Building a GTK+ application on Win32 using MinGW (by example)

This is a step-by-step guide for building a *GTK+* application on *Win32* using *Minimalist GNU for Windows* (*MinGW*). I will do that by example, namely *DFCGen* (GTK+).

1. Download *MinGW* from http://www.mingw.org and install it on your *Win32* operating system (i installed `MinGW 20110802`, using the associated installer `mingw-get-inst-20110802.exe`).[1)]
2. Download an all-in-one *GTK+* bundle from http://www.gtk.org/download/win32.php and extract the archive directly into the *MinGW* installation directory. Note: Be careful when overwriting files. I had some problems with `intl/gettext`, because *MinGW* installed `libintl` v1.2, but GTK wants to overwrite this with v1.1.
3. Start the *MinGW* shell (MSYS) and enter `gtk-demo` to verify your installation.
4. Download additional tarball source packages (at this example *GSL* from http://www.gnu.org/software/gsl) and extract it into a directory anywhere.
5. In MSYS shell change to that directory and do a package build:[2)]

```
./configure --prefix=/mingw; make; make install
```

6. Extract the tarball distribution package, in this example `dfcgen-gtk-0.4.tar.gz` to a directory, which is reachable by the MSYS shell.
7. In MSYS shell change to that directory and build the package (but do NOT a `make install`):

```
./configure; make
```

8. Now some handy work comes into play:
   - First create a new directory for gathering all *Win32* installation files.
   - Copy the generated executable `dfcgen-gtk.exe` into this directory and change to it.
   - Copy the following directories from MinGW into this “gathering” pool:
     - `/mingw/etc` → `./etc`
     - `/mingw/lib/gtk-2.0` → `./lib/gtk-2.0`
   - Create a sub-directory `share` and copy the following directories from `dfcgen-gtk-0.4` in:[3)]
     - `data/filters` → `share/filters`
     - `data/pixmaps` → `share/pixmaps`
     - `data/templates` → `share/templates`
   - Start `dfcgen-gtk.exe` from a DOS shell or from the file manager. This will produce an error, stating that a DLL is missing. Typically this is a DLL from the *GTK+* package, which can be found anywhere under `/mingw` (probably in `/mingw/bin`). Copy the DLL also into the directory where `dfcgen-gtk.exe` now resides.
   - Start `dfcgen-gtk.exe` again and repeat the procedure (until no error).
   - If you want another language than English (internationalization, i18n, locale, intl/gettext) copy also the following directories:
     - from the MinGW installation: `/mingw/share/locale/de/LC_MESSAGES` → `./share/locale/de/LC_MESSAGES`
     - from the `dfcgen-gtk` build directory: `po/de.gmo` → `./share/locale/de/LC_MESSAGES/dfcgen-gtk.mo` (file renamed).
9. Copy the “gathering” directory to your final *Win32* installation directory, e.g.

`C:\programs\dfcgen-gtk`. You can start `dfcgen-gtk.exe` directly from this location (or create a shortcut on your desktop).

1)

Source code is hosted at http://sourceforge.net/projects/mingw.

2)

If you enter mount then you will see that `C:\MinGW` is mounted on `/mingw`.

3)

The sub-directory name “share” is preset by the *Win32* port of GTK.

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