

Technical Notes for CrystalClear Interface 2.6

Last Updated 03.15.12 for CCI 2.6.0

System Requirements

CrystalClear Interface (CCI) 2.6 requires Mac OS X 10.6 ("Snow Leopard"). It cannot be installed on Lion (Mac OS X 10.7). System requirements are for a PowerPC or Intel system with at least 2GB of RAM running at least 2 processors with a minimum speed of 2GHz.

Loading Mechanism

CCI loads using a ScriptingAddition, MTL.osax, which contains a "watcher" app, MTLAgent.app, that loads using a LaunchAgent when users log in. The launch agent is installed along with CCI and the MTL framework.

CCI runs as a plugin to the MarsThemes architecture, similar to — and technically indebted to — SIMBL. The core software is in a bundle called CCIFilter.bundle, located at /Library/Application Support/MarsThemes/Plugins

The watcher's function is to detect application launches, filter out apps that shouldn't load CCI, and load CCI during application launch. The software keeps track of which apps have been loaded using a property list (more on that in a moment).

Application Resources

There are a wide variety of files in the CCIFilter.bundle's Resources folder, most of them graphics files, but two of these may be of interest to technical users who wish to further refine the way **CrystalClear Interface 2.6** handles a couple of tasks.

- *contrastOutlineViews.plist*. This property list contains a list of outline view subclasses used by various applications that load CrystalClear Interface. By default, CCI treats outline views in a manner that assumes they will keep their content's text color black even when it should change to white. For the subclasses listed in this file, CCI handles text contrast as if the view's text cells **can** change contrast from black to white (and vice versa) appropriately when the outline view's background color changes.

If you wish to extend the contrast color functionality to additional outline view subclasses, you can add a dictionary to this array, where the elements contain a key for the outline view classname, and a key for the application containing the subclass.

- *excludedApps.plist*. By default, the MarsThemes Loader (MTL) (described below) prevents CCI from loading into applications with the following characteristics:
 - Background-only (daemon) apps that spawn no windows
 - Apps that have no identifier key
 - Apps that have no info dictionary

In addition, MTL uses an *excludedApps* property list (stored in MTL's resources folder) to prevent loading for a range of individual applications, most of which are spawned by Mac OS X or by commonly used Apple apps (e.g., Safari). Many of these applications are already filtered out by the above rules, but many are not, because they are exceptions in one way or another to those rules. (The full contents of this property list is included at the end of these technical notes.)

Each MTL plugin, including CCI, maintains a separate *excludedApps* property list, specifying (mostly) third-party applications that are a problem for that particular plugin. This file is located in the CCIFilter.bundle's resources folder.

Users with the technical expertise to do so can edit the *excludedApps* property lists to add applications they believe should be excluded. (This has the same effect as designating an app as "disabled" within CCI itself.)

Application Support Components

Besides the core components described above, CCI also installs and relies on the following files and helper applications. Each component is described in appropriate detail later in this section.

- An application support folder is installed at /Library/Application Support/MarsThemes/CCI/ This folder contains:
 - *CCI 2.6 User's Guide*, a PDF file containing the documentation available in HTML on the CrystalClear Interface website.
 - *CCI.app*

- *CrystalDocsIcons.plist*
- *IncompatibleList.plist*
- *Graphics* folder, which contains the graphics files used by CCI for theming.
- *Crystal Docs* folder, which contains all of the icons available for use with CCI.
- *Other Components* folder, which contains two applications used within CCI:
 - QuickOpenCCIMenu.app*
 - CCIUninstaller.app*
- *CrystalClear Interface.prefPane*, a system preference pane accessed through System Preferences, is installed at `/Library/PreferencePanes/`.
- CCI also makes use of some components common to all MarsThemes plugins. These items are stored in the `/Library/Application Support/MarsThemes/Common/` folder.
 - AquaticPrime.framework*
 - MTL (folder)*
 - styleForBlackGloss.plist*
- In `/Library/LaunchAgents`, CCI installs *org.musingsfrommars.CrystalMenuBarLaunch.plist*.
- In the user's Desktop Pictures folder, CCI installs its set of *Frosted Crystal* desktop pictures, designed to complement the preset themes included with CCI. These pictures are left in place if CCI is uninstalled.
- CCI adds a folder to the user's `~/Library/Application Support/` folder to hold a copy of a purchased license and, when uninstalling CCI, the plist files the user may have modified while using CCI. This folder is located at `~/Library/Application Support/MarsThemes/CCI/`.

Global and Application Default Settings

CCI modifies some global and application default settings during installation and when users change button themes while using the software. The changes are designed to support CCI's theming and other functions. CCI maintains an "invisible" property list, *.appsWithEditedPlist.plist*, to keep track of all the apps that have defaults changed—both added and removed—while CCI is being used. This file ensures that CCI settings are removed from all application preferences when a user uninstalls CCI.

NSUseLeopardWindowValues. This string is set initially to "NO" during installation on Snow Leopard. It is further used to correctly theme the toolbars of Carbon applications, as well as of Cocoa applications the user has disabled for CCI, when the "Glossy" theme is turned on; in these cases, it is set to "YES." When an application is reenabled for CCI, this setting is toggled back to "NO." CCI deletes this application and global setting when it is uninstalled.

AccessibilityAPIEnabled. CCI toggles this setting on during installation to enable an applescript that shows new users where the CCI global menu is.

AppleEnableMenuBarTransparency. This setting is toggled off during installation to enable proper appearance of the Crystal Menubar.

NSUseGrayBackground. This setting is added to application defaults and set to "YES" for certain applications that require it to function properly (*Finder*, *iTunes*, and *InterfaceBuilder*).

AppleUseCoreUI. When users switch to the Black Gloss button theme, this setting is added to the preferences file for *Adobe Photoshop CS4* to ensure readable button text, especially on popup buttons.

MarsThemes Loader

The MarsThemes Loader (MTL), based on the open-source code for SIMBL, consists of:

- *MTL.osax*, added to the `/Library/ScriptingAdditions` folder
- *MTLAgent.app*, launched from the resources folder of the MTL scripting addition
- *org.musingsfrommars.MTL.Agent.plist*, a LaunchAgent for MTLAgent
- *MarsThemes* folder, used as previously described. At `/Library/Application Support/MarsThemes`, a *Plugins* folder holds the core bundles for CCI and any other MTL plugins that the user may have.
- *MarsThemes Common* folder, within the MarsThemes folder, stores the AquaticPrime framework (which validates a user's license) and an MTL folder. This MTL folder contains two components that enable MTL to turn itself off (stop the MTL Agent from launching) if a user uninstalls CCI and has no other MarsThemes plugins installed.

- *.appsLoaded.plist*, stored in the MarsThemes application support folder, is updated whenever a user launches or quits an application, keeping track of which apps currently have CCI loaded.

Components Details

CCI.app

A small background application loaded at login that provides support for CCI's Single Application Mode (SAM) functionality.. It also incorporates the Sparkle framework for notifying users of software updates.

CrystalDocsIcons.plist

A property list containing information on the Crystal Document icons available to be installed. This file gets updated as the user makes choices about installing/uninstalling different icon sets. When CCI is uninstalled, a copy of this file is stored in ~/Library/Application Support/MarsThemes/CCI so that it remembers the user's icon settings in case CCI is installed again later on.

IncompatibleList.plist

A property list containing information on applications for which CCI is known to be incompatible in one way or another. This file contains a brief explanation of the problem when the user launches one of the listed applications. This file gets updated as the user encounters applications in the list.

Graphics folder

In this folder, each set of graphics is stored in two zip files—one with the original graphics, and another with the CCI variants. The zipped original graphics are used during uninstall. The CCI variant folders contain subfolders corresponding to each button theme, as the button themes install some graphics specific to that theme. The list of files and folders is extensive, but briefly, this folder holds:

- *Applications graphics*. This folder contains application-specific graphics for 27 applications, some from Apple and some from third-party developers. The complete list is shown at the end of these Notes.
- *CoreArt graphics*. This folder contains the main system graphics files that implement the alternative button themes, menubars, and other systemwide items. In addition, when a user installs CCI, the installer stores a backup of the pre-CCI system graphics files that can be used to restore system graphics to the defaults as needed.
In the *CCI* subfolder of *CoreArt* are three folders that contain graphics files specific to each button theme. Each button theme folder has the *ArtFile.bin* file (installed to the Apple *CoreUI* framework) and folders/subfolders corresponding to the *Extras2.rsrc* file (controlling various graphics, such as scrollbars, as well as the text color of the system menubar) and the *SArtFile.bin* file (controlling the menubar graphics among many others).
- containing Core Art, as well as alternative graphics for Finder, for certain frameworks and for the loginwindow bundle. This folder also contains the alternative white icons for most of the Apple "Menu Extras" applications.
- *FontPanel graphics*. This folder contains the Black Gloss graphics (introduced in Crystal Black) that are used to theme Apple's standard Font and Color Panels.
- *MenuExtras graphics*. This folder has two subfolders that contain the white and black versions of both Apple and Third-Party icons for applications accessed from the system menubar. (These graphics are commonly referred to as "menu extras.") A complete list of the applications covered by this folder is at the end of these Notes.
- *PrefPanels graphics*. This folder is organized like that for *Applications* graphics and contains graphics for theming five "panes" in the System Preferences application: *Bluetooth*, *Expose*, *Keyboard*, *Network*, and *ParentalControls*.
- *System graphics*. This folder has five subfolders, organized as described for *Applications* graphics.
 - *CoreServices*. Contains CCI graphics for the *login window* and alternative icons for Mac OS X "Core Types" of documents, toolbars, and other items.
 - *Developer*. Contains CCI graphics used for a few elements in *Xcode*.
 - *Frameworks*. Contains CCI graphics for the *AddressBook*, *Automator*, *ImageKit*, *PreferencePanels*, and *WebKit* frameworks.
 - *Other*. Contains CCI graphics for *Finder* and the *Character Palette* (Special Characters) application.
 - *PrivateFrameworks*. Contains CCI graphics for the *iLifeMediaBrowser* framework, which is a "private" Mac OS X

framework.

AquaticPrime

CCI uses the AquaticPrime framework for generating and authenticating user licenses. If this framework is not present on the user's system, it gets installed along with CCI. This folder, AquaticPrime.framework, gets installed at /Library/Frameworks/

CCI Uninstaller

CCIUninstaller.app is a Cocoa application that removes all components of CCI when run. It can be launched either from this folder or from the CCI global menu "Uninstall CCI". During uninstall, CCI also restores the default "Menu Extras" icons, and offers to restore any Crystal Docs icons the user may have installed. After uninstall, users are instructed to log out.

Launch Agents

CCI uses two launch agents:

- *org.musingsfrommars.CrystalMenubarLaunch.plist* is used to launch — and keep running — *CCI.app* on user login.
- *org.musingsfrommars.MTL.Agent.plist* is used to launch — and keep running — *MTLAgent.app*.

Crystal Document Icons

These icons are available in both compressed (.zip) and uncompressed (.icns) formats, and both formats include the original icons as well as the Crystal Document versions. The zipped files are used by CCI as users install and/or restore icons through the CCI Preferences window. Each contains two zip files—one with the original icons, and another with the CCI variants. The icons are stored in the /Library/Application Support/MarsThemes/CCI/CrystalDocs/ folder.

Contents of *excludedApps.plist* as of CCI 2.6:

Apple	Third-Party
App Store	AMRunner (AutoPilot)
Automator Launcher	ASRunner (AutoPilot)
Dashboard	BackTrack5BA
Dashboard Client	Canon Scanner Register
Dock	CCI Crystal Menubar
Doc.Extra	Chronosync Backgrounder
FaceTime	CleanApp Daemon
FeedbackServicesServer	DragThing
Folder Actions Dispatcher	Evernote Helper
iCal Helper	FolderGlance Loader
ImageCapture Extension	Google Keystone Agent
iTunes Helper	Growl Helper
Metadata mds	Hardware Growler
Metadata mdworker	MTL Agent
WebKit Server	MyLivingDesktop
QuickLook Daemon	Perian
ScreenSaver Engine	Quicken
Speech Synthesis Server	SIMBL Agent
Spotlight	ShortcutObserver
SystemUIServer	SparkDaemon
Web Process	TaggingService
WebKit PluginAgent	TechToolPro Daemon
WebKit PluginHost	TextSoap Agent
WebKit PluginProcess	

Applications with specific CCI graphics as of CCI 2.6:

Apple	Third-Party
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iCal iPhoto iTunes iWeb Keynote Mail Numbers Pages Preview Safari Terminal	1Password AutoPilot Camino CoverSutra DEVONagent DEVONthink Pro Evernote Leap LittleSnapper Platypus PlistEdit Pro Querious TextExpander VectorDesigner Xtorrent
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Menu Extras with white variants as of CCI 2.6:

Apple	Third-Party
Airport Battery Bluetooth Display Eject iChat Ink Keychain Script Spaces Spotlight Sync TimeMachine UniversalAccess User Volume	1Password Alfred AutoPilot Bowtie Chronosync Clusters CoverSutra DragThing DropBox Evernote FastScripts GeekTool Growl Hazel Hyperspaces iClip iKey MagicPrefs My Living Desktop OpenMenu X Overflow Proxi ShoveBox Tags TextExpander TotalFinder Twitterrific Voila