

# 389COM: Module Introduction

## Introductory Lecture

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# Module Content

- This module will be covering the legal and ethical aspects of the Open Source World, and usage of common Open Source tools.
- We will also be getting directly involved with the Mozilla Foundation and the Gitlab Corporation.
- You will be getting your first taste of working with live code (code in a production environment).
- This Modules outcome can be used in your CV.

# Module Assessment

- This Module is assessed by means of a Portfolio of Works.
- This Portfolio is harder than an Exam.
- The assessment scheme is thorough, because the outcome of this module can be used in your post degree job search.
- Portfolio detail can be found in the portfolio document

# Programming Expectations

- We will **not** be teaching you any programming.
- Grading will take place based more on the *quality* than *quantity* of your coding output.
- A large portfolio of incomplete or trivial work will be worth a lot less than a small portfolio of completed work of good quality.
- There is no *how many bugs you need to do* count, beyond *more than one*.

# Mozilla Foundation

- A non profit foundation founded in 2003.
- They make Firefox - The web browser we will be working with
- Plus too many other products to list here
- [Mozilla Products](#)

# GitLab Incorporated

- A commercial open source SaaS (Software as a Service) Incorporated Company, started in 2011
- Their commercial product is [GitLab Enterprise Edition](#).
- Their free of cost contribution to the open source community is [GitLab Community Edition](#)
- They have an active [community interaction site](#) that we will make use of.

# A Thing to do Today

- Set up a Mozilla account. Do this with your *real* name and personal email address so your work is available when potential employers search for you.
- [Mozilla Bug Tracker](#)

# Another Thing to do Today

- Set up a Gitlab account. Do this again with your *real* name and personal email address so your work is available when potential employers search for you. If you have an existing account, update it.
- They have a similar [Bug Tracker](#)
- The tag we want is **up for grabs** for unassigned bugs that they view as new contributor suitable , or just **bugs** for harder ones.



# Yet More Things to do Today

- Set up groups on Moodle (or wherever we decide to), or start to at least.
- set up user accounts on Nostromo by going [here](#).
- Start the Linux Command Line Worksheet or another from the set.

# Free Software Foundation

- Founded in 1985 by Richard Stallman.
- [Website](#)
- Primary Licence **GPL** (Gnu Public Licence) text [here](#)
- They also act as an approving body for other licences that match, or approximate, their philosophy.
- This licence is *CopyLeft* not *CopyRight*. This distinction was Stallmans idea.
- The distinction is largely meaningless, since it remains a copyright protecting device, but it's his ball as it were. . .

# Free Software Foundation

- A less restrictive version, the **LGPL** (Lesser Gnu Public Licence) was released in *1999*.
- They seem to be regretting doing this, as they feel it isn't restrictive enough and want to stop people using it.
- They do not, it seems, believe in making software easy to use. What they do create is nonetheless astounding.

# Open Source Initiative

- the OSI was founded in 1998 by Bruce Perens.
- They are a community of existing projects/companies that promote collaboration with the commercial world.
- The phrase **Open Source** was created to be less negative to the commercial world.
- *Free coders gotta eat too.*
- They don't have their own licence, but they act as an approval body.
- There are no direct OSI products.

- emacs Editor

- ▶ Hard to use, but probably one of the best programming editors in the world.
- ▶ Well, not hard to use, but complicated to learn because it can do so much.
- ▶ All the materials for this module were written in emacs org-mode.

# GNU Compiler Collection

- GCC

- ▶ An Industry Standard Compiler (unless you are Microsoft).
- ▶ Hugely complete, and superior in every respect.
- ▶ Comes with Autotools, the worlds most difficult to learn, but again, industry standard Build System.

- GDB

- ▶ Industry Standard Debugging Tool (unless you are Microsoft).
- ▶ Used in virtually all IDE's that employ GCC compiled languages.

- Valgrind

- ▶ Industry standard profiling tool (unless you are guess who. . .)

# GNU Tools 2

- **GnuPlot**
  - ▶ *30 year old* Plotting and Graphing tool.
  - ▶ Complicated, tricky to learn but a great piece of software.
- **Sample Outputs on Google**



# Bourne Again Shell

- Bash

- ▶ The standard shell for almost all operating systems
- ▶ Contains a comprehensive scripting language.
- ▶ There are more shells, but you will encounter **Bash** most often.

- Apache Web Server

- ▶ Originally called *A Patchy Web Server*.
- ▶ Approximately half the net is running Apache.
- ▶ They have too many other products to list in this slide - [linky](#)

# Hurd

- The [Hurd Kernel Project](#), started in 1990 and still going (sort of).
- Hurd is The FSFs failed attempt at a free kernel.
- Why it failed.
- Linux or GNU Linux, the argument.

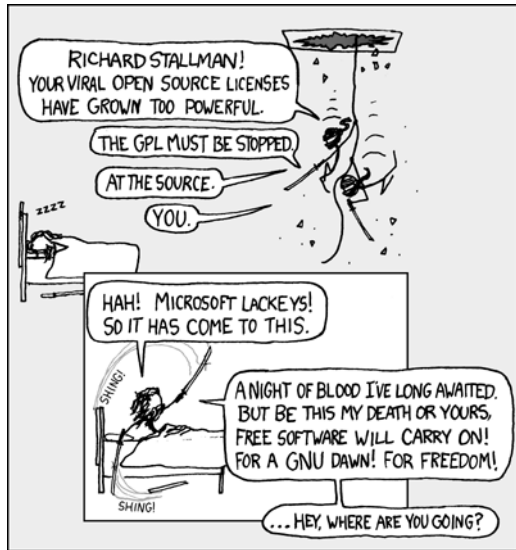
# Where Open Source is not so good

- Documentation is often very poor.
- User Interfaces are sometimes overly complex.
- Most Open Source/Free Software projects get abandoned: (98%)
- Mostly lone developer projects. Usually before getting anywhere significant.
- given their open nature, code bases are sometimes co-opted by malware groups (chrome particularly).

# Where Open Source is great

- Longevity of Projects, and consistency of developers.
- More secure in theory, because the code is open for inspection.
- Anyone can do it.
- Potential employers trawl Github etc for talented programmers.

# Obligatory XKCD



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