

Slides #15

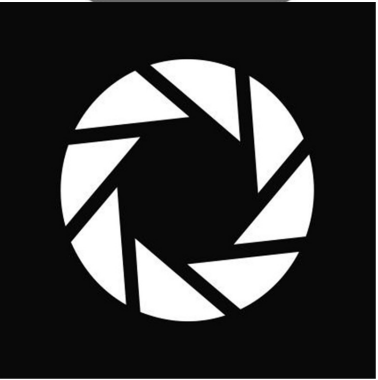
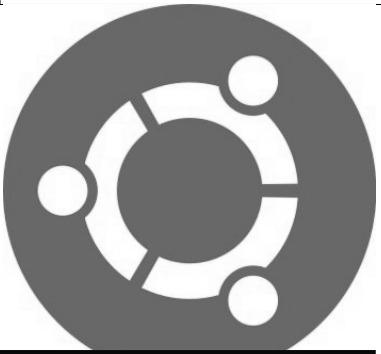
# Legal and Ethics

CMPT 276  
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# Topics

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- 1) What is open source?
- 2) Keeping secrets
- 3) Are there any ethical issues as a developer?



# Open source development

# Open source development

- Open source development is:  
software development where the source code of a system is published and volunteers are invited to participate in its development.
- Open source systems
  - Linux operating system:
    - Used in servers, developers, mobile phones, etc
  - Android, Apache web server, MySQL (database), LibreOffice.

# Open source issues

- Open Source Issues:
  - Should our product use open source components?
  - Should our product be developed as open source?
- More companies are using open source development.
  - Business model is not reliant on selling software but on...
- Possible advantages of open source:
  - developed cheaper and faster,
  - creates a community of users for the software.

# “Ubuntu Advantage”

## Plans for enterprise use

WHAT'S INCLUDED	ESSENTIAL	STANDARD	ADVANCED
Extended Security Maintenance (ESM) for Ubuntu 14.04 LTS	✓	✓	✓
Kernel Livepatch service to avoid reboots	✓	✓	✓
FIPS 140-2 Level 1 certified crypto modules	✓	✓	✓
Common Criteria EAL2	✓	✓	✓
Certified Windows drivers for KVM guests	✓	✓	✓
Phone and ticket support		Office hours	24/7
OpenStack	Security updates	Updates + support	Updates + support
Kubernetes	Security updates	Updates + support	Updates + support
KVM/LXD	Security updates	Updates + support	Updates + support
MAAS	Security updates	Updates + support	Updates + support
Physical server	\$225	\$750	\$1,500
Virtual server	\$75	\$250	\$500
Desktop	\$25	\$150	\$300

\$1,500

Buy a subscription

# License Selection Exercise

While working at *AllYurBasesRBelongToUs Inc.* on a new (paid!) Android App you need a map activity in your project. You find two options with different licences. Which do you pick?

- This software is provided “as is” with no warranties or implied merchantability or fitness for a particular purpose.
  - Redistribution and use in source or binary forms, with or without modification, are permitted provided the above disclaimer is provided.
- This software has been independently tested on Android 6 through latest.
  - You may use this software in binary or in source form for free so long as all systems in which this code is compiled into are also licensed under this agreement.

# Open source licensing

- Open-source =..
  - Does not mean that anyone can do as they wish with that code.
- Developer (company or individual) still owns the code and can...
- Carefully consider the license of
  - Ex: File-system, network "stacks", audio decoders, etc.



# License models

- GNU General Public License (GPL)
  - "Reciprocal" license, "copyleft", "Viral open source"
  - If your program includes any GPL code, then..
- GNU Lesser General Public License (LGPL)
  - If you statically-link to LGPL code, it too must be LGPL
  - If you dynamically link to the code (like a DLL), it need not be LGPL (could have any licence).
- Berkley Standard Distribution (BSD) License
  - Non-reciprocal license...
  - Code may be included in proprietary systems that are sold for profit (closed-source).

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# GPL License File

<one line to give the program's name and a brief idea of what it does.>

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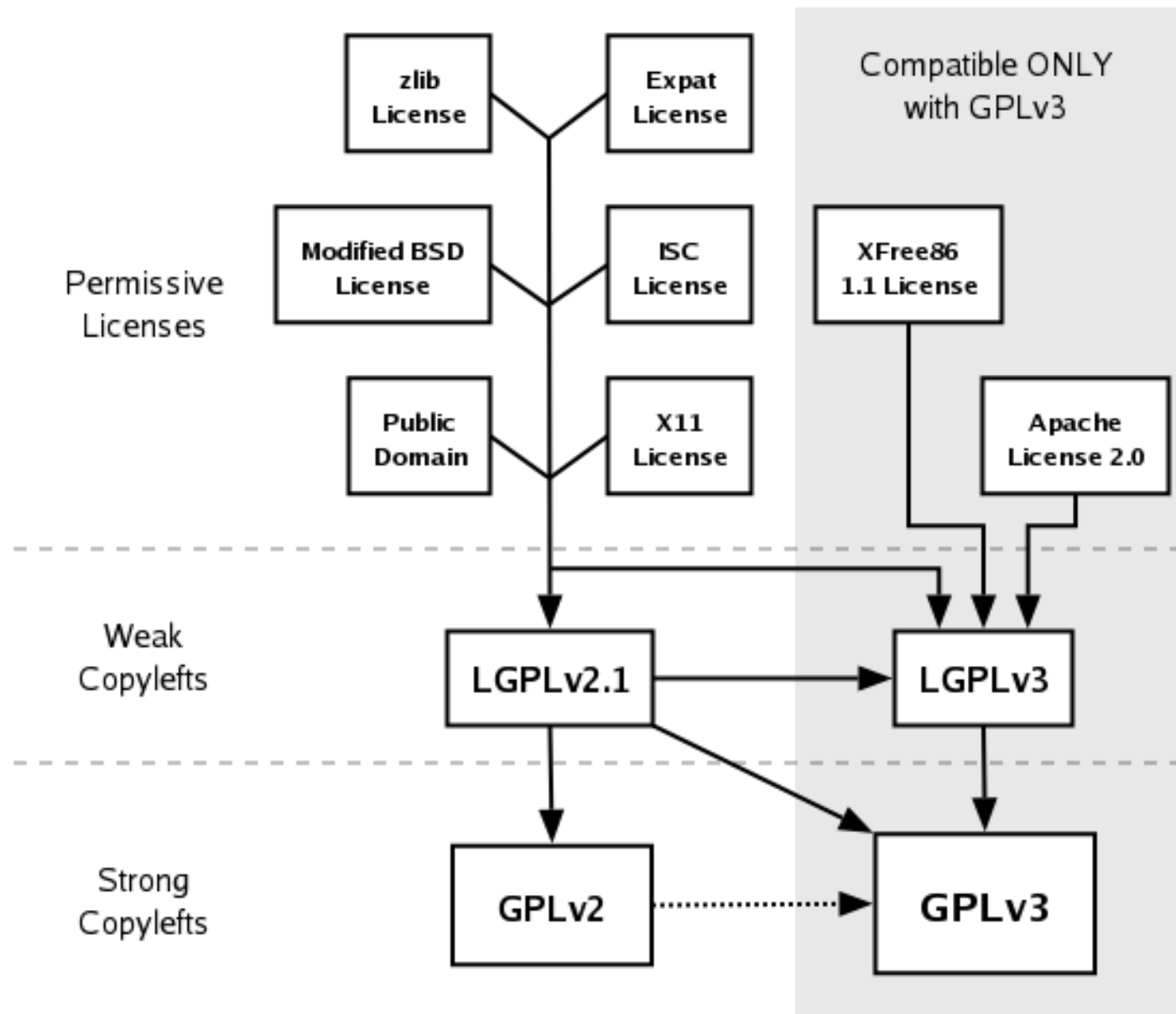
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- It's copy-left or “viral” open source. Ex:  
Section 5. Conveying Modified Source Versions  
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# Copyleft Licences



Legal:  
NDA & Non-Compete

# NDA

- To do business or be employed, confidential information is exchanged.
- NDA
  - ..
  - It is an agreement that confidential information and ideas are of value and must not be shared with others.
- Non-compete
  - A document where one agrees not to compete with the company for a period of time.

# NDA Activity

- What are you worth?
  - In 2 years, as a Software Developer, I'd like to earn:  
\$ \_\_\_\_\_ per year





# NDA Activity

- Job Offer!
  - You are offered a job at Evil Empire Inc paying twice what you asked for!
  - On the first day of your job, they ask you to sign the NDA found on the following pages.
- Read the legal document carefully.
  - Would you sign it?
  - What issues do you find with this document?

See the NDA linked with the notes.

# Ethics

# Software engineering ethics

- Software developer's responsibility:
  - 
  -
- Ethical:
  - more than upholding the law:  
must follow  
morally correct principles.



# Issues of Professional Responsibility

- Confidentiality
  - Abide by NDA (Non-disclosure agreement)
  - Respect employer confidentiality w/ or w/o NDA.
- Competence
  - Accurately represent one's level of competence:..
- Intellectual Property (IP) rights
  - Understand and protect IP: patents, copyright, etc.
- Computer misuse
  - Don't misuse technical skills or other's computers (playing games at work, spreading viruses).

# ACM/IEEE Code of Ethics

- Professional societies have..
  - Members agree to the code of practice when they join.
- Software engineers have significant opportunities:
  - to..
  - to enable others to do good or cause harm,
  - to influence others to do good or cause harm.

## ACM Code of Ethics:

"To ensure, as much as possible, that their efforts will be used for good, software engineers must commit themselves to making software engineering a beneficial and respected profession."



# The ACM/IEEE Code of Ethics

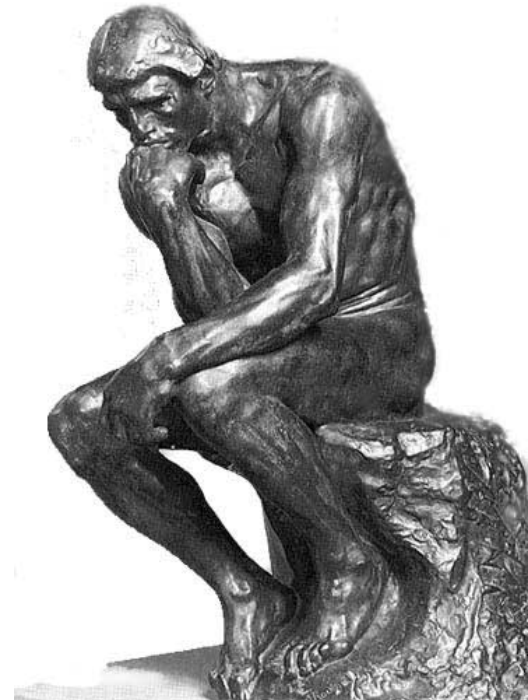
Software engineers shall:

1. PUBLIC: ...act consistently with the public interest.
2. CLIENT AND EMPLOYER: ...act in a manner that is in the best interests of their client and employer consistent with the public interest.
3. PRODUCT: ...ensure that their products and related modifications meet the highest professional standards possible.
4. JUDGMENT: ...maintain integrity and independence in their professional judgment.
5. MANAGEMENT: ...subscribe to and promote an ethical approach to the management of software development and maintenance.
6. PROFESSION: ...advance the integrity and reputation of the profession consistent with the public interest.
7. COLLEAGUES: ...be fair to and supportive of their colleagues.
8. SELF: ...participate in lifelong learning regarding the practice of their profession and shall promote an ethical approach to the practice of the profession.

# Possible ethical dilemmas

- Software developers may face ethical dilemmas:
  - with the policies of senior management.
  - Pressure to releases a safety-critical system
  - ..
  - Participation in the development of military weapons systems or nuclear systems.

"A principle isn't a principle  
until it costs you something."  
- William Bernbach



# Examples of Ethical Issues

- Project Maven

- In 2018 Google was working with the US DoD to apply its artificial intelligence to drone footage.

Google's AI would be used to identify and label activities in videos in a non-offensive capacity.

However, this AI could give the military information to conduct offensive “pattern of life” strikes.

- Google employees wrote a letter to the company in opposition to the project.
- The backlash lead Google to not renew the contract and develop a policy on how to apply AI.



# Google's Principles on AI

## “AI Applications We Will Not Pursue”

- “Technologies that cause or are likely to cause overall harm...”
- “Weapons or other technologies whose principal purpose or implementation is to cause or directly facilitate injury to people.”
- “Technologies that gather or use information for surveillance violating internationally accepted norms.”
- “Technologies whose purpose contravenes widely accepted principles of international law and human rights.”

# Examples of Ethical Issues

- Amazon's Rekognition
  - Amazon selling to police real-time facial recognition software, powered by Amazon Web Services.
  - Oregon police have an app to cross-reference faces with criminal records via a mug-shot database.
    - They discussed integrating it with body cameras.
  - Civil liberties groups concerned this becomes a tool for authoritarian surveillance.
    - Concern: once deployed, it cannot be un-done.
  - Amazon defends: project had found lost children and could greatly help fight crime.

# Summary

- Open source development allows others to see and change the code
  - Can add complex licensing issues.
- NDAs are common-place, but read carefully!
- With great power, comes great responsibility.