FlDev Manual

1. Introduction

FlDev is an IDE to develop applications with C++ and FLTK. You can also use it to edit other files but C++ and FLTK is the primary target. It offers a lot of features that are provided by the well known Dev-C++ IDE. However, it is developed with the FLTK GUI and therefore is significantly smaller. It can be used to develop applications directly on embedded systems without cross-compiling.

This IDE was developed in 2005 by Philipp Pracht. He stopped maintaining it in that year. It was then ported to FLTK 1.3.2 in 2014 by myself, Georg Potthast. So FlDev uses the UTF-8 code now.

FlDev has the following main features:

- Customizable syntax highlighting
- Shortcuts to execute make, compile and run
- Small, executable file less than 200 kByte using shared libs
- Simple project administration
- Simple Makefile generation
- Browser for project files
- Output window displaying compilation errors
- Double-click on error jumps to line in code
- Customizable language support
- Navigation window to jump to classes and functions in the edit window
- Cross-platform IDE

2. Installation of FlDev

FlDev requires that the gcc compiler and, if you want to develop FLTK programs, the FLTK library including fluid have already been installed on your computer. Gcc will usually be installed with your distribution. You can check that by entering "gcc" on the command line and you will get the response: "no input files". If you have not used FLTK 1.3.x before download that from the repository of your distribution.

Please copy the fldev130a_x11.tgz file into your home directory. Then get into a terminal window and change your current directory to your home directory. E.g. with "cd ~".
Then unpack the file with the command: "tar xvzf fldev130a_x11.tgz". This will generate a new directory called "fldev" in your home directory.

Now enter the fldev directory. There is no "configure" step required nor implemented. Just execute "make" plus "sudo install.sh". This will copy the fldev program into /usr/local/bin and put the cpp documentation and the .fldev_cfg file into your home directory.

Now enter "fldev" on the command line and the FlDev window will be displayed. If it does not compile, there is a backup fldev-sav executable and a backup Makefile-sav in the fldev directory which you can copy and retry.

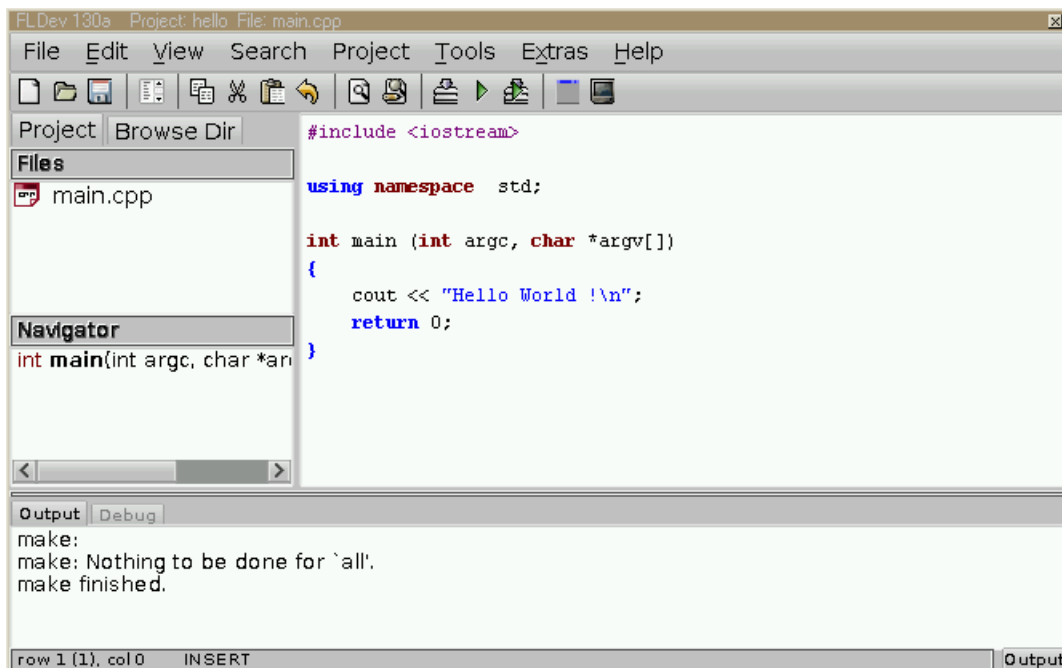3. How to compile a Hello World program with FlDev

You can edit a program file with FlDev and then open a console window to compile this program from the command line or a script you have written for that. You can also call Make from the command line to compile the program file.

However, if you want to use the IDE to generate a Makefile for you and compile and run the program by clicking on the respective icons you have to define a project for your program. This way FlDev can save the libraries and files you need to compile this program and also save further settings that may be required. These project files are saved with the ".fldev" extension.
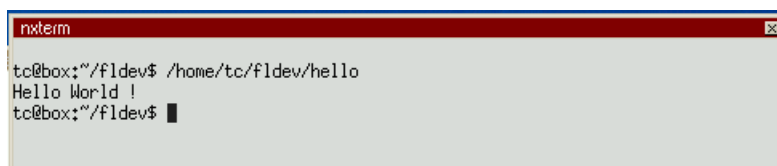
So select "New project" from the menu. You will be presented with this screen:

So first define the name of this project, then the directory where the files for this project will be saved, i.e. the source code, the Makefile and the project file. For this example select "Console App" (contrary to this screenshot), check the "Generate 'main.cpp' " button and then press the OK button. FlDev will generate this project now and put a "hello world" example code into the edit window.
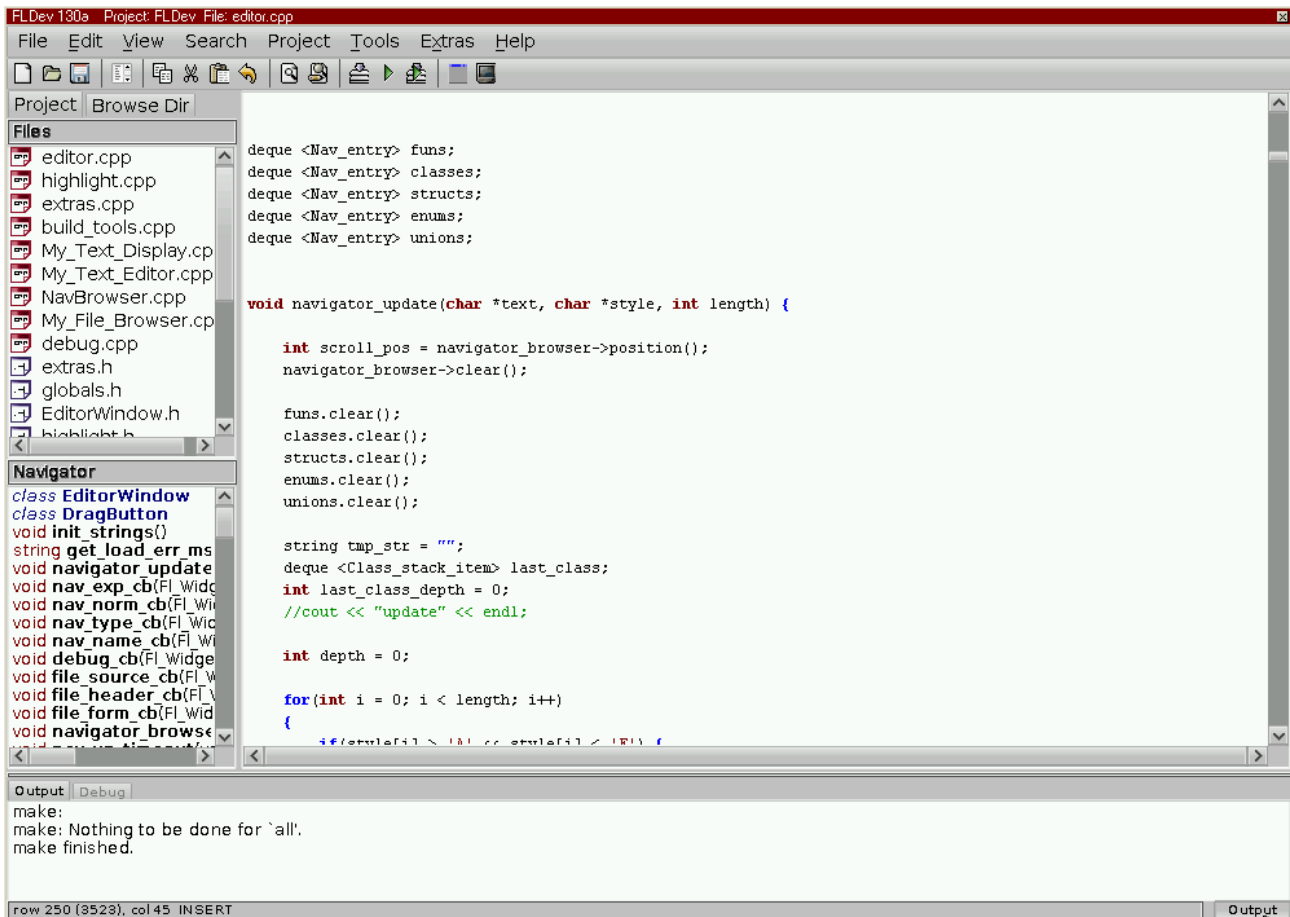
Now all you have to do is select "Make and Run" from the project menu. A new window will appear at the bottom that displays the results of running the Make program following that a console window will appear showing the result of running the compiled program.

4. The FlDev window

FlDev itself can be developed with the FlDev IDE. Therefore included in the downloaded FlDev package is the FLDev.fldev project together with the source code for FlDev.

If you select "Open Project" from the Project menu you can load the FLDev.fldev project. If you then click on the editor.cpp file in the left list this file will be displayed in the large edit window and the classes and function names in this file will be displayed in the "Navigator" window. If you click on one of these in the Navigator window, the edit window will be positioned to this function in the edit window.
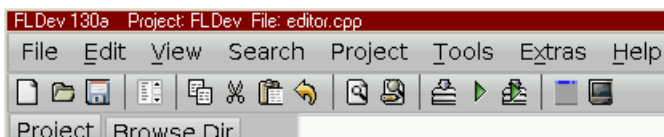
You can navigate in the edit window with the cursor keys, jump to the beginning and end of a line with the home and end keys, scroll the text in the window with the page up/down keys and jump to the top of the file with the Ctrl-Page up key combination and to the end of the file with the Ctrl-Page down key combination. However, sometimes you have to enter Ctrl-Page up twice for this to work.

Below the icon bar there is a "Project" and a "Directory" tab. When the "Project" tab is selected only the files included in the Project are listed while the "Directory" tab lists all files in the current directory.
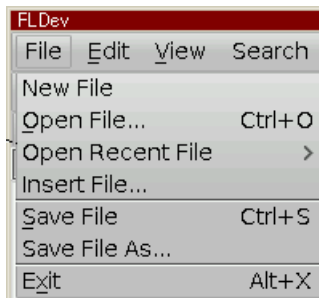
5. The FlDev menu

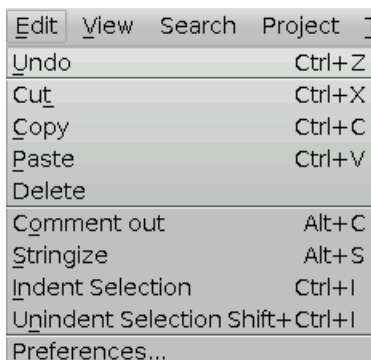At the top of the FlDev window there is a menu bar and an icon bar:

The icons have tooltips enables so you see what actions can be selected with them. All these actions are can be selected via the menu too and are discussed below.

The file menu looks like this and provides the usual options:

The item "Open Recent File" opens a submenu which shows which files had been recently opened. You can select one of these to be displayed in the edit window by clicking on them.
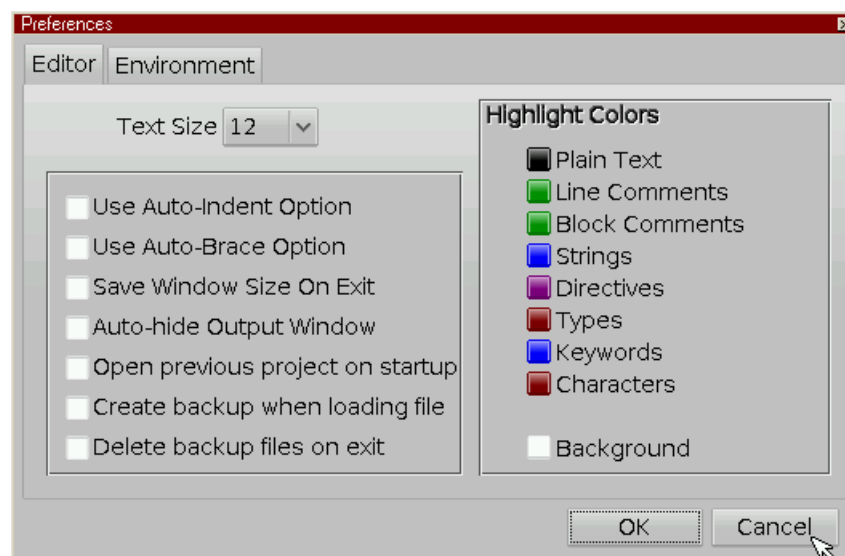
The Edit menu provides the following options:

The "Comment out" item puts "/*" and "*/" characters around a selected part of the code in the edit window.

Similar to that the Stringize item puts quotation marks around a selected part of code.

The "Indent Selection" item intends the selected part of code in the edit window while "Unindent Selection" removes the indentation again.

Finally the "Preferences" item presents the following window:

On the right side you can select the colors for the syntax highlighting in the edit window

plus the background color if that shall not be white.

FlDev allows to show a line number window. That will only be in sync with the edit window if the Text Size 12 is selected.

If you select "Save Window Size On Exit" sometimes it corrupts the new window if you select the "Run" icon from the icon bar.

The "Auto-Brace option" will only work if the "Use Auto-Indent Option" is also selected. If will add a curly brace if you entered one e.g. in a while loop.
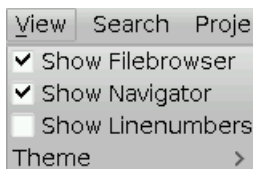
In the "Environment" tab you can load the German language file called "deutsch.lng". This will translate (most) menu items and messages into German.

Also in this tab you select the path to the FLTK documentation. Unfortunately this cannot be used any more with FLTK 1.3.0 since this documentation is generated with Doxygen and the HTML support of FLTK does not allow to display these pages as it did before with the old FLTK 1.1.7 documentation.
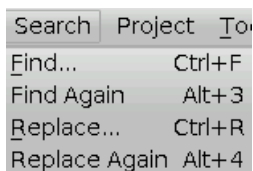
These setting are saved in the ".fldev_cfg" file in the home directory.

The "View" menu allows to select if the Filebrowser, which lists the files included in the current project, will be shown. Also you can show or hide the Navigator window which will allow you to jump to the classes and functions in the current file in the edit window.

There is also a line number window. This will only show the correct line numbers for the text size 12. The "Theme" allows to switch between the default "OXY" style and the "Plastic" style for the GUI.

The "Search" menu below need no explanation. Instead of the common F3 you have to use Alt-3 to repeat the last search.
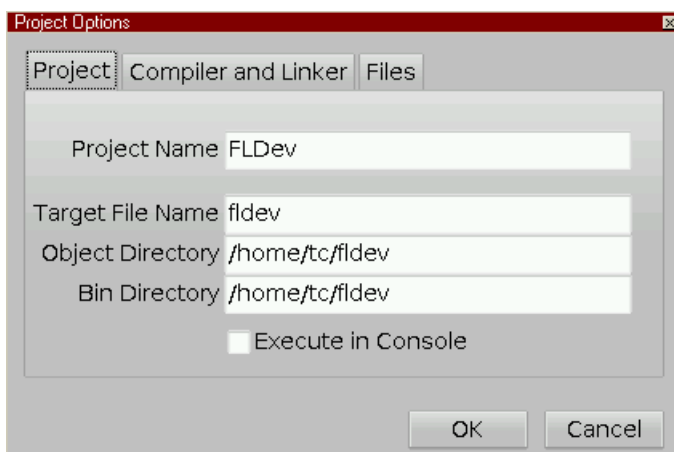

The "Project" menu allows to generate a new project or open an existing one. In a submenu the four most recent projects are displayed and can be selected by clicking on them. The project will not be saved automatically, you have to select the item in this menu for that. FlDev will also warn you on exit if you did not save the project.
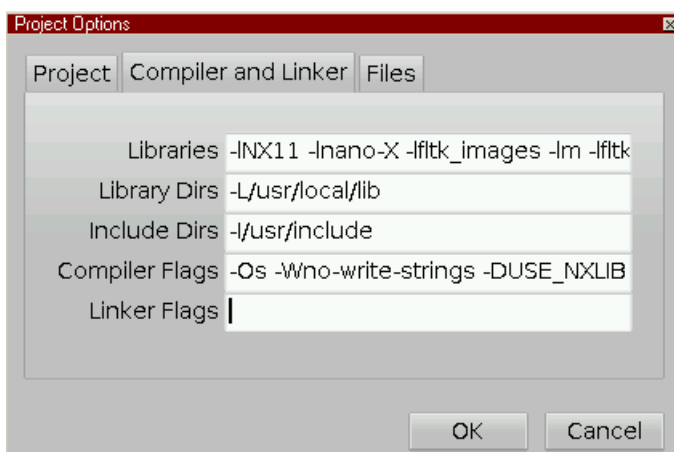
Project	Tools	Extras	Help
New Project		Shift+Ctrl+N	
Open Project		Shift+Ctrl+P	
Previous Project		>	
Save Project		Shift+Ctrl+S	
Make		Alt+M	
Run		Alt+R	
Compile		Alt+Shift+C	
Make and Run		Alt+A	
Debug		Alt+D	
Make Clean			
Generate Makefile			
Options...		Alt+P	

With the options item at the bottom of the menu you can specify the settings for the current project. In the first tab of this window you specify the project name, the name of the target, i.e. the resulting executable file plus the directory where FlDev will store the compiled object files and the linked binary or executable files.

The checkbox below specifies whether FlDev shall run the executable file in a console window or open in another X11/FLTK window.

Project Options

Project | Compiler and Linker | Files

Project Name `FLDev`

Target File Name `fldev`
Object Directory `/home/tc/fldev`
Bin Directory `/home/tc/fldev`
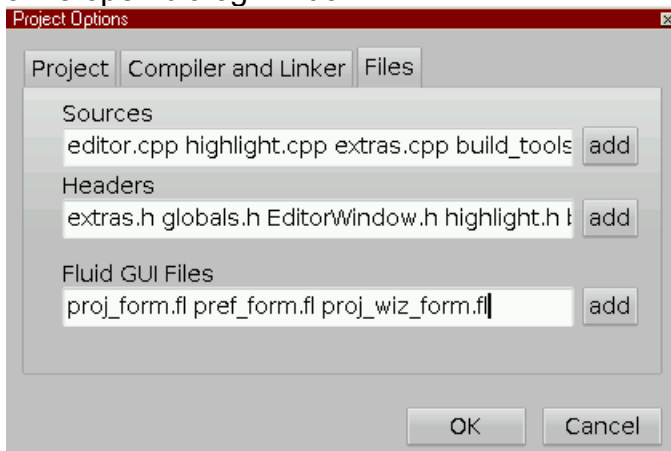
☐ Execute in Console

OK   Cancel

In the next tab you specify the libraries that shall be linked with the executable file plus the directories which shall be searched for these libraries and the include files. Also you can specify several compiler flags, here e.g. "write-strings" warnings are suppressed.

Project Options

Project | Compiler and Linker | Files

Libraries `-lNX11 -lnano-X -lfltk_images -lm -lfltk`
Library Dirs `-L/usr/local/lib`
Include Dirs `-I/usr/include`
Compiler Flags `-Os -Wno-write-strings -DUSE_NXLIB`
Linker Flags `|`

OK   Cancel

In the third tab you can enter the source files that shall be compiled together to the final

executable file plus the header files required by these source files. The FLTK screen designer generates "fl" files and these can also be specified here if required by the project.

You can either type these files into the input line or use the "add" button to select them with a file open dialog window.
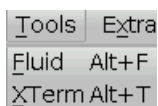

Selecting these options correctly is required to allow FlDev to successfully generate a working Makefile for the current project. This can be selected with the "Generate Makefile" item.

FlDev will only maintain one Makefile for the current project. So if you switch to another project you have FlDev to generate a new Makefile for the new project. Otherwise FlDev will compile the previous project!
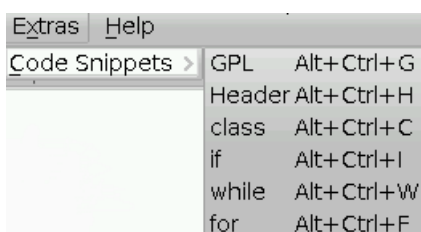If it displays "Generating Makefile" in the output window but no "OK" appears, FlDev for whatever reason cannot erase the old Makefile and thus cannot make a new one instead. Please erase the old Makefile using Fluff or a console window and try again.

The "Debug" menu option will open a console window and run the GDB debugger in there. To get the source code displayed in this console window when e.g. running the list command, you have to compile the project before with the "-g" option added in both the compiler and linker flags input fields which are in the "Compiler and Linker" tab.

Using the "Tools" menu below you to call the "Fluid" screen designer for FLTK or open a console window.
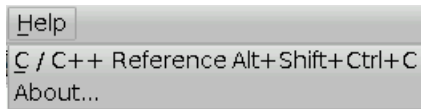

The "Extras" menu allows you to insert various code templates into your code displayed in the edit window.

In the "Help" menu you can call a C/C++ Reference document in HTML or the licence text

for FlDev using the About item.

22nd March 2014 - Georg Potthast

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