

Audio Faucet for OSX and Windows

Version 1.5 20060326 - Pre-Release

March 26, 2006

afsupport@digitaldroplet.net

Web Home:

For Information on "AudioFaucet" please visit:

<http://www.digitaldroplet.net>

About AudioFaucet:

"AudioFaucet" is an innovative TiVo HME application that allows you to effortlessly control the flow of music within your household.

If you have the latest version of iTunes installed we allow you to completely control playback of iTunes via Apple Airport Express, Computer Speakers or stream iTunes MP3 Format Audio to your TiVo directly. (Currently we do not stream AAC files)

It works with iTunes on both the Windows and Mac platforms, provides a slick interface which allows you to navigate your music collection while displaying the album art on your TV.

It overcomes a fundamental limitation of the Airport Express (no display) and allows users to be able to control the playing of music from the iTunes Music Store (which would otherwise be unstreamable due to DRM) with the help of AirTunes Express Units.

Don't have iTunes? No Problem. We also have the ability to browse and stream MP3's from any folder on your system.

Features Include:

- User customizable display settings (Backgrounds/Themes)
- Full iTunes Library Browsing by Playlist, Artist, Album, Genre, Podcasts
- File System MP3 Browser Support. (if you don't have iTunes)
- Apple AirTunes Detection and iTunes audio stream control
- Stream MP3 Format Audio direct to your TiVo (AAC files are not yet supported)
- Cover Art display (if none exist it will try to fetch from Amazon)
- Full Song information display
- Duration/current play position display/control
- Next/Previous song control
- Star rating display/control (in iTunes Mode)
- Playlist shuffle toggle (in iTunes Mode)
- Music Library Shuffle display/control
- Host computer name display (run it on as many systems in your home as you want)
- iTunes operation via host computer triggers display/control updates
- Alerts users that newer versions are available
- Remembers settings per TiVo in the home
- Setup Wizard and Preferences Screen

Default Audio Mode:

When "AudioFaucet" is first started on any host computer it searches for iTunes, if it can not find iTunes it will allow you to set a MP3 folder to get music from on your hard drive. File Based MP3 will stream your MP3

If you have iTunes installed on your machine, by default iTunes audio will not come from the TiVo directly, If you wish to stream MP3 direct to TiVo Simply go to the Set Audio Output screen and Select "Stream to TiVo". This will restrict the Audio Browser to MP3's that are in your iTunes Library and pause any currently playing music in iTunes on the host machine.

When in iTunes mode, default iTunes Audio will not come from the TiVo directly, If you wish to stream MP3 direct to TiVo Simply go to the Set Audio Output screen and Select "Stream to TiVo". This will restrict the Audio Browser to MP3's that are in your iTunes Library and pause any currently playing music in iTunes on the host machine.

If you want to hear protected iTunes audio from outside your computer system you should connect an AirPort Express with AirTunes or the host computer itself to your stereo system. We will find the AirPort Expresses on your Network and fully automate the process of selecting the proper sound output for iTunes. (we will even tell you if there are speakers/recievers connected to the Airport Express)

Main Menu:

Now Playing: Currently Playing Song Info/Control
Shuffle Music: Play Random music from your Music Library
Browse Music: Surf your Music Library
Settings: Customize your AudioFaucet Experience
Help: Display Remote Commands

Settings Menu:

Background Colors: Make "AudioFaucet" match your Decor
Now Playing Themes:
 Now Playing: Elegant and detailed display of information about your music
 Full Length Mirror: Black background with a mirrored artwork effect
 Wandering Banner: Cover Art/Title/Artist/Album information move around screen
 Artwork On Display: Full Screen Cover Art / Simple Artist/Album/Song/Rating Info
Screen Saver Options:
 Wandering Banner: Will activate Wandering Banner
 Blank Screen: Will clear the screen
 No Screen Saver: Will never activate the screen saver
 *** WARNING: We are not responsible for screen burn in ***
Audio Output:
 Stream to TiVo: Will find only MP3's and stream them directly to your TV
 <<Hostname>>: Music comes from iTunes Host Computer Speakers
 <<AirTunes name>>: Remote Controls iTunes to select any AirTunes units on your Network.
iTunes Volume: See/adjust the current Volume Level of the iTunes host

Now Playing Remote Commands:

Top Navigation Control:	Menu Navigation
Thumbs Down:	Star Rating Down
Thumbs Up:	Star Rating Up
Channel Up:	Move to next song
Channel Down:	Move to previous song
Play:	Play
Pause:	Pause
Reverse:	Previous Song
Forward:	Next Song
Replay:	Start of Track / Previous Track
Numbers 0-9:	Change Background Color
Clear:	Blank Screen
Enter:	Toggle shuffle for current playlist

Music Browser Remote Commands:

Pause:	Pause Playback
Play:	Play Music Selected
Replay:	Back to previous letter in alphabet
Tick Skip:	Forward to next letter in alphabet
Numbers 0-9:	Jump to percentage of Menu Listing
Info:	Jump to Now Playing from any screen

How To Install:

OSX Users should drag the program icon from the .dmg file to their preferred location on their computer.

Windows Users should run the Included Installer.

How To Run:

OSX Users should double click the "AudioFaucet" Program Icon in the folder where they placed "Audio-Faucet"

Windows Users should double click the "AudioFaucet" Program Icon in the Start Menu.

On TiVo:

In order to use "AudioFaucet" and other Applications that are created using the new HME SDK you need to have TiVo Software version 7.2.1 or higher installed on your TiVo. If you do not currently have version 7.2.1 installed on your unit, you can request that TiVo upgrade you at:

<http://research.tivo.com/priority>

You can tell that HME is activated if on the Main TiVo Screen the "Music & Photos" menu option is now called "Music, Photos & More".

Select "AudioFaucet on <<COMPUTER NAME>>" from inside that menu.

NOTE: If your TiVo sticks on the "Please Wait..." when trying to run "AudioFaucet" it means that the TiVo can't communicate with the "AudioFaucet" application on the host computer. This is most often caused by the firewall being enabled on the host computer or AudioFaucet bonding to an improper IP interface on your machine. You can set which IP interface and port that AudioFaucet runs on through the Preferences menu within AudioFaucet on your host computer system. Be sure to set your Firewall settings to match the port you select.

Host System Requirements:

Minimum Windows Requirements:

- Windows 2000 or XP
- Java VM 1.4 or later
- 500 MHz Pentium or better
- 256MB RAM
- Network Connection (Wired or Wireless)

Recommended Windows Requirements:

- Windows XP
- Java VM 1.5 or later
- 1Ghz Pentium 4 or better
- 512MB RAM
- Network Connection (Wired)

Minimum Mac Requirements:

- Mac OS X 10.2.8 or later
- 500 MHz G3 or better
- 256MB RAM
- Network Connection (Wired or Wireless)

Recommended Mac Requirements:

- Mac OS X 10.4 or later
- 1Ghz G4 or better
- 512MB RAM
- Network Connection (Wired)

OSX users who have moved their iTunes library should check to make sure that you do not have their library aliased to another location. If you do, Please move the alias over to a Symbolic Link instead.

There is a great tool for doing symbolic links available at:

<http://seiryu.home.comcast.net/symboliclinker.html>

Windows Users who's iTunes library contains music from a network share (not mapped as a network drive) will find that some songs in your Library may be ignored by the music browser. To fix this remove any music that is shared over a network share from your library, map the share to a drive letter on your system and then re-import the music from that drive.

Network congestion and bottlenecked CPU/Memory can cause "AudioFaucet" to run slow. Try it for the trial and see if it runs fast enough for your needs on any of your machines. We are working on ways to enhance the speed that AudioFaucet runs on all systems.

Guided Tour:

Main Menu/Global Application:

Used to navigate through the program.

Press Info from any menu to jump to the Now Playing Screen

Press Pause from any menu to stop playback of audio (this can often speed up menu operations)

Now Playing/Full Length Mirror/Wandering Banner/Artwork On Display/Shuffle Music:

Shuffle Music pushes Now Playing and automatically puts your Music Library into Shuffle Mode.

From these screens you can:

Hit Play to Play the currently selected song

Hit Pause to Pause the currently selected song

Hit Replay to go back to the beginning of the currently selected song

Hit Rewind to go back one song in the playlist

Hit Forward to go forward on song in the playlist

Hit Thumbs Up/Down to Rate the currently selected song

Hit Channel Up/Down to Move to the next/previous song

Hit Enter to toggle shuffle on the current playlist

Hit Clear to fade the screen away/back (exiting the screen also un-fade it if Cleared)

Browse Music:

Used to navigate your Music Library.

From this screen you can:

Navigate through all your music using standard Tivo Controls.

Press Play on any Artist, Album, Genre Category, Playlist, Podcast, or Song

This screen will create and play a custom playlist containing everything under it.

Settings:

Used to customize "AudioFaucet" for the TiVo it is currently running on.

We remember your settings for future launches of "AudioFaucet".

From this screen you can:

Select Background Colors for all Menus/NowPlaying.

Select Now Playing Layout Style/Theme

Select Screen Saver behavior

Select Audio Output Preferences (if in iTunes Mode)

See/Change your current Host Computers iTunes Volume.

More on Audio Output: (iTunes Mode)

Used to set the audio device that you want to hear your iTunes Music on.

From this screen you can:

Stream to TiVo allows you to play your iTunes MP3 format music directly on the TV.

Music Browser will adjust to show only MP3 audio files.

iTunes Audio Output Control

<<Host Computer Name>>

Displays the name of the host computer

Hitting Select moves audio to the Host Computer Speakers

<<Airport Express Name>>

Displays the name and statistics of every AirPort Express unit on your Network.

Hitting Select moves audio to that source.

This allows you to have full control over iTunes Music Store Purchases.

Move from room to room and take your music with you.

Help:

Display Remote Commands

KNOWN ISSUES:

There are no known issues in this build.

REPORTING A BUG:

In order to make sure that we get as much information as possible we ask that if anyone is submitting a bug in "AudioFaucet" that they go to:

<http://www.digitaldroplet.net/bugs>

VERSION HISTORY:

Version 1.5

- * Speed Optimizations
- * Stability Optimizations
- * iTunes Library Browser w/ podcasting support
- * File Based MP3 Browser (no longer need iTunes)
- * Audio Output (AirTunes) Selection Menu
- * Stream MP3's Direct to TiVo
- * Amazon Artwork fetching if none exists
- * New Skin
- * Screen Saver Settings
- * Now Playing Theme: Wandering Banner
- * Now Playing Theme: Artwork On Display
- * Full Preferences System per TiVo
- * Setup Wizard and Preferences Screen
- * Static Interface and Port Setting Interface
- * Exit confirmation screen when audio is playing
- * Non-default iTunes XML location parsing
- * 20060214: Better ID3 Tag Reading Support
- * 20060214: Faster Browser Play
- * 20060214: Less CPU intensive on OSX
- * 20060214: Supports JPEG files in same directory for File MP3 Mode
- * 20060214: Alphabet Skip Next/Previous Letter with Trick/Replay buttons in Browser
- * 20060219: Fixed Settings Screen not saving settings
- * 20060219: Fixed Artwork in File MP3 Mode
- * 20060219: Fixes in AirTunes Selection Logic
- * 20060219: Speed up Shuffle Play in Windows iTunes Mode
- * 20060326: Improved Memory Management
- * 20060326: Speed up Shuffle Play in all modes

Version 1.1:

- * Welcome Windows Users
- * Speed Optimizations
- * Stability Optimizations
- * Graphical Optimizations
- * Volume/Mute Controls for Simulator

Version 1.0 OSX:

- * First Release for OSX

Special Thanks:

Chester Schendel: For helping us refine our UI

Visit his site at: <http://www.schendeldesign.com/>

Peter Solderitsch: For helping refine program behavior

Visit his site at: <http://www.grammar-rodeo.net/>

The fine folks at TiVo

Everyone who actively submitted bugs :-)

All the kind people who donated to the development coffee fund.

Enjoy!

Included External Works:

TiVo HME SDK	http://www.tivo.com/developer
Apache Log4J	http://logging.apache.org
Apache Commons	http://jakarta.apache.org/commons
Apache Xerces	http://xml.apache.org
JID3	http://jid3.blinkenlights.org
HSQLDB	http://hsqldb.org
BrowserLauncher	http://browserlauncher.sourceforge.net/
JDIC	http://jdic.dev.java.net/
JRegistry	http://sourceforge.net/projects/jreg
mp3spi	http://www.javazoom.com
jl	http://www.javazoom.com
tritonus	http://www.tritonus.org

EXTERNAL COPYRIGHTS AND LICENSES

Apache License

Version 2.0, January 2004
<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the

Licensors for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.
4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:
 - (a) You must give any other recipients of the Work or Derivative Works a copy of this License; and
 - (b) You must cause any modified files to carry prominent notices stating that You changed the files; and
 - (c) You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
 - (d) If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with

the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.
9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

APPENDIX: How to apply the Apache License to your work.

To apply the Apache License to your work, attach the following boilerplate notice, with the fields enclosed by brackets "[]" replaced with your own identifying information. (Don't include the brackets!) The text should be enclosed in the appropriate comment syntax for the file format. We also recommend that a file or class name and description of purpose be included on the same "printed page" as the copyright notice for easier identification within third-party archives.

Copyright [yyyy] [name of copyright owner]

Licensed under the Apache License, Version 2.0 (the "License");
you may not use this file except in compliance with the License.
You may obtain a copy of the License at

<http://www.apache.org/licenses/LICENSE-2.0>

Unless required by applicable law or agreed to in writing, software

distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.

ORIGINAL LICENSE (a.k.a. "hypersonic_lic.txt")

For content, code, and products originally developed by Thomas Mueller and the Hypersonic SQL Group:

Copyright (c) 1995-2000 by the Hypersonic SQL Group.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the Hypersonic SQL Group nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE HYPERSONIC SQL GROUP, OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;

LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This software consists of voluntary contributions made by many individuals on behalf of the Hypersonic SQL Group.

For work added by the HSQL Development Group (a.k.a. hsqldb_lic.txt):

Copyright (c) 2001-2005, The HSQL Development Group
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of the HSQL Development Group nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL HSQL DEVELOPMENT GROUP, HSQLDB.ORG, OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

ORIGINAL LICENSE for "BrowserLauncher.java"

This code is Copyright 1999-2001 by Eric Albert (ejalbert@cs.stanford.edu) and may be redistributed or modified in any form without restrictions as long as the portion of this comment from this paragraph through the end of the comment is not removed. The author requests that he be notified of any application, applet, or other binary that makes use of this code, but that's more out of curiosity than anything and is not required. This software includes no warranty. The author is not responsible for any loss of data or functionality or any adverse or unexpected effects of using this software.

Credits:

Steven Spencer, JavaWorld magazine <http://www.javaworld.com/javaworld/javatips/jw-javatip66.html>
Java Tip 66

Thanks also to Ron B. Yeh, Eric Shapiro, Ben Engber, Paul Teitlebaum, Andrea Cantatore, Larry Barowski, Trevor Bedzek, Frank Miedrich, and Ron Rabakukk

author Eric Albert ejalbert@cs.stanford.edu
version 1.4b1 (Released June 20, 2001)

Original License for Jregistry

GNU LESSER GENERAL PUBLIC LICENSE Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.
59 Temple Place, Suite 330, Boston, MA 02111-1307 USA
Everyone is permitted to copy and distribute verbatim copies
of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

Preamble

The licenses for most software are designed to take away your
freedom to share and change it. By contrast, the GNU General Public
Licenses are intended to guarantee your freedom to share and change
free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some
specially designated software packages--typically libraries--of the
Free Software Foundation and other authors who decide to use it. You
can use it too, but we suggest you first think carefully about whether
this license or the ordinary General Public License is the better
strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use,
not price. Our General Public Licenses are designed to make sure that
you have the freedom to distribute copies of free software (and charge
for this service if you wish); that you receive source code or can get
it if you want it; that you can change the software and use pieces of
it in new free programs; and that you are informed that you can do
these things.

To protect your rights, we need to make restrictions that forbid
distributors to deny you these rights or to ask you to surrender these
rights. These restrictions translate to certain responsibilities for
you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis
or for a fee, you must give the recipients all the rights that we gave
you. You must make sure that they, too, receive or can get the source
code. If you link other code with the library, you must provide
complete object files to the recipients, so that they can relink them
with the library after making changes to the library and recompiling
it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the
library, and (2) we offer you this license, which gives you legal
permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

GNU LESSER GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

1. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

- a) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative

work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these

materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

- a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
- b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library

subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.

11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by

the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>

Copyright (C) <year> <name of author>

This library is free software; you can redistribute it and/or modify it under the terms of the GNU Lesser General Public License as published by the Free Software Foundation; either version 2.1 of the License, or (at your option) any later version.

This library is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General Public License for more details.

You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!