MUI - MagicUserInterface

A system to create and maintain graphical user interfaces

- User Documentation -

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1 Introduction

1.1 The concepts behind MUI

MagicUserInterface (also known as MUI) is a complete system to create and maintain graphical user interfaces. The creating GUIs has been a big problem for a very long time. Mainly because the programmer got only a minuscule amount of support from the operating system. Beginning with Kickstart 2.0, the '`gadtools library`' was a step in the right direction, however, even using this library to generate complex and flexible interfaces remained difficult and still required a great deal of patience.

Today there are tools available that make the use of '`gadtools library`' much more simplified, but even these alternatives are not often satisfying.

The largest problem in existing tools for the creation of user interfaces is the inflexible output. Most of the programs are still using built-in fonts and window sizes, thus making the use of high resolution graphics hardware adaptors nearly unbearable. Its been said that Amiga users have had to live with such similar shortcomings all along. Even the preference programs on the Workbench are still only using the default font, topaz/8!

MUI corrects all these disadvantages! The central scheme behind MUI assumes that only the user (and not the programmer) of an application knows how the program he is using best fits his personal needs, and that of his computer system. Because MUI applications don't contain any absolute values for sizes or positions, the programmer instead only defines objects and groups of objects. Such objects are defined on run time by MUI according to the users settings.

Consequently, an MUI application gives the user **many** more important advantages:

- Font sensitivity

  In MUI Its possible for the font to be set in every application. No more times where the A2024 users had to suffer from the programs that only used the tiny topaz/8 font. Even better, MUI gives the user no restrictions on which fonts he may use, especially proportional fonts! The proportional fonts make a program much more appealing and even reduces the space a program's window uses.
- Changeable window sizes

  All MUI windows have a sizing gadget which allows users to change the window size until it suits their needs. The smaller a window becomes, the closer control items within the window come

together. The larger the window, the more space that will be used for displaying information (e.g. in list-views). The size and position of every window can be saved, thus giving you your favorite setting every time you start the program.

– Flexibility

  Almost all elements can be changed by the user regarding their own personal tastes. The user can define the thickness of borders, how the scroll-bars look, mhich images have to be used, and how much space should be inserted between the lines of a list-view. MUI gives the user a lot of options to change the look and feel of an MUI based application.

– Controlling by keyboard

  Most of the time it is expected that graphical user interfaces (GUIs) and of course MUI applications as well, are controlled by the mouse. However, many users prefer the use of the keyboard for faster execution of operations, and because it can be more comfortable. Because of this, all MUI objects (e.g. string gadgets, radio buttons, or list-views) can be controlled by the keyboard as well as by the mouse! You can even put away your mouse completely if you wish! Its no longer needed!

– System integration

  MUI applications cooperate with the operating system in many ways. Every program can be iconified and uniconified by pushing a gadget or by using the Commodities exchange program. Furthermore, every MUI application has an ARexx-Port that allows you full remote control (and more) over the user interface.

– Adjusting to its environment

  It doesn't matter which screen or screen size your MUI applications run on. Workbench or public, 640x200 or 1280x1024 pixels, 4 or 256 colors, it doesn't matter! Every application can be made to open on any screen, and adapts itself to it's environment.

All of the MUI settings listed above (and more) can be changed by the user via the MUI preferences program. This can be set for every program in one setting (global) or can be set for each and every single application.

1.2 System Requirements

MUI requires version 2.0 of the Amiga operating system or higher.

Kickstart 1.3 is *not* supported; this operating system has been considered to be obsolete.

The use of MUI on a harddisk is *highly* recommended, although floppy disk usage is still possible. Due to the modular concept behind MUI the first application startup may last "a little" longer.

MUI does not require a special processor, but of course the faster CPUs make life easier. Many complex calculations are needed for the management and layout of the objects, so a "base" 68000 based machine could be a tad slow.

MUI applications can run on machines only equipped with 512K of free RAM, but could become obsolete quite soon. One Megabyte (1024K) RAM should be sufficient even for the most complex MUI applications.

1.3 Installation

MUI is distributed together with the Installer program from Commodore. Therefore making installation a breeze! Just double-click on the '`MUI-Install`' icon and the installation procedure is on it's way.

2 Using MUI Applications

2.1 Windows

As mentioned previously, nearly all MUI windows are resizeable. This allows the user to determine if he wants his control items (i.e. buttons, list-views, a.s.o.) small and space saving, or bigger and easy to use. It would be very annoying to adjust the size and position every time an application appears, all MUI windows remember their size and positions and uses these values when the application appears again. This is true for the "normal" window position and size as well as for the values of the window in a "zoomed" state. (after hitting the zoom gadget)

After rebooting the data for the windows are usually lost, if you have not saved them by hitting the 'Save' button in the preferences window. By doing so, all data regarding the windows are saved and are available even after a reset.

In addition to the depth and soom gadget there is a third button in the title-bar of every MUI window. This button is used to iconify the whole application. All windows (and screens if available) in the application are closed and a little appicon appears on the Workbench or default screen. Double-clicking on this appicon makes the program open its window(s) (and screen) again.

2.2 Keyboard control

All control items in an MUI window can be controlled completely by the keyboard. All the known keyboard shortcuts (marked by an uderscore character) are supported. However, this method is limited if used with list-views or cycle gadgets.

Because of this the TAB cycling (up until now only used for string gadgets) has been made available for MUI applications. You can activate every object (not only string gadgets) by hitting the TAB key. As soon as you activate an object it can then be controlled by the keyboard.

– Button gadgets

  Return is the equivalent to clicking the gadget with the moust button. Pressing and releasing a button is handled in a different way. If you push a knob and then wish you cancel this action, you may do so by additionally pushing Shift before releasing the Return key.

- Checkmark gadgets

  An active checkmark gadget can be controlled by `Space` or `Return`. The value of this gadget is toggled every time you press the corresponding key.

- Slider gadgets

  The value of the horizontal or vertical slider gadgets can be changed by using the four cusor keys. Using qualifier keys additionally allows you to change the increase/decrease amount of the sliders.

- Cycle gadgets

  An active cycle gadget can be switched by using the cursor keys. The `Return` key pops up a popup menu (as long as you did not disable this feature in the MUI preferences program).

- Radio-Buttons

  Radio buttons are also controlled by the cursor keys.

- List-Views

  In an activated list-view the cursor can be moved line by line using the cursor keys and together with the corresponding qualifier keys pagewise or even to the top or to the bottom. The `Return` key simulates a double-click.

  If multiselecting is allowed in a list-view, you can select the different items by using the `Space` key.

- Windows

  For applications opening several windows simultaneously you can switch from one window to another by using the `Alt-Tab` key or the `Shift-Alt-Tab` key respectively. If the window has a close gadget , you can hit the `ESC` key to close the window.

All information refers to the default settings. With the preferences program, you can change all the keyboard combinations until the suit your needs.

2.3 Cycle gadgets

Besides the MUI cycle gadgets supporting their “normal” function (next entry by clicking on them, previous entry by holding `Shift` additionally), offers a menu feature. This popup menu appears as soon as the text section of the cycle gadget is hit, then allows a quick and easy selection of one of the listed entries.

The behaviour of the popup menus can be influenced within the listview section of the MUI preferences program.

2.4 Commodities interface

Every MUI application ties itself in the system as a commodity. This is nice in that the user can control any MUI application via the '`Commodities Exchange`' program, i.e. MUI Applications can be iconified or canceled.

2.5 built-in ARexx Port

Every MUI application is able to receive commands via the built-in ARexx port. Here are some default commands which are understood by every program:

- QUIT
  Ends the application.
- HIDE
  Hides (iconifies) the application
- SHOW
  Shows (pops up) an iconified application.
- INFO ITEM/A
  According to the given parameter the result string is filled with the following contents:
  - "title" Title of the application
  - "author" Author of the application
  - "copyright" Copyright message
  - "description" Short description
  - "version" Version string
  - "base" Name of the ARexx port
  - "screen" Name of the public screen
- HELP FILE/A
  A list of all ARexx commands available for the application is written into the given file. In addition to the default commands an MUI application can (and of course should) support many application specific commands. The help list will contain these commands as well.

In case of an error, MUI returns the following values to the rexx script:

- -1
  Wrong command definition in host program. Should never happen.

– -2
  Out of memory.
– -3
  Unknown ARexx command.
– -4
  Syntax error.

Some example scripts can be found in the '`Rexx`' drawer on the main directory of the distribution.

3 Preferences-Programm

3.1 Introduction

With traditional applications, the user usually has no or only very limited possibilities to influence the look and feel of an user interface. With MUI, interfaces are a lot more flexible. The programmer only specifies very few things about the position of particular gadgets, what actually is displayed on screen depends on the users preferences setting.

To adjust these settings, MUI comes with a preferences program called '`MUI`'. After installation, this tool can be found in the system's preferences drawer.

3.2 Main Window

The main window of the preferences program consists of three sections; an application info at the top, the traditional preferences buttons at the bottom and some configuration pages in the middle.

With the application popup at the top of the window, you can adjust the program for which you want to edit the preferences. MUI maintains a list of all previously started applications automatically. The special string "Global" indicates the global default setting. Usually you will configure a lot of global settings and only very few application specific changes, e.g. different public screens or iconify icon positions.

The middle part of the window is made up of several pages that contain all the possible configuration items. A detailed explanation for all groups follows in the next chapters.

At the lower part window border are the '`Save`', '`Use`' and '`Cancel`' buttons, already common in several of the system preference programs. Additionally you'll find a '`Test`' gadget which can be considered to be the most useful function in the preferences program. It will be handy in the beginning to use the '`Test`' options to play around with the different settings until you have found the configuration that best fits your needs. Pushing the `Test` button makes all currently running applications adopt their parameters from the new values. Thus making it possible to change the settings of a running application and immediately notice the consequences of your actions.

The ‘Use’-Gadget saves the changes to the ‘ENV:’ drawer and then ends the preferences program. Please note that the ‘ENV:’ directory usually resides in the ‘RAM DISK:’ and a reset discards all the settings made. If you want your settings to be permanent, please use the ‘Save’-Button. In addition to global and application specific settings, all window positions will be saved.

If you hit ‘Cancel’, all changes will be discarded. Applications that have already adjusted themselves to the new values because you hit ‘Test’ automatically return to their previous settings.

3.3 Font Page

MUI applications may use some user configured fonts:

– ‘Normal’

  This font is used for everything as long as no other font was explicitly specified by the programmer.

– ‘List’

  The default font for list-views.

– ‘Tiny’

  This font is used for small an quite unimportant descriptions. The lettering of the scale object (see ‘MUI-Demo’) is using this font for example.

– ‘Fixed’

  If a program needs a fixed width font, it uses this one.

– ‘Title’

  This font is used for the group titles.

If a font field stays empty MUI uses appropriate default fonts, i.e. the system default font for the fixed font and the default font of the screen for all the others.

3.4 Frames Page

Frames are important elements to create a straightforward graphical user interface and to separate single groups from each other. However, frames are a matter of taste, therefore you can change their appearance in several ways.

In usual (non MUI) Amiga programs, all frames have vertical lines with double the thickness of horizontal lines. This design was introduced lots of years ago when 640x256 with a pixel aspect ratio of nearly 1:2 was the standard resolution. Now days, hi-res graphic adapters and flicker-fixers often allow an 1:1 aspect ratio, eliminating the use of double width frames. MUI allows you to change the thickness of the frames using the '`Thickness`' cycle gadget.

Framed groups can have a title, and the color of this frame title can be set via the '`Title Color`' gadget. Currently three settings are available: Black, White and 3D.

The title of the group is centered horizontally at the upper part of the frame. Selecting '`Title Pos`' changes the vertical position of this title text. '`Centered`' centers the title text vertically, '`above`' sets the base line of the text to the position of the frame.

When a programmer creates a MUI application, he doesn't set the design, but only the type for the frames. For example, a button gadgets gets a button frame and a string gadgets gets a string frame. The appearance of the frames is determined by the user. Therefore all possible frame types are collected in a list:

- Button frame

  for usual button gadgets, as for example for the '`Edit`' button below this list.
- Image frame

  for small buttons that contain nothing but an image, e.g. the arrow gadgets in a scroll-bar.
- Text frame

  for text gadgets on which can neither be clicked upon nor can be edited and are used only to display information, e.g. status lines.
- String frame

  for string gadgets.
- Read list

  for list-views that only display a list and that can't be clicked upon.
- Input-List

  for list-views in which the user can select entries, e.g. all list-views of the MUI preferences program.
- Prop frame

  for all prop gadgets, used for example within scroll-bars and sliders.
- Group frame

  to group objects, for example the buttons for the subwindows of the MUI preferences program are surrounded by a group frame.

– PopUp frame
  frames a cycle gadgets popup menu.
– Virtual frame
  is used in virtual groups.

Right beneath the frame list, some gadgets allow adjusting the look of the currently selected frame. You can select one out of a list of predefined frames with the '`Type`' cycle gadget, every frame is offered in an either raised or recessed look.

Additionally, for every frame type, the distance between the frame itself and its contents can be changed by setting the appropriate slider gadgets.

At the upper right of the frame configuration page, some slider gadgets influence several spacing values such as window border spacing, inter group spacing and radio button spacing. Just try some changes to see what fits your taste.

3.5 Listview Page

The '`Leading`' value determines the number of additional pixels that are inserted between the lines of a listview to improve its readability. According to the font used and your personal taste, it could make sense to set higher values, especially if you use small fonts such as '`topaz/8`';

'`Smoothing`' enables smoothing of list-views. This setting effects the position of the list in that it doesn't follow the scroll-bar moves immediately, but instead is delayed for some short amount of time. The result is smoother scrolling! Selecting zero (0) prevents the list-views from doing any smoothing at all.

In multi select list-views the user can select either '`shifted`' or '`Always`'. '`Shifted`' enables the usual multi select mechanism, i.e. you have to hold down the `Shift` key while you are selecting the entries. If you select '`Always`', you don't have to hold down the `Shift` key.

'`Refresh`' determines the kind of the list-view refreshing. '`Linear`' refreshes the lines as usual from top to bottom, '`Intermixed`' refreshes the lines intermixed, what should result in a "nicer" appearance. Especially on slower machines!

The position of the arrow gadgets at the scroll-bars are controlled with the '`Arrows`' cycle gadget, and three different options are available.

The cycle gadgets of MUI supply a popup menu for easier usage, which is opened as soon as you hit the gadget. It allows an easy and quick selection of the desired entry.

'`Level`' determines the minimal number of entries that are needed to supply a popup menu. If you don't like popup menus, all you have to do is select a high value and you'll never see them.

Usually popup menus appear directly under the gadget. For fast usage and less mouse movement you can configure the popup menus in a way that let the active entry appear just below the mouse pointer. For this reason there are the two options for the '`Position`' gadget.

MUI offers a new register class which allows quick and easy selection of an active page within a page group. You can have a look at its layout by viewing the '`Preview`' picture coming with this distribution. The position of the '`Register Level`' slider determines up to which nesting count, page groups will be shown as registers. If you set this to 0, no register layout will be used at all, instead you will get standard cycle gadgets for page swapping. Page groups with more than '`Max Pages`' pages will always be shown with cycle gadgets.

3.6 Images Page

Graphical user interfaces often use little images, e.g. arrow buttons or slider knobs. A MUI application usually doesn't define these images itself, it just says it wants an arrow and MUI supplies this arrow. This allows the user to configure, how his arrows actually shall look like.

Here is a list of all available images:

- '`ArrowUp`', '`ArrowDown`', '`ArrowLeft`', '`ArrowRight`'
  Four arrows for the four different directions.
- '`CheckMark`', '`Radio-Button`', '`Cycle`'
  Used as image for the well known user interface elements.
- '`PopUp`', '`PopFile`', '`PopDrawer`'
  Images for popup buttons besides string gadgets. '`PopUp`' is used if neither a file nor a drawer is wanted.
- '`Drawer`', '`HardDisk`', '`Disk`', '`Chip`', '`Volume`', '`Network`', '`Assign`'
  Default images for the entries of a file requester.
- '`TapePlay`', '`TapePlayback`', '`TapePause`', '`TapeStop`', '`TapeRecord`'
  Used within tapedeck applications.

– ‘Prop Knob’, ‘Slider Knob’

  Image for the knob within a proportional or slider gadget.

– ‘BG Window’

  Used on every place that doesn’t match another background type.

– ‘BG Groups’

  Used within register pages or virtual groups.

– ‘BG Requester’

  Background for MUI requesters, e.g. for the ‘About’ requester of the preferences program.

– ‘BG Textfield’

  Framed text fields (e.g. status lines) use this background type.

– ‘BG Button’

  used for buttons containing text and for cycle gadgets.

– ‘BG Selected Gadget’

  a gadget which was selected is marked with this background (besides the inversion of the frame).

– ‘BG Listview’

  appears behind the lines of a listview.

– ‘BG Listview Cursor’

  the cursor in a listview.

– ‘BG Listview Selected’

  selected entries in a listview.

– ‘BG Listview Selected+Cursor’

  the cursor on a selected entry of a listview.

– ‘BG Prop-Gadget Container’

  the background in a prop gadget, i.e. the area on which the knob is moved around.

– ‘BG Slider Container’

  the background in a slider gadget.

The look of the active image can be configured with the right side of the image page. Several different image types are available:

– Pattern

  Some less complicated pattern are already built into MUI. These patterns are mainly used as backgrounds but might also be useful for some standard images (e.g. for prop gadget knobs).

– Builtin

  MUI offers a built-in design for all standard images, all of them are visible in this list. MUI's built-in images are scalable, they grow with the font size.

– Pen

  Mainly useful for background settings; you can select a specific color which will be used to draw a simple rectangle for the image. Three possibilities are offered for selecting a color: you can reference a system pen or a colormap entry or you can tell MUI to directly allocate a single color by specifying its RGB values. The last choice is only available with Kickstart 3.x and does only make sense if the parent screen contains enough sharable colors.

– Boopsi

  A Boopsi image a shared system library that contains some specific commands for drawing. Boopsi images support resizing and are mainly useful for things like prop gadget knobs.

– Brush

  MUI Brushs' are traditional ILBM brush files saved with a special color setting that allows MUI to translate these images to different screens with different colors. MUI comes with lots of brushes and you can of course take a paint program and draw your own ones.

  Note: These images are not resizeable.

– Alien (only for Kick 3.0 and above)

  Starting with Kickstart 3.0 there are the so called '`datatypes`' available. With these datatypes it is possible to load any picture file, no matter if its IFF, GIF or another format. MUI supports that and allows you to use any datatype picture for background or standard images in all applications.

Together with the '`All`', '`None`' and '`Guess`' buttons, you can simplify the task of selecting many images at once. If you click on '`Guess`', MUI will try to find a matching image for all currently selected items in the image list.

3.7 Pens Page

When drawing its user interfaces, MUI doesn't use the system supplied pens directly. Instead, it uses a private set of pens which usually reference the system pens but are also completely user adjustable.

Shine

used for shining edges of 3d looking objects.

Halfshine

used especially for the XEN frame design. Should be a color between shine pen and background pen.

Background

used for backgrounds.

Halfshadow

used especially for the XEN frame design. Should be a color between background pen and shadow pen.

Shadow

used for dark edges of 3d looking objects.

Text

used for all kinds of texts.

Fill

rarely used, maybe you can find it in some builtin rasters for image configuration.

ActiveObj

the active object is surrounded with this color.

3.8 System Page

The '`System window`' contains some settings that refer to the cooperation of MUI and the operating system.

The very first gadget here allows to adjust a public screen for the application. The popup button here also offers a way to the builtin screen manager.

Windows can be refreshed either '`smart`' (fast but eating chip memory) or '`simple`' (slower but no need for memory). The '`Window Refresh`' cycle gadget can be used to set one of these refresh types.

When redrawing windows after a resize operation, MUI also offers two possibilities, adjustable with the '`Window Redraw`' gadget. Just choose the one you like better.

The '`Iconify-Hotkey`' allows you to enter a key combination that iconifys the application (and pops it up again). The format is the same as the one described for the input events of the '`commodities.library`'.

If the '`Iconify-Gadget`' checkmark is set, every window of the application gets an additional gadget in the upper window frame that makes the window iconify as soon as you hit it.

Usually an appicon is created for every iconified application on the Workbench. Double-clicking this icon reactivates the application. If '`Iconify-Icon`' is not set, no AppIcon appears. The application activation can still be done via the iconify hot-key or the '`Commodities Exchange Program`'.

'`Start Iconified`' determines, if the application will be iconified at start-up. This will make sense, for example, if you place some tools into the '`WBStartup`' drawer, to make them available via keystroke.

All keys that are used to control the MUI applications, can be configured at the right side of the system group. The entries of the list directly refer to the keyboard actions, the format for entering strings is the same as the one used for the input events of the '`commodities.library`'. Special attention earns the '`Press`' key. MUI needs this key to be able to react on key releases. Therefore this qualifier description has to contain the string '`-upstroke`'. A new key is only accepted when you acknowledge the string gadget with `Return`. MUI does a syntax check on your inputs and beeps the display when the entered key is invalid.

3.9 Public Screen Manager

If an application is started, MUI looks for the configured public screen. When none is found, it checks the list of preconfigured screens from the builtin screen manager and if successfull, opens the screen with the specified properties.

The screen managers window is divided into three pages. On the '`Attributes`' page, you will find four string gadgets that allow configuration of a screens public name, his title, the default font and a background picture. The background picture can be any picture file as long as a matching datatype is installed in your system. This feature is only available under Kickstart 3.0 and above.

Besides these essential values, the screen can have the following features:

– '`Auto Scroll`'

  If the screen was set larger than the visible part was defined, it will be scrolled automatically as soon as the mouse touches the screen border.

– ‘`Draggable`’

  If the screen doesn’t have this attribute, it can’t be dragged.

– ‘`Exclusive`’

  The screen cannot share its display with other screens; it will be displayed separately (Kick 3.x only).

– ‘`Interleaved`’

  This attribute reduces - if set - the flicker, that appears especially during the scrolling of lists on colorful screens (Kick 3.x only).

– ‘`Open Behind`’

  The screen will be opened behind all other screens.

– ‘`System Default`’

  The screen is declared to be the system default screen. All windows that are opened on the system’s default screen (e.g. shell windows), are automatically routed here.

Size and resolution of the new screen are adjustable on the ‘`Display Mode`’ page. It offers gadgets similar to the system screen mode preferences program and shouldn’t need further explanation.

Finally, the ‘`Palette`’ page allows configuring a screens color palette. It works much the same way as the systems color preferences, but it doesn’t open a seperate screen. Thus, you will only be able to see your adjusted colors when you run Kickstart 3.x or above and when your workbench screens contains enough sharable colors. Just like system palette preferences, MUI allows to adjust the first and the last four colors of a screen.

3.10 CLI Interface

The MUI preferences program supplies a small CLI interface that can be used to give other programs access to MUI’s built-in screen manager utility.

The syntax is:

```
NAME,OPEN/S,CLOSE/S
```

NAME: Name of a preconfigured public screen

OPEN: Open screen

CLOSE: Close screen

3.11 ARexx Port

3.12 ARexx Port

The preferences program contains a simple ARexx port, defining the following four commands.

'`SAVE`'
Does the same as the '`Save`'-Button.
'`USE`'
Does the same as the '`Use`'-Button.
'`TEST`'
Does the same as the '`Test`'-Button.
'`CANCEL`'
Does the same as the '`Cancel`'-Button.

Of course the Section 2.5 [USE˙AREXX], page 6 can also be used.

4 Other Topics

4.1 Registration

"MagicUserInterface" is a rather complex product that has always consumed and will continue to consume a large amount of my time. It was a lot of work to finish, but I hope this work will be appreciated and that a lot of MUI based applications with nice and flexible user interfaces will be available soon.

For I cannot afford just working for fun, I decided to release MUI as shareware. The unregistered version is not able to save some of the configuration items of the preferences program. Of course these restrictions won't affect the operation of MUI applications, all important values (window positions, screens, system configs) are usable without registering. Other items will contain reasonable default values. Even with these default values, MUI applications will be more attractive and usable as most other programs.

If you plan to use the full set of MUI's possibilities (different fonts, frames, images, background pattern, ...) with all applications, or if you just feel that MUI is good and should be supported, you should register.

Registered users will be shipped a disk with the newest public release of MUI, along with a personalized, so-called "keyfile" that enables loading and saving of the complete configuration data.

MUI is an SASG (Standardized Amiga Shareware Group) product. To register, please start the program `"Registration"` in the main drawer of this distribution. All important topics about prices and payment methods are discussed there.

Thank you for supporting Shareware!

4.2 Updates

Whenever a new release of MUI gets released, I will post some information in the appropriate newsgroups of some electronic networks. The new archive will soon be available on many bulletin boards and on all '`aminet`' FTP servers. Major releases will also come with some PD disks, especially on Fred Fish's collection.

As mentioned above, registered users will neither need a new keyfile nor a special personalized program version. They can use all new features immediately.

Of course, every MUI update will be completely compatible to all previously released versions. All applications will continue to run and automatically benefit from possible enhancements in user interface design.

4.3 Support

If you have some questions, comments, suggestions or even flames, please feel free to contact me at one of the following addresses. If you send your letter via e-mail, there's a good chance for getting a quick reply.


```
Snailmail: Stefan Stuntz
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```


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- Walter Dörwald ... painted some beautiful MagicWB stylish icons.

  ... for additional beta-testing and for translating parts of this documentation.
- Dirk Federlein

  ... for additional beta-testing and for translating parts of this documentation.
- Georg "gucky" Heßmann

  ... for reporting some bugs and for his demo program '`DVIprint`'.

– Martin Horneffer and Albert Weinert

  ... for creating the Oberon language interface.

– Martin "XEN" Huttenloher

  ... has drawn many of the supplied images and also significantly cooperated in other parts of the MUI-Design. Furthermore he contributed the amazing image drawers, which are a small extract of his '`MagicWB 2.0`' package. Friends of an impressive and plastic Workbench should definitely take a closer look at '`MagicWB`'!

– Kai "KCommodity" Iske

  ... wrote one of the several MUI calculators and reported lots of bugs.

– Oliver "Mr.Coffee" Kilian

  ... for testing MUI on good old (and slow) 68000.

– Klaus "kmel" Melchior

  ... for the two sample tools '`WbMan`' and '`MUI-Exchange`' and for endless lists of bug reports. He also painted the demo programs icons and supplied some BOOPSI images.

– Wouter van Oortmerssen

  ... for the Amige-E interface.

– Armin Sander

  ... for giving me my first ideas about object oriented GUI design. He told me a lot about classes and objects and made me start with MUI.

– Matthias "tron" Scheler und Markus "corwin" Stipp

  ... for writing the first real MUI application, a message editor for the '`Universal Mail System (UMS)`'. Look out for '`IntuiNews`'! Additionally, Matthias wrote the sample program '`Font`'.

– Andreas "goonie" Schildbach

  ... significantly influenced the design and functionality of MUI and is currently working on a MUI application, a phone and answer machine for ISDN. He made me think of some other things during our endless phone calls.

– Wolfgang Schildbach

  ... for his text formatting code.

– Christian Scholz

  ... for the Modula interface.

– Ibrahim "radi" Solmaz

  ... who also prevented me from working with many phone calls but nevertheless was a valuable help sometimes.

– Henri Veistera

  ... for the assembler interface.

The last big thanks is reserved for all registered users of my file requester MFR. Its success made me trying it with shareware again. I'm sorry, that there was no update for MFR for such a long time, but I put all my efforts on this new product. Hope I can release a new, MUI based MFR soon.

4.5 Discussion

– "Why don't MUI's string gadgets support the clipboard?"

  There is a utility called '`NewEdit`' that adds clipboard support to all system string gadgets. Of course MUI string gadgets work with this utility too. You can find this thing on aminet or on some PD disks.

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4.8 Installer

Along with MUI comes the ‘`Installer`’ from Commodore:

```
Installer and Installer project icon
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