Installation Instructions

Requirements

The VirtualLeaf is written with the QT Cross platform application and UI framework, and can run on Linux, Apple Macintosh and Windows machines. To compile the VirtualLeaf from source you will need to install the QT software development kit(SDK) which you can download from the QT download site. Whether installed globally by a system administrator our locally in your own user space, make sure the QT bin directory containing qmake is in your execution path. Platform specific instructions follow.

All Platforms

Compilation is effected with make, either the native `make` on UNIX and MAC systems or `mingw32-make` distributed with the windows version of QT. In the VirtualLeaf `src` directory you will find a `Makefile`, the root of a hierarchy of makefiles, that will guide the compilation and installation of the VirtualLeaf executable, its default plugins and the tutorial examples. To facilitate cross platform compatibility, the makefiles use two environment variables: `MAKE` and `QMAKE` to name the make and QT-make utility respectively. The fallback defaults are `make` and `qmake`. Platform specific instructions follow.

Linux

So the Makefiles can find `qmake`, prepend the QT bin directory to your execution path, for example:

```
> PATH=/opt/QT/qt/bin:$PATH
```

If you wish to use some other `make` or `qmake` utilities other than the defaults, instantiate environment variables named `MAKE` and `QMAKE`, for example:

```
> export MAKE=gmake
> export QMAKE=/home/michael/MyQT/qt/bin/qmake
```

To compile the VirtualLeaf, go to the VirtualLeaf `src` directory and invoke `make`, for example:

```
> cd /home/michael/VirtualLeaf/v1.0/src
> make
```

Once the compilation is complete, you will find the `VirtualLeaf` binary in `v1.0/bin` and the plugins in `v1.0/bin/models`.

Windows

For convenience sake, three required development libraries: `libiconv`, `libxml2` and `libz` are distributed with the VirtualLeaf code, and the VirtualLeaf will compile correctly with them. If, however, you wish to use other versions of these libraries, you will need to reassign the `LIBICONVDIR`, `LIBZML2DIR` and `LIBZDIR` variables in all the project files.

As stated earlier, the Makefiles rely on two environment variables: `MAKE` and `QMAKE`. Since QT executable names are consistent across platforms, the `QMAKE` default value, `QMAKE=qmake`, will work fine. You will have to create an environment named `MAKE` though.

To add an environment variable call up the *system tool*, either with a left click on the *start menu* then a right click on *My Computer* and choosing *properties* from the drop down list, or by choosing *control panel* from the *start menu* and then double clicking on the *system tool* itself. Once in the *system tool*, choose the

advanced tab and then click the *environment variables* button. The environment variables screen is split in two with *User* variables above and *System* variables below. Add a new users variable named `Make` with the value, e.g. `mingw32-make`. the QT(SDK) contains the *minimum gnu for windows* (mingw) compiler; commonly installed in: `c:\QT\qt-version\mingw\bin`. Look there for the make utility name.

After installing QT and setting the `MAKE` environment variable, you should be able to invoke a QT command window from the *start menu*. This shell automatically includes the necessary QT folder in your execution PATH. Within this command window, go to the VirtualLeaf `src` folder and invoke make, for example:

```
> c:\Documents and Settings\michael\VirtualLeaf\v1.0\src
> mingw32-make
```

When complete, you will find the `VirtualLeaf.exe` binary in `v1.0/bin` and the plugins in `v1.0/bin/models`.

MacOS