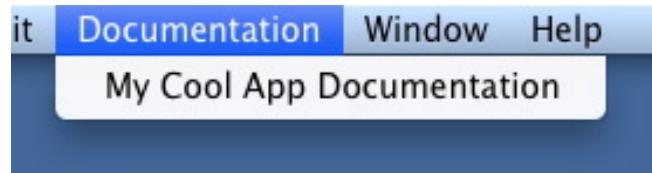
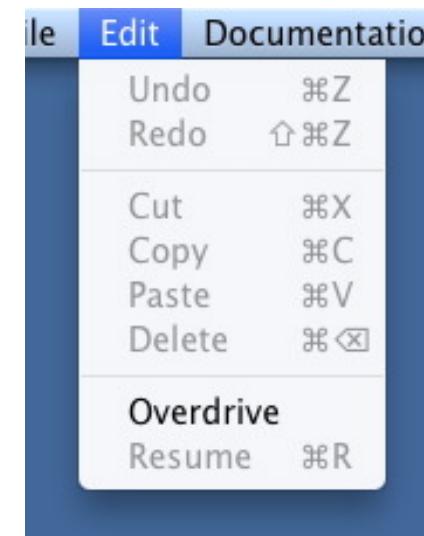
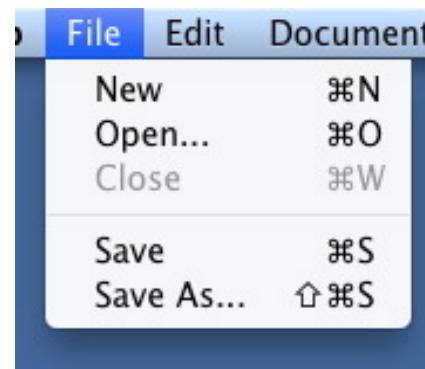
Tip: Open any file by sending max message
[; max launchbrowser file://Path_To_File]



Defining location of documentation file



Current status of menus

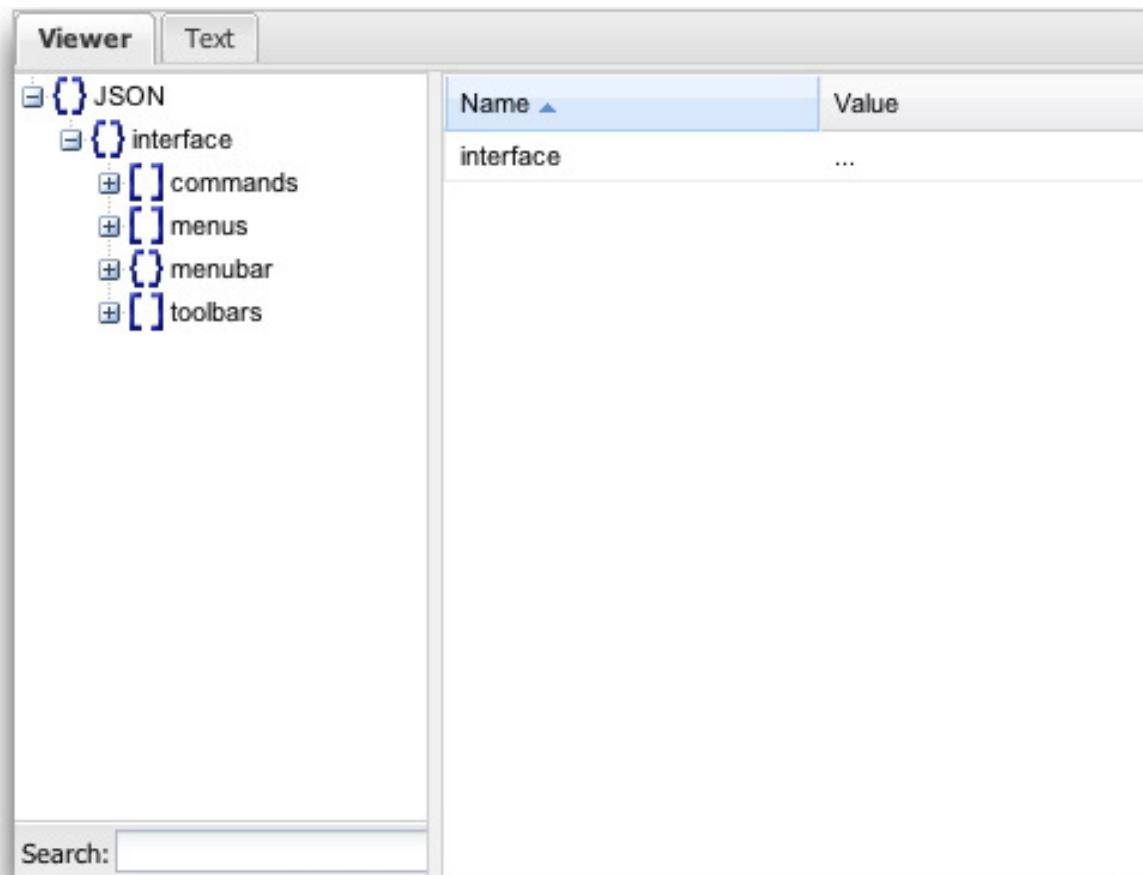


More menu tweaking

- maxinterface.json file
- **Mac:** within application bundle
 - Contents/support/interfaces/
- **Windows:** next to application executable
 - support/interfaces
- Save a copy of the original file, in case you make mistakes!

maxinterface.json

- <http://jsonviewer.stack.hu/>
- Paste contents of maxinterface.json into “Text”



maxinterface.json

Viewer Text

JSON

interface

commands

menus

menubar

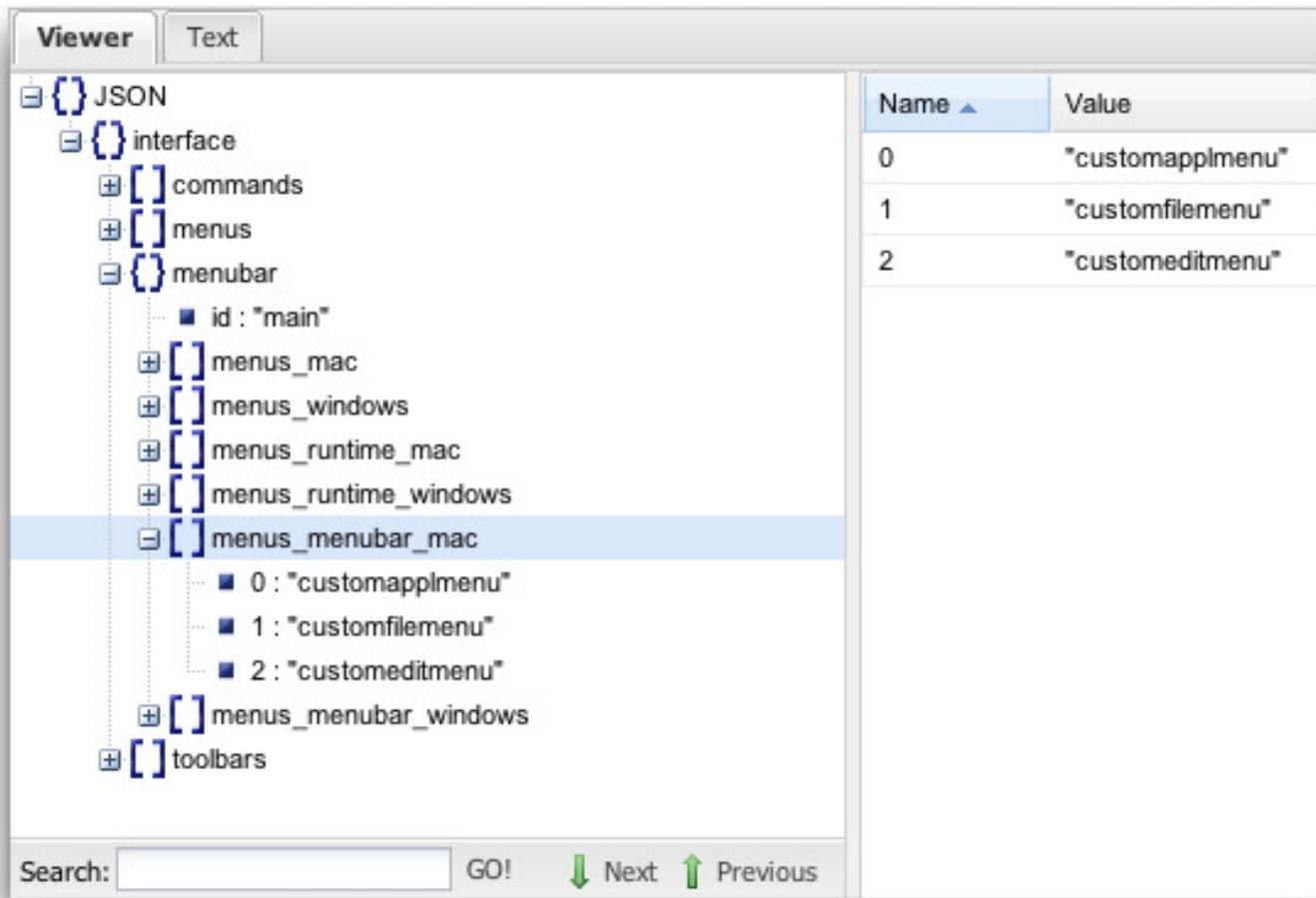
- id : "main"
- menus_mac
- menus_windows
- menus_runtime_mac
- menus_runtime_windows
- menus_menuBar_mac
 - 0 : "customapplmenu"
 - 1 : "customfilemenu"
 - 2 : "customeditmenu"
- menus_menuBar_windows

toolbars

Name ▲ Value

Name	Value
0	"customapplmenu"
1	"customfilemenu"
2	"customeditmenu"

Search: GO!  



maxinterface.json

The screenshot shows a software interface with a menu bar and a central panel for viewing and editing JSON data.

File Menu:

- New ⌘N
- Open... ⌘O
- Close ⌘W
- Save ⌘S
- Save As... ⌘⌘S

Viewer Panel:

The panel has tabs for "Viewer" and "Text". The "Viewer" tab is active, displaying a hierarchical tree structure of menu items and their associated commands.

- menus
 - 0
 - 1
 - 2
 - 3
 - id : "customfilemenu"
 - label : "File"
 - navkey : "F"
 - commands
 - commands_runtime_mac
 - 0 : "customnew"
 - 1 : "customopen"
 - 2 : "close"
 - 3 : "-"
 - 4 : "customsave"
 - 5 : "customsaveas"
 - commands_runtime_windows

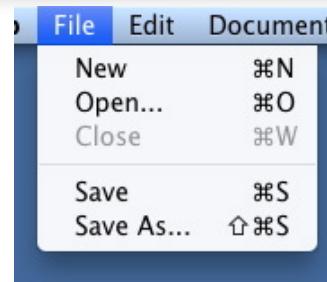
A search bar at the bottom left contains the text "customfilemenu".

Table View:

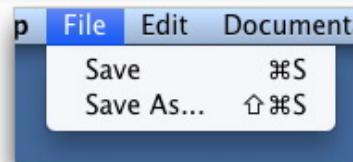
Name	Value
0	"customnew"
1	"customopen"
2	"close"
3	"."
4	"customsave"
5	"customsaveas"

maxinterface.json editing

```
{  
    "id" : "customfilemenu",  
    "label" : "File",  
    "navkey" : "F",  
    "commands" : [ "customnew", "customopen", "close", "-", "customsave", "customsaveas", "-", "backtomax" ],  
    "commands_runtime_mac" : [ "customnew", "customopen", "close", "-", "customsave", "customsaveas" ], ←  
    "commands_runtime_windows" : [ "customnew", "customopen", "close", "-", "customsave", "customsaveas", "-", "quit" ]  
},
```

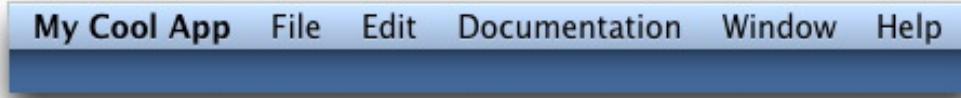


```
{  
    "id" : "customfilemenu",  
    "label" : "File",  
    "navkey" : "F",  
    "commands" : [ "customnew", "customopen", "close", "-", "customsave", "customsaveas", "-", "backtomax" ],  
    "commands_runtime_mac" : [ "customsave", "customsaveas" ], ←  
    "commands_runtime_windows" : [ "customnew", "customopen", "close", "-", "customsave", "customsaveas", "-", "quit" ]  
},
```

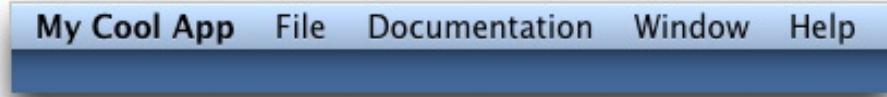


maxinterface.json editing

```
"menubar" : {  
    "id" : "main",  
    "menus_mac" : [ "applmenu", "filemenu", "editmenu", "viewmenu", "objectmenu", "arrangemen  
    "menus_windows" : [ "filemenu", "editmenu", "viewmenu", "objectmenu", "arrangemen  
    "menus_runtime_mac" : [ "applmenu", "filemenu", "editmenu", "windowmenu", "helpmenu" ],  
    "menus_runtime_windows" : [ "filemenu", "editmenu", "windowmenu", "helpmenu" ],  
    "menus_menubar_mac" : [ "customapplmenu", "customfilemenu", "customeditmenu" ],  
    "menus_menubar_windows" : [ "customfilemenu", "customeditmenu" ]  
},
```

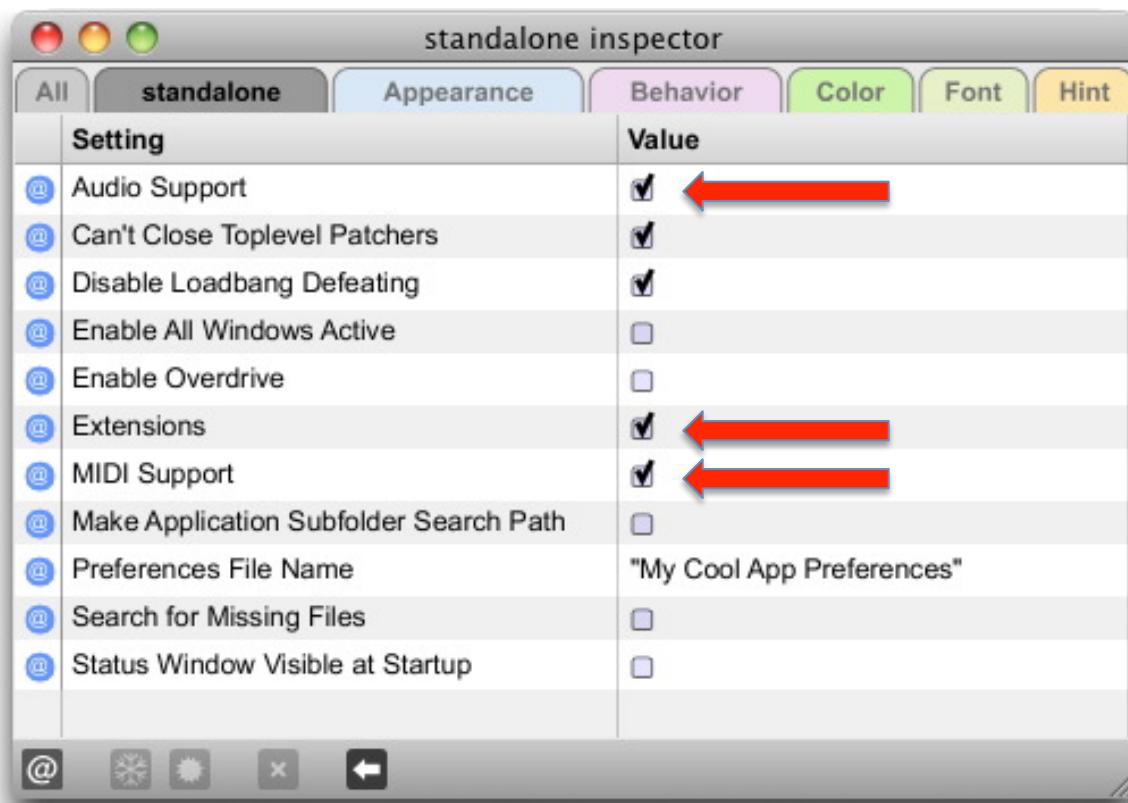


```
"menubar" : {  
    "id" : "main",  
    "menus_mac" : [ "applmenu", "filemenu", "editmenu", "viewmenu", "objectmenu", "arrangemen  
    "menus_windows" : [ "filemenu", "editmenu", "viewmenu", "objectmenu", "arrangemen  
    "menus_runtime_mac" : [ "applmenu", "filemenu", "editmenu", "windowmenu", "helpmenu" ],  
    "menus_runtime_windows" : [ "filemenu", "editmenu", "windowmenu", "helpmenu" ],  
    "menus_menubar_mac" : [ "customapplmenu", "customfilemenu" ],  
    "menus_menubar_windows" : [ "customfilemenu", "customeditmenu" ]  
},
```



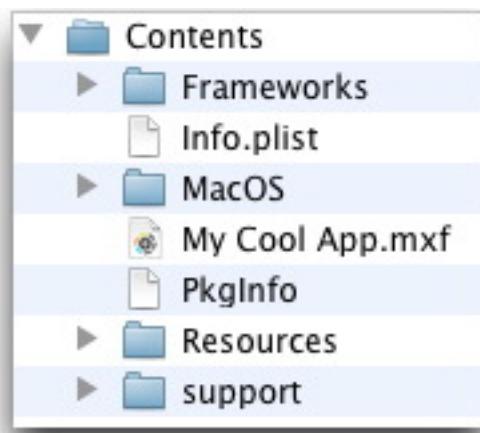
Remove unnecessary files

- Use standalone object to exclude if not needed
 - Audio Support
 - MIDI Support
 - Extensions



Remove unnecessary files

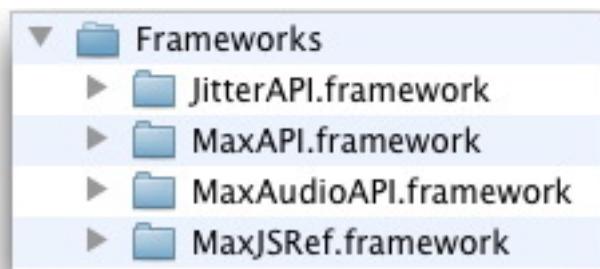
Mac – Top Level



- Leave alone
 - PkgInfo
 - My Cool App.mxf
 - MacOS folder
- Info.plist we will work on later

Remove unnecessary files

Mac – Frameworks folder

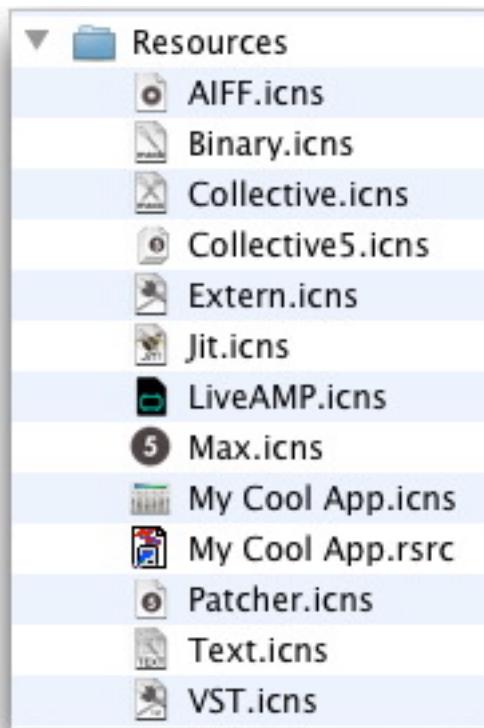


Delete what you don't use!

- No Jitter – delete JitterAPI.framework
- No Javascript – delete MaxJSRef.framework
- No audio – delete MaxAudioAPI.framework

Remove unnecessary files

Mac – Resources folder

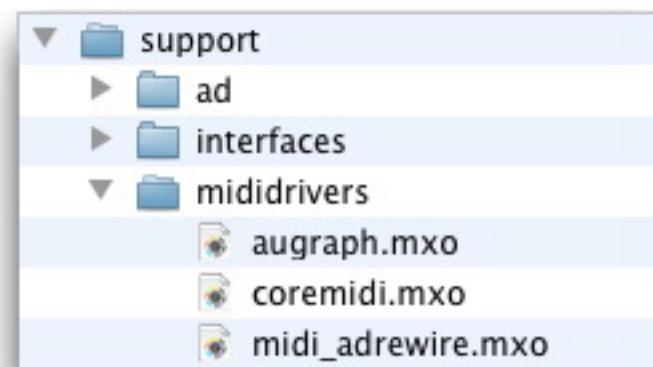


Delete everything except

- My Cool App.icns
- My Cool App.rsrc

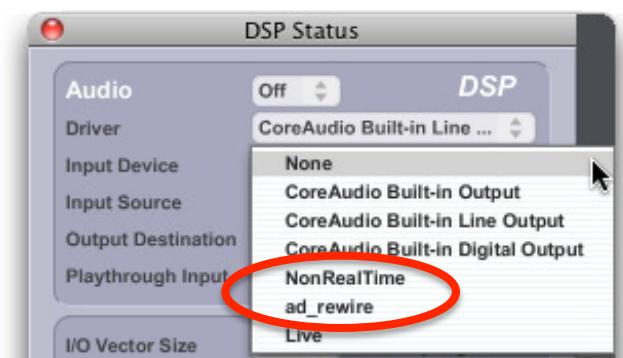
Remove unnecessary files

Mac – support folder



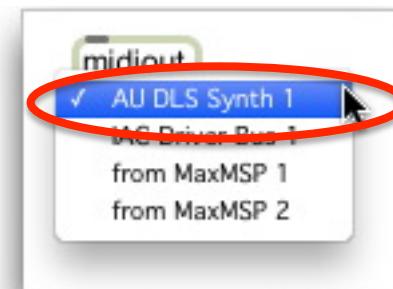
ad folder

- No need for Rewire? Delete
 - ad_rewire.mxo
 - MSPReWireDevice.bundle
- No need for Non Realtime? Delete
 - ad_nonreal.mxo



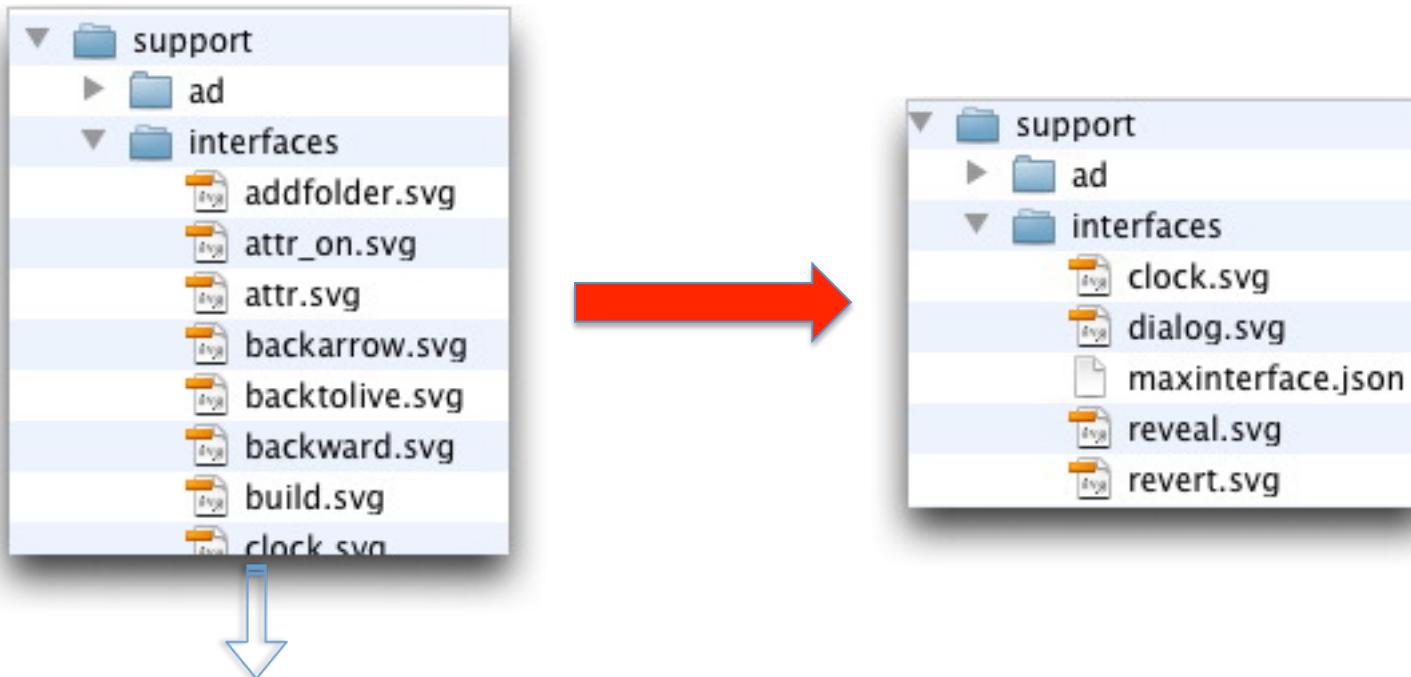
mididrivers folder

- Not using General MIDI? Delete
 - augraph.mxo
- Not using ReWire? Delete
 - Midi_adrewire.mxo



Remove unnecessary files

Mac – support folder

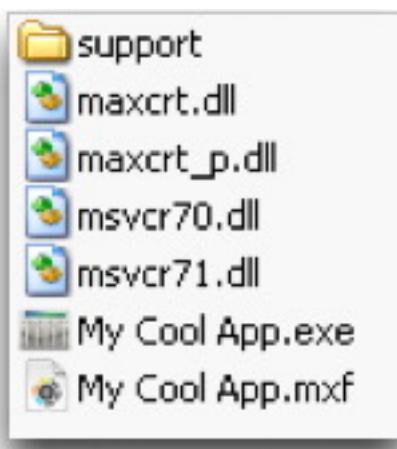


Interfaces folder

- Be sure to keep maxinterface.json (your custom one!)
- I also keep those files necessary for Max window – leave only what you need (experiment!)

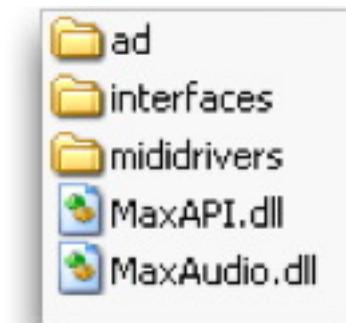
Remove unnecessary files

Windows



Top level - leave alone

- maxcrt.dll
- maxcrt_p.dll
- msvcr70.dll
- msvcr71.dll
- My Cool App.mxf



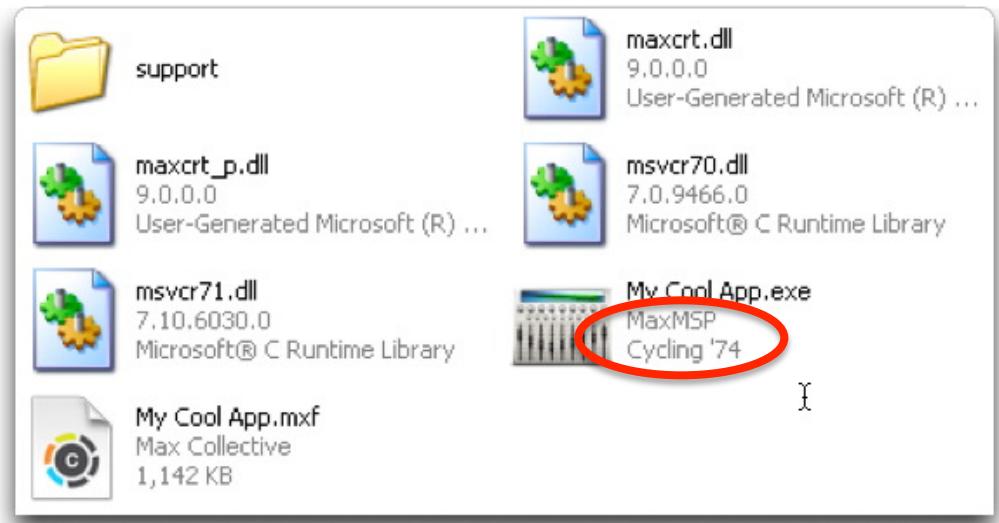
support folder - leave alone

- MaxAPI.dll
- MaxAudio.dll

ad, interfaces and mididrivers folders

- Same as Mac

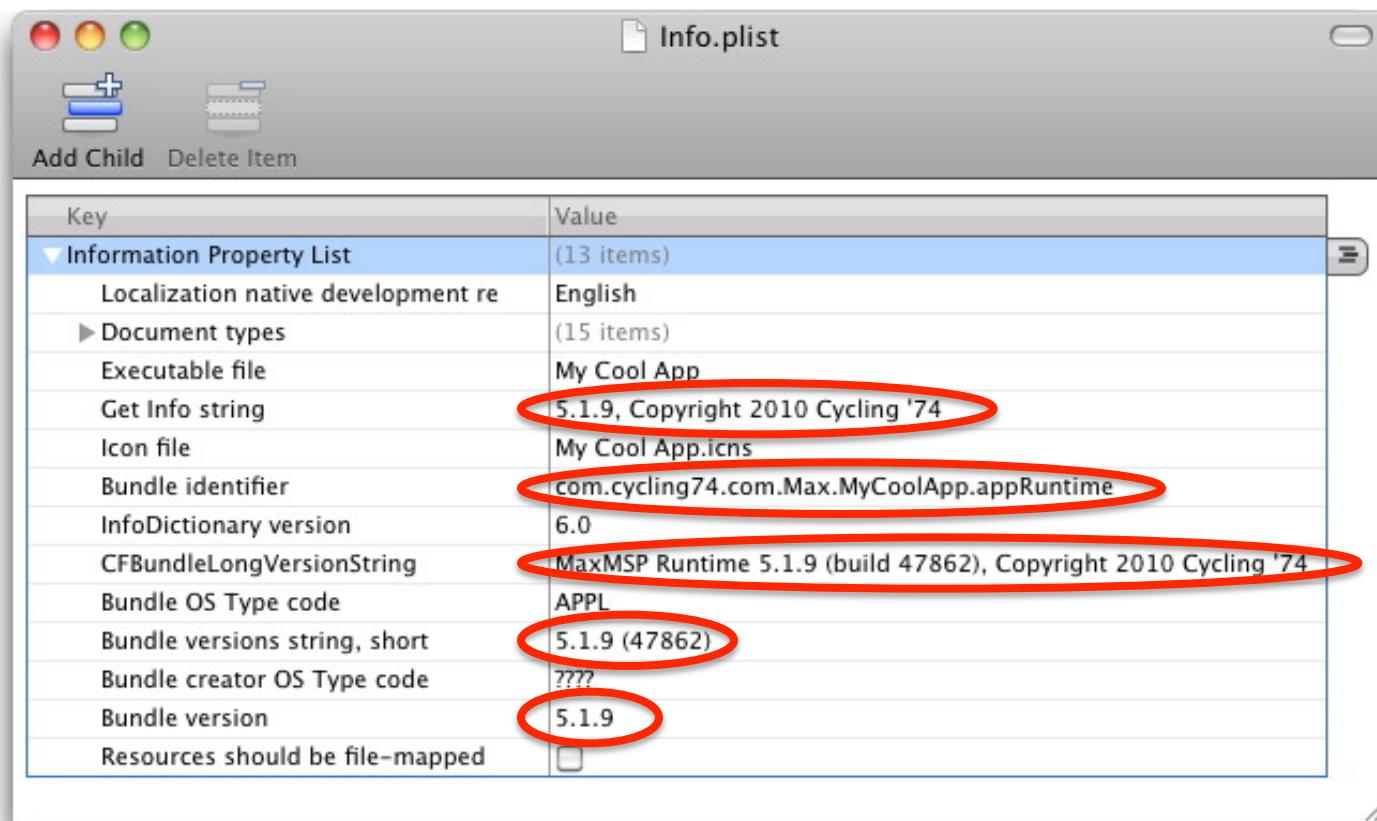
Application meta information



Application meta information

Mac

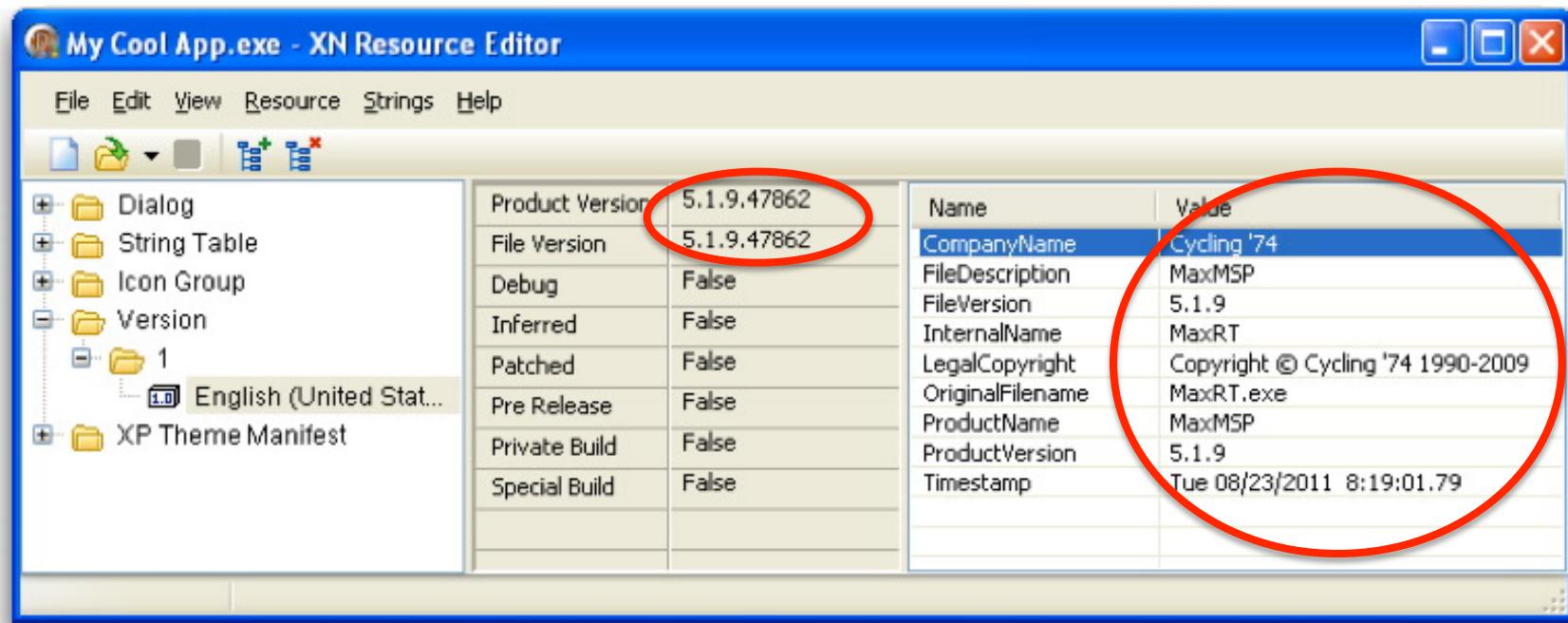
- Modify Info.plist file
- Can use Property List Editor (installed with Apple Developer Tools)



Application meta information

Windows

- Must use resource editor
- E.g. “XN Resource Editor” (free)
- Can also delete unneeded icons here



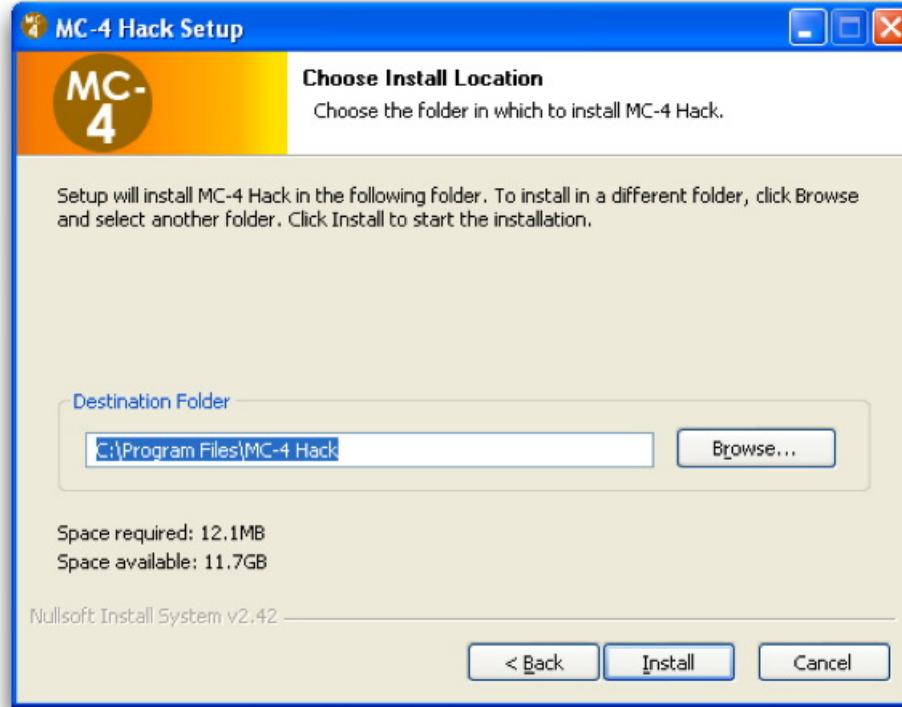
Installer/Uninstaller Mac

- Distribute as .dmg file, double click to mount, drag to Applications folder
- I use “DropDMG” (\$24 USD) – plenty of other (free) ways to do it
- Uninstallation – just delete application



Installer/Uninstaller Windows

- Can just distribute as .zip, but slicker to build installer that places files in right places, Start menu entries, Registry entries, uninstaller, etc...
- I use Nullsoft Scriptable Install System (NSIS) (free and open source)
- Can get fancy – e.g. test to see if Java installed, if not, divert user to install it first.



Application Protection

- Commercial option now available – but \$\$
 - <http://www.excelsoftware.com>
- My approach
 - Lots of small, relatively easily defeat-able, but in aggregate, “good enough” protections
 - Username/password combo
 - Username is based on user’s *real* name or other credentials
 - Tie authorization to specific machine attribute
 - If providing demo version, don’t have full version functionality within it
 - Don’t make the full version publicly downloadable
 - Obfuscate within your Max patches themselves (in case people open up your collectives)
 - Make software relatively cheap, and make it up on volume!

Miscellaneous

- Why does double-clicking a Max patcher launch my standalone instead of Max (on a Mac)?

The screenshot shows two versions of the Info.plist file in a Mac OS X plist editor. A red arrow points from the top window down to the bottom window, indicating a change.

Top Window (Original State):

Key	Value
Information Property List	(13 items)
Localization native development re	English
► Document types	(15 items)

Bottom Window (Modified State):

Key	Value
Information Property List	(13 items)
Localization native development re	English
► Document types	(2 items)
► Item 0 (Max collective)	(4 items)
► Item 1 (Application)	(4 items)

Thank You...

All at Cycling '74, the Cycling '74 forums,
and the (defunct) Max mailing list!

Presentation available at:

<http://defectiverecords.com/expo74/standalones.pdf>