TM-CAD Developer Tools Documentation

0. License Agreement

All software provided under this license agreement may be used as "Freeware" as long as all copyright statements are respected and will remain unchanged. All developers are encouraged to use the tools provided here, to take the benefits for their installation.

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1. Introduction

For its own requirements, TM-CAD Engineering has developed a special software tool to register AutoCAD based applications with AutoCAD and/or AutoCAD LT. Over the years, the "Acad_Reg" tool is highly qualified and provides powerful means to register applications in a very comfotable and elegant way for both developers and application users. This "Acad_Reg" tool is now provided as Freeware for any developers …

Especially for applications running with AutoCAD LT, TM-CAD has prepared the "LTSetup/LTUninst" tool which is designed for our LTE kernel system – LTSetup/LTUninst manages integration of LTE kernel and LTE based applications into AutoCAD LT.

2. AutoCAD Registration Tool "Acad_Reg.exe"

The "Acad_Reg" tool is designed to provide highest flexibility and comfort in managing AutoCAD based applications for both developers and users. With its powerful features, Acad_Reg tool can be customized to meet nearly any installation needs.

Requirements and Conditions

There is only one main requirement to successfully use "Acad_Reg" tool: the application must provide a menu file (*.mnu/mns), that will be registered into selected AutoCAD profiles. This nessecary menu file may b either a regular menu file, but may also be a "Dummy" menu file without pulldowns and toolbars – the basic working principle is described below.

Basic Technology

The basic idea is, that an application will/should use a menu file (*.mnu/*.mns) which is integrated into desired AutoCAD profiles. When AutoCAD starts and loads all active menus, the appropriate menu lisp file(s) *,mnl are also loaded, if the particular files are present. From that application's menu lisp file it is really simple to load and start the application.

Additionally, the "Menu Integration" seems to be the most compatible, stable and comfortable method to include an application into AutoCAD. This method ensures best maintanance possibilities, and also allows user-dependent settings and easy activation/deactivation of the application by loading/unloading the appropriate menu file (*.mnu/*.mns).

With this method, the applications may be activated from the menu lisp file (*.mnl) by loading all its basic program files (*-lsp, *.arx etc.). Also, with lisp program code inside the menu lisp file, it is easy to adapt the application's startup procedure accordingly to the given environment (AutoCAD Vailla, MAP, AutoCAD LT etc.).

Important Tip: there is an undocumented AutoCAD systemvariable, indicating the AutoCAD version:

(getvar "program") will give "ACAD" for any AutoCAD, or "ACLT" for AutoCAD LT

Features

Here is a summary on all major features of "Acad_Reg" tool; all features are described in the "Parameters and Settings" chapter below.

- completely controlled by fixed settings file "Acad_Reg.ins" or specified settings file
- all messages and dialog labels are translatable
- support for multiple language installations
- included support for registration with AutoCAD LT
- integration into AutoCAD is profile-dependent
- supports new profile creation based on selected profile
- supports creation of desktop icons for each profile
- supports creation of program icons within a given startmenu group
- supports application's bitmap for desktop icons
- supports "Current User" and "All User" for all settings
- supports single and multiple registrations
- supports intelligent UNC and Local path handling
- supports additional "Support Path" and "Template Path" registration
- automatically updates program location and program language

Parameters and Settings

"Acad_Reg" tool is completely controlled by a settings file named "Acad_Reg.ins" which contains all settings, parameters and messages. Alternatively, a different settings file may be specified as commandline parameter (Acad_Reg.exe MySettings.ins). A suitable example for all files are included, please refer to the "Sample.*" files as indicated.

The settings file contains several sections [Sectionname] – please refer to "Acad_Reg.ins" example.

At least, the **[GENERAL]** and one [**LANGUAGE-NAME]** sections are nessecary, additional languages may follow; all provided languages are listed in the dialog's "Language listbox", if only 1 language is provided, the listbox is disabled.

[GENERAL] this section contains all settings to control the program behaviour

APPLICATION=<MyApp>	specifies the application's name
ICONFILE=MyApp.ico	optionally; specifies the icon resource (*.exe/ico/bmp)
MNUFILE=Sample.mnu	specifies the menu file to integrate into selected AutoCAD profil(s)
MNLFILE=Sample.mnl	appropriate menu lisp file; program's root path is saved into the *.mnl file
LNGFILE=Sample.ini	optionally; the name of an ini file, where to save the selected language name
SET_MNL_FILEPATH=app_install_path	specifies a Lisp variable, that will be set to the program's root path; written as "(setq app_install_path <rootpath>)" into the specified menu lisp file (see MNLFILE parameter)
SET_LNG_LANGUAGE=language-name	specifies an ini key, that will be set to the selected language; the entry "language-name <selected language>" is written to the specified Ini file (see LNGFILE parameter)
MENUGROUP=SampleApplication	name of the menugroup in menu file (see MNUFILE)
POPUP=POP1	name of the first popup to be shown or not (see below)
SHOW_POPUP=1	specifies wether the popup is to be shown; -1=disable, 0=off, 1=on
CREATE_ICONS=1	specifies, wether desktop icons shall be created for each selected profiles; -1=disable, 0=off, 1=on
CREATE_SHORTCUTS=0	specifies, wether to create shortcut icons for the specified startmenu group (see below); -1=disabled, 0=off, 1=on
PROGRAMGROUP_NAME=MyApp	specifies the (existing !) startmenu group, where shortcut icons shall be created; if empty, the checkbox is disabled
ALLOW_MULTI_INSTALLS=1	specifies, wether the application may be integrated into more than one profile; 1=allows multiple profiles, 0=single profile
ALLUSERS_ICONDESKTOP=0	specifies, wether icons are created for "Current User" or "All Users" : 1="All Users", 0="Current User"
CONVERT_UNC_2_LOCAL=1	specifies, wether UNC pathnames are converted into local pathnames (if available); 1=convert, 0=do not convert
LT_INSTALL_PROG=LTSetup.exe	specifies the program to Register with LT, or empty
LT_UNINSTALL_PROG=LTUninst.exe	specifies the program to Un-Register from LT, or empty

The following keys are for internal use only – please do not change these settings !
Except: you can adjust SEARCHKEY_X settings
//------------- DO NOT CHANGE ANY SETTINGS HERE !!! -------------
SEARCHKEY_1=R16.0   main Registry key for Acad 2004 based Acad versions
SEARCHKEY_2=R15.0   main Registry key for Acad 2000-2002 based Acad versions
SEARCHKEY_3=R14.0   main Registry key for Acad14 based Acad versions
AUTOCAD_INSTALL_BASEKEY=HKEY_LOCAL_MACHINE\SOFTWARE\Autodesk\AutoCAD
AUTOCAD_PROFILE_BASEKEY=HKEY_CURRENT_USER\Software\Autodesk\AutoCAD
LOCATION_KEY=AcadLocation
PRODUCTNAME_KEY=ProductName
VERIFY_PRODUCTNAME=UnKnown
PROFILE_KEY=Profiles
MENUS_KEY=Menus
MENUGROUP_KEY=Group
MENUPOPUP_KEY=Pop
//------------- DO NOT CHANGE ANY SETTINGS HERE !!! -------------

[ENGLISH]   this section contains all messages and dialog labels for English language
All other sections except the [GENERAL] section are treated as language section(s) – you may therefore specify more than 1 language section if multiple languages are supported by your application. Each language section contains all program messages and dialog labels – please adjust them according to your needs; If nessecary, please add further language sections.

Some Notes on "Acad_Reg" Usage and Handling

General notes
It is suggested to include a link to "Acad_Reg.exe" into your application's startmenu program group – this will ensure that users can review and change the integration of your application due to their needs.

Handling AutoCAD versions
Using SEARCHKEY_X entries, you can define particular or multiple AutoCAD versions which shall be managed by Acad_Reg. X must begin als number 1 and can be incremented for eacg AutoCAD version.
Examples:
If you application is compatible with AutoCAD R2000 and R2004, you can specify :
    SEARCHKEY_1=R15.0
    SEARCHKEY_2=R16.0

Handling AutoCAD profiles
The user can restart "Acad_Reg" at any time later for both information and changing the profiles' settings – this means, the user can remove the application from one profile, and include the application into another profile – all desktop icons and support path names (if any) are automatically updated.

Handling the Application's root pathname
When "Acad_Reg" is started, the location of "Acad_Reg" (usually the applications installation folder !) is saved into the specified menu lisp file (see MNLFILE and SET_MNL_FILEPATH setting) with 2 entries

   (setq app_install_path "\\\\Server_1\\ProgramDisk\\MyApplication")
   (setq app_install_path_local "x:\\programs\\MyApplication")

"Acad_Reg" will generally save the program's root folder both as UNC convention name, and as local disk name, to provide highest flexibility (i.e. when running on a notebook !). These entries are always updated when "Acad_Reg" is started – if the program folder is moved, only "Acad_Reg" needs to be re-started again to correct these settings.
The sample menu lisp file (Sample.mnl) demonstrates, how to handle program startup from inside the menu lisp file, and how to select the suitable path, based on these 2 settings, – please refer to this example ….

Handling UNC pathnames
With setting CONVERT_UNC_2_LOCAL=1 given, all UNC pathnames are saved as local pathnames, if any suitable drive mapping(s) exist – this will ensure best stability, especially for notebooks in offline mode ! Because of a severe AutoCAD bug with limited support pathes length, using as less & short support pathes as possible is highly recommended ! Therefore, CONVERT_UNC_2_LOCAL=1 should be used ! Because of its intelligent UNC handling, "Acad_Reg" will save both UNC and Local pathname into the menu lisp file (*.mnl) to provide independence and flexibility – there is really no negative impact using this setting !

Handling AutoCAD Support pathes and Template path

"Acad_Reg" offers powerful support to manage AutoCAD's support and template pathes. For all profiles the "Support Path" setting is checked – all invalid pathes are automatically removed (to improve stability for Acad). If you need to include support pathes and/or template path for your application, please add a file **"Acad_Reg.pl"** – all pathes given there are automatically added to each selected profile. This file may be manually edited, or automatically created by your installer. **Recommended:** use a pre-defined "Acad_Reg.pl" file with relative pathes – "Acad_Reg" will expand those relative (subfolder-)pathnames to absolute pathnames before adding them to the profile.

Please see sample file "Acad_Reg.pl" for further details on how to specify support pathes and template path.

3. AutoCAD LT Registration Tool "LTSetup.exe"

TM-CAD Engineering has developed the "LTE 2000" kernel to allow AutoCAD applications to be loaded and executed in LT environment – for ARX and LISP interface applications. LTE kernel is designed to manage an unlimited number of applications (like our LT-Extender and LayerManager) on a local PC – installation of LTE kernel and LTE based applications is managed by its own setup tool : **"LTSetup.exe"** and **"LTUninst.exe"**.

LTSetup/LTUninst both offer the user interface for LT integration and full command line processing as well. Without command line option(s), LTSetup/LTUninst will tun in interactive mode, command line options offer perfect integration into the application's installation process.

During installation of your application, the installer software may run "LTSetup.exe" silently to integrate your application into LT without any visible action – at later time, the user may review and change the integraton by running "LTSetup.exe" interactively from startmenu group.

General notes
It is suggested to include a link to "LTSetup.exe/LTUninst.exe" into your application's startmenu program group – this will ensure that users can review and change the integration of your application due to their needs.

Managing AutoCAD LT versions

LTSetup/LTUninst will automatically detect which AutoCAD LT versions are supported by included LTE Kernel files, and will therfor only list appropriate LT versions on the dialog.

For AutoCAD LT 2000-2002 versions : files LTE2000.mod, LTE2000.msg, LTE2000.sys are required
For AutoCAD LT 2004 versions : files LTE2004.mod, LTE2004.msg, LTE2004.sys are required

By combining these LTE Kernel files, developers can exactly adjust which LT versions shall be supported.

Command line options

Both "LTSetup.exe" and "LTUninst.exe" offer several command line options to support perfect integration into application's installation process.

The following command line options are supported:
/A – All versions : (un)registers LTE & application to all LT versions installed; does not show the dialog
/S – Silent setup : does not show success / failure message box

Using both /A and /S options is recommended to be used for silent (un)registration with all LT versions.

Language support

"LTSetup/LTUninst" automatically offers support for 2 languages : German and English – the language selection depends on the Operating System's configuration.
If you need another language to be used by "LTSetup/LTUninst", you may supply the optional message file "LTSetup.msg" with translated message texts. If this optional file "LTSetup.msg" is present, all messages are loaded from there, instead of using internal messages.

Example: to have "LTSetup.exe/LTUninst.exe" with Italian interface, provide the file "LTSetup.msg" and translate all messages to Italian language.

Please see sample file "LTSetup.msg" for further details; this sample message file uses English, and may be translated to desired language.

Handling AutoCAD LT Support pathes and Template path

"LTSetup" also offers support to manage AutoCAD LT's support pathes and template path. For all AutoCAD LT versions, the "Support Path" setting is checked – all invalid pathes are automatically removed (to improve stability for LT). If you need to include support pathes and/or a special template path for your application, please add a file **"LTSetup.pl"** (LT2000-2002) resp. **"LTSetup-2K4.pl"** (LT2004) – all pathes given there are automatically added to each selected LT version. This file may be manually edited, or automatically created by your installer.

Recommended: use a pre-defined "LTSetup.pl/LTSetup-2K4.pl" file with relative pathes – "LTSetup" will expand those relative (subfolder-)pathes to absolute pathes before adding them to selected LT versions.

During Un-Registering with "LTUninst.exe" all support pathes are removed from selected LT versions again.

Please see the sample files "LTSetup.pl/LTSetup-2K4.pl" for further details on how to specify support pathes and template path.

Adding the Applications Menu to AutoCAD LT

Most of the applications (wether they are running with AutoCAD and/or LT) will use their own menu pulldowns. "LTSetup" offers support to manage the application's menu and to integrate the menu into LT. You may define 1 "SETMENU" entry with the following syntax :

SETMENU # menufile menugroup popX [show]

menufile: may include the pathname, same path definition rules like ADDPATH; extension is optional
menugroup: is the name of the menugroup defined by menufile
popX: is the first Popup-Identification defined by menufile with "***POPn", i.g. POP1
show: defines, wether the Popup is to be shown; if not given with 'show', the popup is not shown

Example: SETMENU # .\Support\AppMenu.mnu AppMenuGroup Pop1 SHOW

Recommended: use a pre-defined "LTSetup.pl" file with your menu using a relative path – "LTSetup" will expand the relative path to absolute path when saving the settings to the Registry for selected LT versions.

During Un-Registering with "LTUninst.exe" the menufile is removed from selected LT versions again.

Please see the sample files "LTSetup.pl/LTSetup-2K4.pl" for further details on how to specify the application's menu to integrate.

Automatic Un-Register from AutoCAD LT during Un-Installation

It is absolutely safe to remove your application even if it was not unregistered from AutoCAD LT before.

Usually, the user should manually un-register your application from all AutoCAD LT versions, before uninstalling the application – but this is only recommended, not nessecary.

But it is best and therefore recommended to un-register your application and its LTE kernel from AutoCAD LT during uninstallation by running LTSetup/LTUninst as shown below :

Usage: your application's uninstaller should call
LTSetup.exe /U /S /A
- or -

LTUninst.exe /S /A
before removing the application …. that's all ! The system registry is updated and your application's LTE kernel is then removed….