GLUIX

Overview

GLUIX contains extensions to the GLUI library that are dependent on the operating system used. They work for Win32 (tested with MS Windows 2000, but should work with 95, 98, Me, NT), most UNIX variants and some UNIX-emulation layers over Windows, like Cygwin (see http://www.cygwin.com).
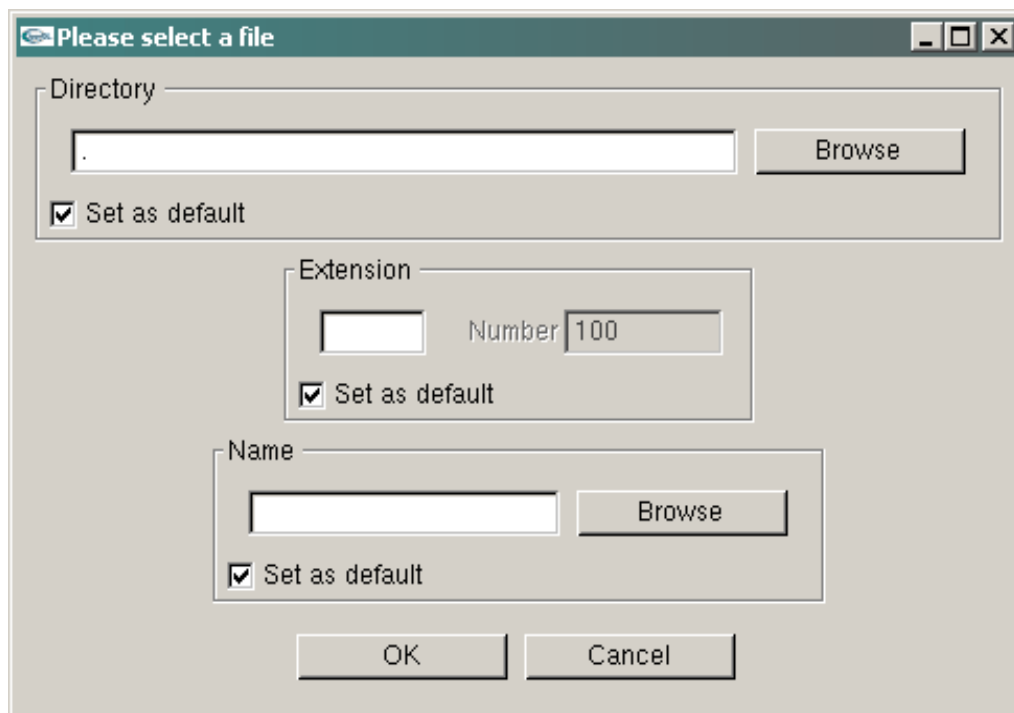
Usage

In the calling program, include the GLUIX header:

```
#include <gluix.h>
```

At link time, add the GLUIX library to be searched before the GLUI library.

File Section Dialogs

These dialogs are self-contained windows that pop up to request the user to select a file or directory.

Adding such a dialog to a program involves three steps:
1- Create the dialog. The dialog is not visible to the user just after creation.
2- Modify some properties of the dialog.
3- Show the dialog at the appropriated moment.

GLUIX_FileSelectionDialog

Constructor for the `GLUIX_FileSelectionDialog` class; used with the `new` operator to create a file selection dialog.

Usage

```
GLUIX_FileSelectionDialog
*GLUIX_FileSelectionDialog::GLUIX_FileSelectionDialog(
   char *Title = NULL,
   void (*NewFileCB)(char *FileDir, char *FileName, char *FileExt) = NULL,
   int Flags = 0,
   int OrgX = -1,
   int OrgY = -1,
   int DirState  = GLUIX_PANEL,
   int ExtState  = GLUIX_PANEL,
   int NameState = GLUIX_PANEL,
   int Type = GLUIX_REG);
```

`Title`	-	Text to display in title bar. If null, defaults to an empty string.
`NewFileCB`	-	Pointer to the callback function that will be called when the user presses the OK button. The function must accept three arguments:

	`FileDir`	-	Relative or absolute path to the directory containing the file selected by the user.
	`FileName`	-	Name of the file selected by the user. Does not include the directory, but includes the extension.
	`FileExt`	-	Extension of the file selected by the user.

No function is called if the user presses the Cancel button.

`Flags`	-	Initialization flags for the GLUI window containing the dialog. `GLUI_DOUBLE` is the only flag defined in the current version. If used, most of the drawing of the GLUI controls will be done in the back buffer, which is faster and avoids display flickering. `GLUI_DOUBLE` is recommended if double buffering is supported, which can be checked by calling `glutGet(GLUT_DISPLAY_MODE_POSSIBLE)`. If `GLUI_DOUBLE` is not specified, drawing is done in the front buffer of a single buffer window.
`OrgX, OrgY`	-	Origin of the GLUI window containing the dialog, in screen coordinates. If one of these values is -1, the origin of the window is the same as the origin of the parent window.
`DirState`	-	State of the directory panel. Its value may be either:

	`GLUIX_NONE`	-	There is no directory panel in the dialog box.

An ORed combination of the following flags:

	`GLUIX_PANEL`	-	There is a directory panel in the dialog box.
	`GLUIX_LOCKED`	-	The directory is displayed, but cannot be changed by the user.
	`GLUIX_NODEFCHECKBOX`	-	There is no "Set as default" check box in the directory panel of the dialog box.

`ExtState`	-	State of the extension panel. Its value may be either:

	`GLUIX_NONE`	-	There is no extension panel in the dialog box.

An ORed combination of the following flags:

	`GLUIX_PANEL`	-	There is an extension panel in the dialog box.
	`GLUIX_LOCKED`	-	The extension is displayed, but cannot be changed by the user.
	`GLUIX_NODEFCHECKBOX`	-	There is no "Set as default" check box in the extension panel of the dialog box.

If `NameState` includes the `GLUIX_LOCKED` flag, `ExtState` becomes irrelevant as there is no extension panel in this case.

NameState - State of the name panel. Its value may be either:

  `GLUIX_NONE` - There is no name panel in the dialog box.

  An ORed combination of the following flags:

  `GLUIX_PANEL` - There is a name panel in the dialog box.

  `GLUIX_LOCKED` - The name is displayed, but cannot be changed by the user. There is no extension panel in this case.

  `GLUIX_NODEFCHECKBOX` - There is no "Set as default" check box in the name panel of the dialog box.

Type - Type of file that may be selected by the user. Its value may be either:

  `GLUIX_REG` - A regular file.

  `GLUIX_DIR` - A subdirectory.

Returns: Pointer to the `GLUIX_FileSelectionDialog` created.

GLUIX_FileSelectionDialog properties

Many properties of a file selection dialog may be set after it is created, but not while it is shown. These properties may be global or concern only a part of the window. The list of parts is:

`GLUIX_FSD_DIR_PANEL` - The directory panel.

`GLUIX_FSD_DIR_EDITTEXT` - The text box where the user may enter the directory name and where the directory selected by browsing appears.

`GLUIX_FSD_DIR_BROWSE` - The menu button enabling directory browsing. Pressing it will show a menu offering the subdirectories of the current directory and its parent directory.

`GLUIX_FSD_DIR_CHECKBOX` - The "Set as default" check box in the directory panel.

`GLUIX_FSD_EXT_PANEL` - The extension panel.

`GLUIX_FSD_EXT_EDITTEXT` - The text box where the user may enter the extension name.

`GLUIX_FSD_EXT_NUMBER` - The text box where the number of files with the specified extension found in the current directory is displayed (not user editable).

`GLUIX_FSD_EXT_CHECKBOX` - The "Set as default" check box in the extension panel.

`GLUIX_FSD_NAME_PANEL` - The name panel.

`GLUIX_FSD_NAME_EDITTEXT` - The text box where the user may enter the file name and where the file selected by browsing appears.

`GLUIX_FSD_NAME_BROWSE` - The menu button enabling file browsing. Pressing it will show a menu offering the files with the specified extension found in the current directory.

`GLUIX_FSD_NAME_CHECKBOX` - The "Set as default" check box in the name panel.

`GLUIX_FSD_OK` - The OK button.

`GLUIX_FSD_CANCEL` - The CANCEL button.

`GLUIX_FSD_SUBMENU` - The submenu trigger, displayed when the list of file or directories is too long for a single menu. Pressing the trigger will pop a cascaded submenu offering more entries.

The functions that set some property of a file selection dialog return an integer error code:

 `0` The property was set properly.

 `1` An invalid part was specified.

 `-1` The file selection dialog is currently shown so its properties cannot be modified.

 `-2` An invalid value for the property was passed as argument.

set_font

Sets the font used by a part of the file selection dialog.

Usage
```
int   GLUIX_FileSelectionDialog::set_font(   enum GLUIX_FSD_Part part,
                                             void *new_font );
```

part   -   Part to display with the new font. May not be `GLUIX_FSD_SUBMENU`.
new_font -   New font for the part. May be one of: `GLUT_BITMAP_8_BY_13`,
              `GLUT_BITMAP_9_BY_15`, `GLUT_BITMAP_TIMES_ROMAN_10`,
              `GLUT_BITMAP_HELVETICA_10`, `GLUT_BITMAP_HELVETICA_12` (default). Larger
              fonts are not handled correctly for buttons in the current GLUI release.

Returns: Error code.

set_h

Sets the height of a part of the file selection dialog.

Usage
```
int   GLUIX_FileSelectionDialog::set_h(   enum GLUIX_FSD_Part part,
                                          int new_size );
```

part   -   Part to display with the new height. May not be `GLUIX_FSD_SUBMENU`.
new_size -   New height for the part.

Returns: Error code.

set_w

Sets the width of a part of the file selection dialog.

Usage
```
int   GLUIX_FileSelectionDialog::set_w(   enum GLUIX_FSD_Part part,
                                          int new_size );
```

part   -   Part to display with the new width. May not be `GLUIX_FSD_SUBMENU`.
new_size -   New width for the part.

Returns: Error code.

set_text

Sets the text for the label of a part of the file selection dialog. This function is useful to create specialized file selection boxes or file selection boxes in another language.

Usage

```
int   GLUIX_FileSelectionDialog::set_text(   enum GLUIX_FSD_Part part,
                                             char *new_text );
```

part   -   Part whose label will be displayed with the new text.

new_text -   New text for the part's label.

The parts and their default label are:

GLUIX_FSD_DIR_PANEL	-	"Directory"
GLUIX_FSD_DIR_BROWSE	-	"Browse"
GLUIX_FSD_DIR_CHECKBOX	-	"Mandatory directory" if the directory panel is locked. "Set as default" otherwise.
GLUIX_FSD_EXT_PANEL	-	"Extension"
GLUIX_FSD_EXT_NUMBER	-	"Number"
GLUIX_FSD_EXT_CHECKBOX	-	"Mandatory extension" if the extension panel is locked. "Set as default" otherwise.
GLUIX_FSD_NAME_PANEL	-	"Name" if the type of the dialog is GLUIX_REG. "Subdirectory" if the type of the dialog is GLUIX_DIR.
GLUIX_FSD_NAME_BROWSE	-	"Browse"
GLUIX_FSD_NAME_CHECKBOX	-	"Mandatory name" if the name panel is locked. "Set as default" otherwise.
GLUIX_FSD_OK	-	"OK"
GLUIX_FSD_CANCEL	-	"Cancel"
GLUIX_FSD_SUBMENU	-	"MORE..."

Returns: Error code.

set_access

Restricts the file or subdirectory that the user may choose according to some access criterion. The default is no restriction according to access to the file or subdirectory, read and execute access to the parent directory.

Usage

```
int   GLUIX_FileSelectionDialog::set_access( int Access );
```

Access   -   The access the user must have to the file or subdirectory. An ORed combination of the following values:

GLUIX_READABLE	-	The user must be able to read the file or subdirectory.
GLUIX_WRITABLE	-	The user must be able to write in the file or subdirectory.
GLUIX_EXECUTABLE	-	The user must be able to execute the file or make the subdirectory his current working directory.

Returns: Error code.

set_bkgd_color

Sets the background color of the file selection dialog.

Usage
```
int   GLUIX_FileSelectionDialog::set_bkgd_color(    Byte Red,
                                                    Byte Green,
                                                    Byte Blue );
```

Red, Green, Blue - Components of the background color of the file selection dialog, in the range 0-255.

Returns: Error code.

set_default_dir

Sets the default directory that is displayed the next time the file selection dialog is shown to the user.

Usage
```
int   GLUIX_FileSelectionDialog::set_default_dir(
   char  *FileDefaultDir,
   int   DefaultValueReset = GLUIX_AUTORESET );
```

FileDefaultDir   -   The default directory. If not specified set to "." (current working directory).

DefaultValueReset -   The state of the "Set as default" check box in the directory panel. May take one of the following values:

                GLUIX_AUTORESET   -   The box is checked. The user's selection will become the new default value.

                GLUIX_NOAUTORESET -   The box is unchecked. If the user does not check the box, the default value will still be FileDefaultDir the next time the dialog is shown.

Returns: Error code.

set_default_ext

Sets the default extension that is displayed the next time the file selection dialog is shown to the user.

Usage
```
int   GLUIX_FileSelectionDialog::set_default_ext(
   char  *FileDefaultExt,
   int   DefaultValueReset = GLUIX_AUTORESET );
```

FileDefaultExt   -   The default extension.
DefaultValueReset -   The state of the "Set as default" check box in the extension panel. May take one
                       of the following values:

                       GLUIX_AUTORESET   -   The box is checked. The user's selection will
                                               become the new default value.

                       GLUIX_NOAUTORESET -   The box is unchecked. If the user does not check
                                               the box, the default value will still be
                                               `FileDefaultExt` the next time the dialog is
                                               shown.

   Returns: Error code.

set_default_name

Sets the default name that is displayed the next time the file selection dialog is shown to the user.

Usage
```
int   GLUIX_FileSelectionDialog::set_default_name(
   char  *FileDefaultName,
   int   DefaultValueReset = GLUIX_AUTORESET );
```

FileDefaultName   -   The default name.
DefaultValueReset -   The state of the "Set as default" check box in the name panel. May take one of
                       the following values:

                       GLUIX_AUTORESET   -   The box is checked. The user's selection will
                                               become the new default value.

                       GLUIX_NOAUTORESET -   The box is unchecked. If the user does not check
                                               the box, the default value will still be
                                               `FileDefaultName` the next time the dialog is
                                               shown.

   Returns: Error code.

show

Displays a previously created file selection dialog. The same dialog may be shown several times after it is created,
but if it is already shown, no second copy will appear.

Usage
```
void  GLUIX_FileSelectionDialog::show( GLUI *gluiDisabled = NULL );
```

gluiDisabled   -   Some other GLUI window to disable while the file selection box is shown. That
                       GLUI window will be re-enabled when the file selection box is closed.