

Licensing MXCuBE under the LGPL

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Introduction

- Switching from the GPL (GNU General Public Licence) to the LGPL (GNU Lesser General Public Licence) is a good decision
 - ... and is fully supported by GΦL
- It is not as simple as adding LGPL licence files to the MXCuBE source code and documentation
- Some input from the steering committee would be welcome.

DISCLAIMER!

- IANAL (I Am Not A Lawyer). Much of what follows is my personal, unqualified opinion.
- But, I have had reasons to study these issues closely in the past.

GPL vs. LGPL

- If any part of a “combined work” is licensed under the GPL, then the rest of the work must be licensed under a compatible licence
 - In practice, the terms of the GPL apply to the whole work
- What degree of separation between software components is needed to for this not to happen?
 - This is not simple. A bit more on this later on ...

Consequences of non-compliance

- Could we get sued?
 - Theoretically possible. Legal action for GPL violations has been successful on a few occasions.
 - Legal action is rarely the first step.
 - Are MXCuBE and its member institutions likely targets?
 - I don't know, it probably depends on the copyright holder(s) of the GPL software concerned.
- Reputation issues?
- Status of MOU?

GPL/LGPL issues that need to be addressed

- Individual files under the GPL in the MXCuBE source code
- File headers
- CHOOCH and the Gnu Scientific Library
- Qt
- PyQt

Individual files under the GPL

- There are a few files in the MXCuBE source code that have GPL headers.
- The original authors could change the headers.
- The new MOU transfers ownership to the collaboration
 - Is this correct?
- Once this has happened, the collaboration can simply change the headers to LGPL

File headers

- Many files in the MXCuBE source code have no headers.
- Applying a GNU licence involves:
 - ...
 - Give each file the proper copyright notices.
 - ...
 - Put a license notice in each file.
- <https://www.gnu.org/licenses/gpl-howto.html>

CHOOCH/PyChooch and GSL

- CHOOCH and PyChooch are linked against the GSL (GNU Scientific Library)
- These combinations with the GSL are clearly covered by the GPL

Does the GPL spread from the GSL to MXCuBE?

- Maybe not, but we should consider the issue
- CHOOCH runs in a separate process, but this is not always sufficient:
 - “If the main program uses fork and exec to invoke plug-ins, and they establish intimate communication by sharing complex data structures, or shipping complex data structures back and forth, that can make them one single combined program.”
 - <https://www.gnu.org/licenses/gpl-faq.en.html#GPLPlugins>

Does the GPL spread from the GSL to MXCuBE?

- Opinion from the ifrOSS:
 - Institut für Rechtsfragen der Freien und Open Source Software
- <http://www.ifross.org/en/program-forks-gpl-licensed-program-system-or-vice-versa-call-derivative-work>

Example

An application runs a GPL-licensed program via a system call (*system()*, *popen()* or *fork()/execvp()* and friends). The GPL program is generating data that the application is reading and processing or, alternatively, that are made available when the application is exiting. Is this system call of a GPL-licensed program sufficient to assume derivative work of the application and must the application, therefore, also be licensed under the GPL?

Answer

Normally not.

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Answer

Normally not.

- This page also describes some exceptions
- It may be a question of interpretation of developers' intentions

CHOOCH and GSL

- Consequences of non-compliance?
- Normally it is up to the copyright holder to act on non-compliance
 - It seems that the copyright holders of the GSL are, or are closely associated with the Free Software Foundation
 - They have strong ideological motives to act on non-compliance

CHOOCH and GSL: options

1. Decide that there isn't a problem, and leave things as they are
2. Re-implement the CHOOCH functionality that MXCuBE requires
 - The required maths is available in scipy/numpy
 - There are technical advantages to doing this
 - Would require substantial testing
3. Re-implement the GSL routines used by CHOOCH
4. Seek legal advice

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Decision required!

Qt

- Three licences available: GPL, commercial and LGPL
 - Commercial licences are expensive: \$295/month for each developer
- We should use Qt under the LGPL
 - This means avoiding the use of the Qt Charts and Qt Data Visualization modules.
 - If a developer includes something from these modules in MXCuBE, then either:
 - that combination **cannot be “conveyed”**, i.e. it must stay internal to the developer's home institution, or:
 - the offending components **must be removed**.

Qt

- Consequences of non-compliance?
 - Would we get found out? Our code is on GitHub.
 - The possibility should probably be taken seriously.
- The Qt Company:
 - <https://www.qt.io/>
 - Company is NASDAQ listed (QTCOM)
 - 268 employees, €130 million capitalisation
- They may have the resources and the motivation to protect their intellectual property and licensing terms.

PyQt (option 1)

- Two licences available: commercial and GPL
- A commercial licence is needed for each Qt developer, at €450/developer
 - Licence comes with one year of updates. It does not have to be renewed yearly, only when the use of a version of PyQt released since the licence expiry is required.
 - Licence is per “seat”, not for a named developer
 - Developers must not be prevented from contributing to MXCuBE by difficulties obtaining the correct licence

PyQt (option 1)

- Consequences of non-compliance?
- Riverbank Computing
 - <https://www.riverbankcomputing.com/>
 - Small private limited company, located in the UK
 - Assets: ~£100k
 - “Micro-SME”: < 10 employees or turnover < £2m
- Ethical and reputational reasons for complying with licence terms
 - Synchrotrons are much larger organisations than Riverbank Computing

PyQt (option 2)

- Switch to QtPy (MIT licence)
 - <https://pypi.python.org/pypi/QtPy>
 - Combine with PySide (Qt 4) or PySide2 (Qt5)
- Both versions of PySide are LGPL
 - PySide2 appears to be less complete
- “Basically, you write your code as if you were using PyQt5 but import qt from qtpy instead of PyQt5.”
- Thanks to Roeland for pointing this out

Summary

- Switching from the GPL to the LGPL is definitely worthwhile, but brings new obligations and constraints
- The MXCuBE collaboration should meet those obligations around the time the new MOU is adopted.

Acknowledgements

- Thanks to Gérard and Rasmus for useful discussions