Slides #15

Legal and Ethics

CMPT 276
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Topics

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.
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).
Simplified BSD License

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

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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.
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."
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.

1) Realistic example which violates principle; 2) The possible consequences.
Possible ethical dilemmas

- Software developers may face ethical dilemmas:
  - with the policies of senior management.
  - Pressure to release 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.

https://www.icrac.net/open-letter-in-support-of-google-employees-and-tech-workers/
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.”

https://ai.google/principles
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.**