Introduction to
open-Source Software (OSS)

Concepts, strategies, and methodologies
related to open-source software development

Week 01 – Lecture 01

- Introduction (Couse Overview)

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Today, Agenda

- Course overview
- Brief Introduction to
  - Open-Source Software (OSS)

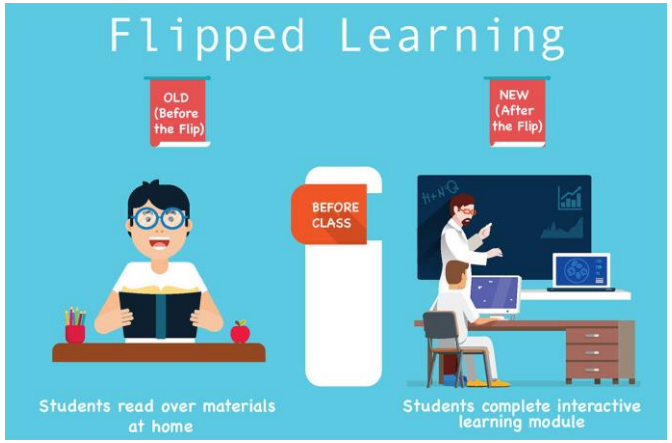
Welcome to the Course!

- Greetings and Introduction
  - Warm greetings to all participants!
  - An exciting journey into the world of OSS awaits.
- Engage and Interact
  - Your questions are encouraged!
  - Feel free to seek clarity if concepts seem challenging.
- Course Focus: Starting point for beginners to the open-source world
  - Educate you on the objectives of open-source
  - Understand open-source software licensing requirements
  - Get an introduction to the norms followed in the open-source world
  - Join the open-source movement and begin contributing.

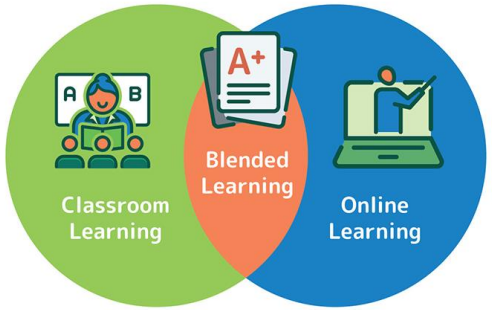
Prerequisites

- English Language
- A good understanding of software development and software engineering
- Experience with at least one programming language

Teaching Methods



Blended Learning



Project Based Learning

Gamification into your classroom

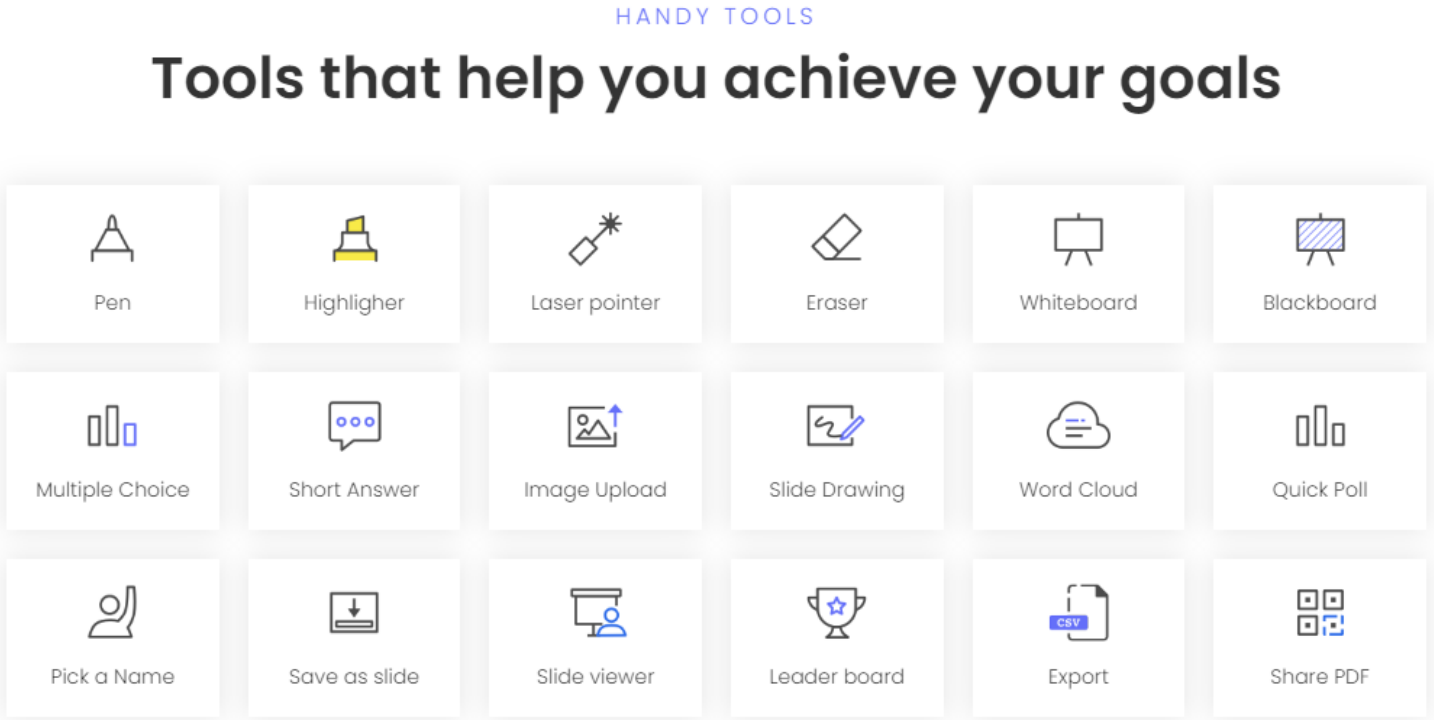
Teaching Methods

Interactive Classroom Quiz in PowerPoint

- Turn slides into quizzes and engage your students

ClassPoint

Turn slides into quizzes and engage your students



Communication Channel

https://open.kakao.com/o/gb4cUyMg

Grading

- **Mid Exam: 25 %**
  - Mid Exam. Covers material seen during the lectures before the exam.
- **Final Exam: 30 %**
  - Final Exam. Covers material seen after the exam
- **Quizzes: 10 %**
  - **There will be popup quizzes during lectures**
- **Attendance: 10 %**
- **Assignments & Group Project: 25 %**
  - Assignment will be due within seven (7) days of the announce
  - No late assignments will be accepted
  - A group of max Three (4) students will be allowed

Assignments & Group Project!

- They will be posted on the website.
- Due 11:59 pm on the due date, submitted online.
- Can use the discussion board and labs to meet with your group members.

How can you succeed?

- Attend all classes
- Be punctual
- Download lecture slides and programming files before the class and follow along.
- Actively read reference materials and practice practice practice OSS tools
- Read course notifications in the portal
- Get help immediately when you need it
- Actively participate in a team project
- Do not cheat or copy assignments from others
- Be responsible for your own learning

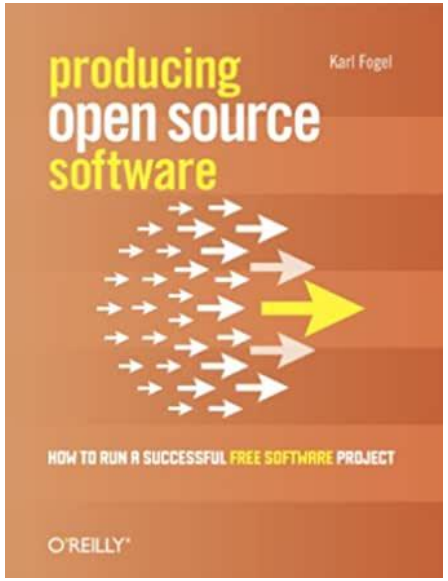
Academic Violations

- You should do all the work that you submit
- Never look at another team's work.
- Never show another team your work.
- Applies to all drafts and partial solutions.
- Discuss how to solve an assignment only with me

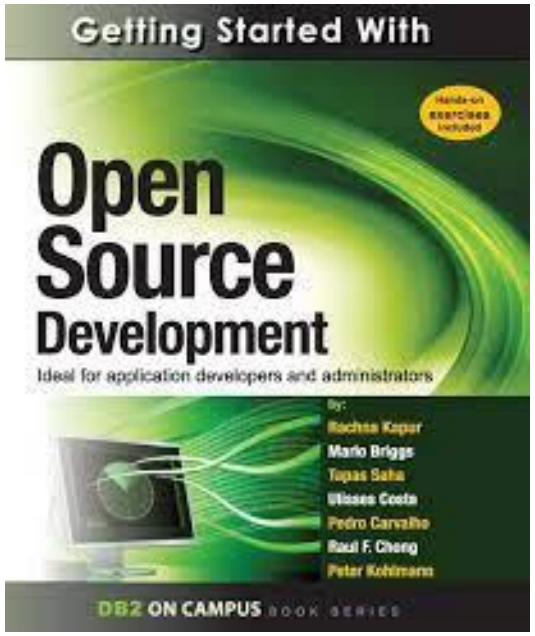
Getting Help

- Office Hours.
  - We're deciding on these right now!
- Can ask for help from me during labs.
- Course Discussion board.
- Monday-Thursday.
  - Office: Room 421, Innovation Building
  - Email: jamil@sejong.ac.kr
  - Office Hours: Thurs & Fri – 9:00PM to 6:00PM (or appointment by email)

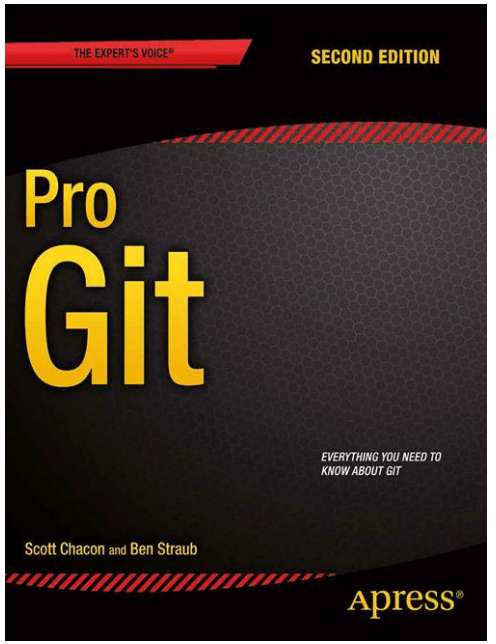
Recommend Books



Producing Open Source Software How to Run a Successful Free Software Project-Karl Fogel

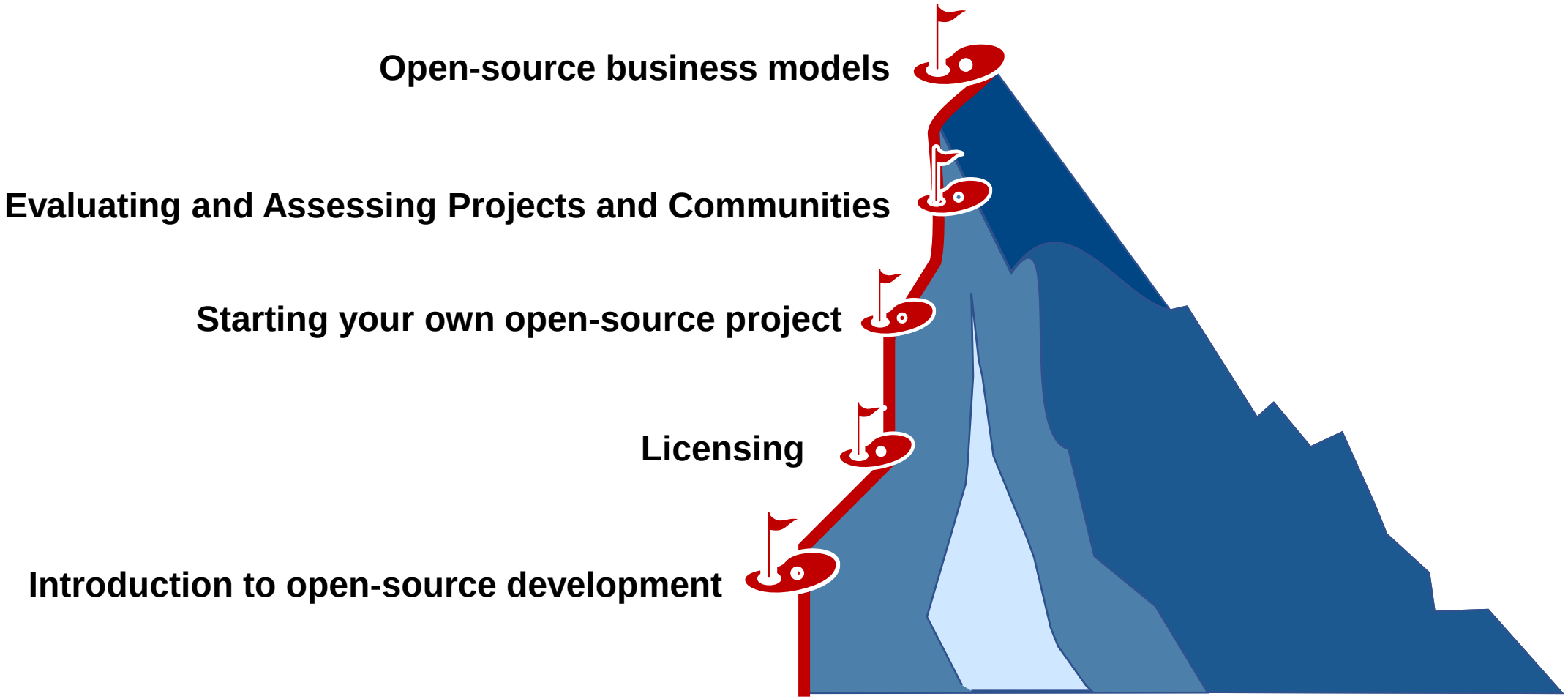


Getting started with open source development



Pro Git

Learning Path



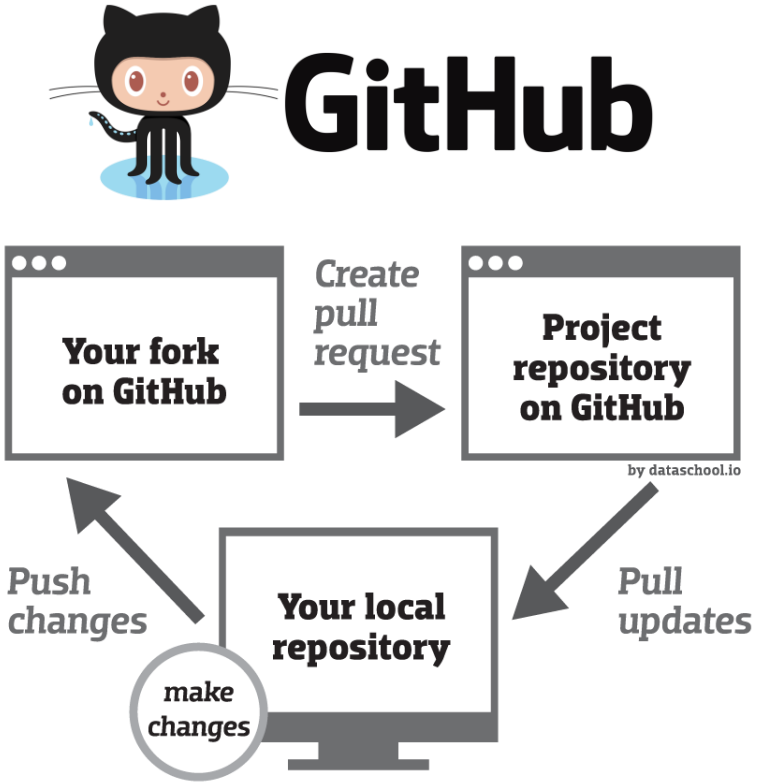
Minimum Objectives [1/4]

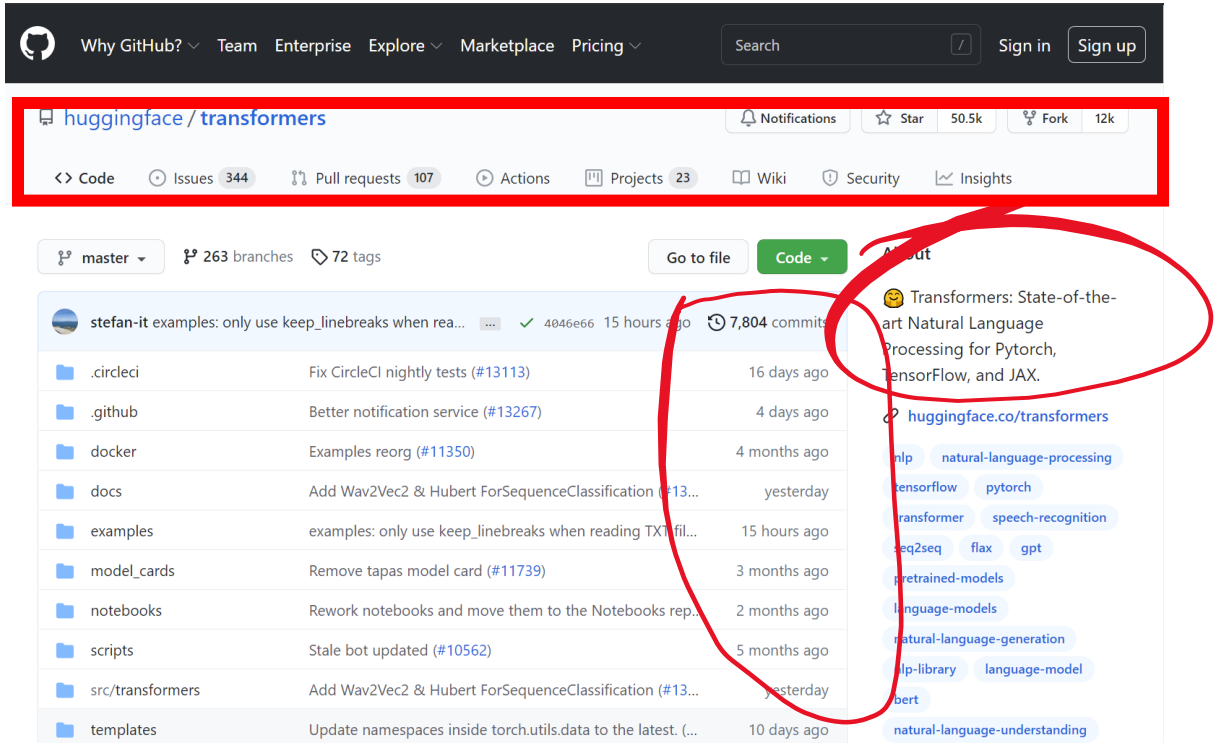
- Understand concepts, strategies, and methodologies related to open source-software development.

- Understand the common open-source licenses and the impact of choosing a license

Minimum Objectives [2/4]

- Understand open-source project structure and how to set up a project successfully





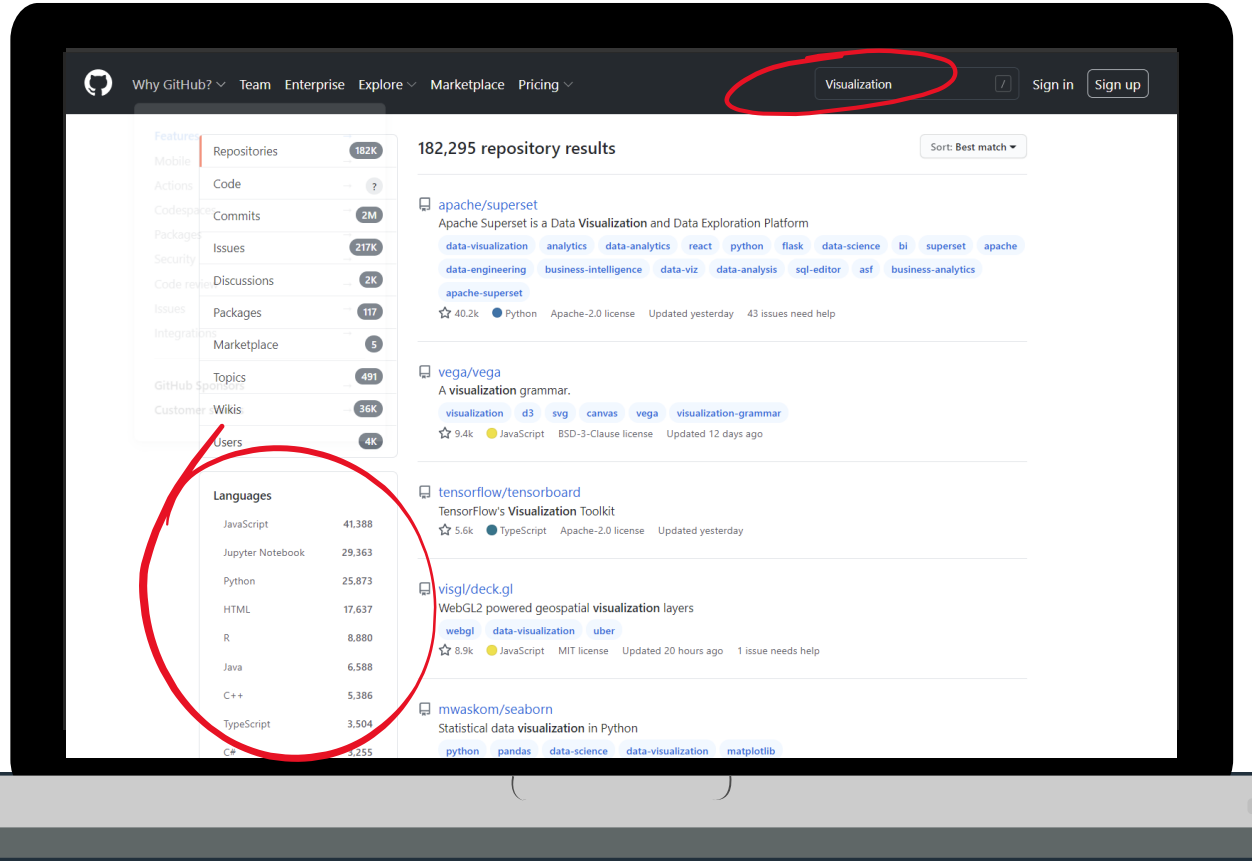
Minimum Objectives [3/4]

- Be familiar with open-source software products and development tools currently available.

Utilize open-source software for developing a variety of software applications.

Minimum Objectives [4/4]

- Be able to find open-source projects related to a given development problem.
- Be able to install from source code an open-source project and start using it.



Assessment about OSS

Assessment about OSS

Q1: Did you ever use any version control software?

A Yes

B No

Multiple Choice

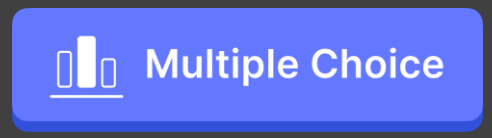
Assessment about OSS

Q2: Rate your skill in software development?

A Absolutely no previous SW development experience

B Developed small scale projects

C Expert in SW development



Assessment about OSS

Q3: Any Knowledge about the software Licensing?

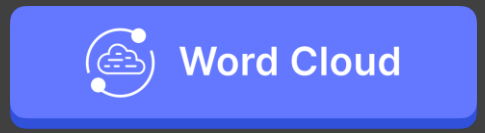
A Yes

B No

Multiple Choice

Assessment about OSS

Q3: Why do you enroll in this course?



Getting Started with

Open-source development

From Beginner's to Advanced

Brief Introduction of OSS

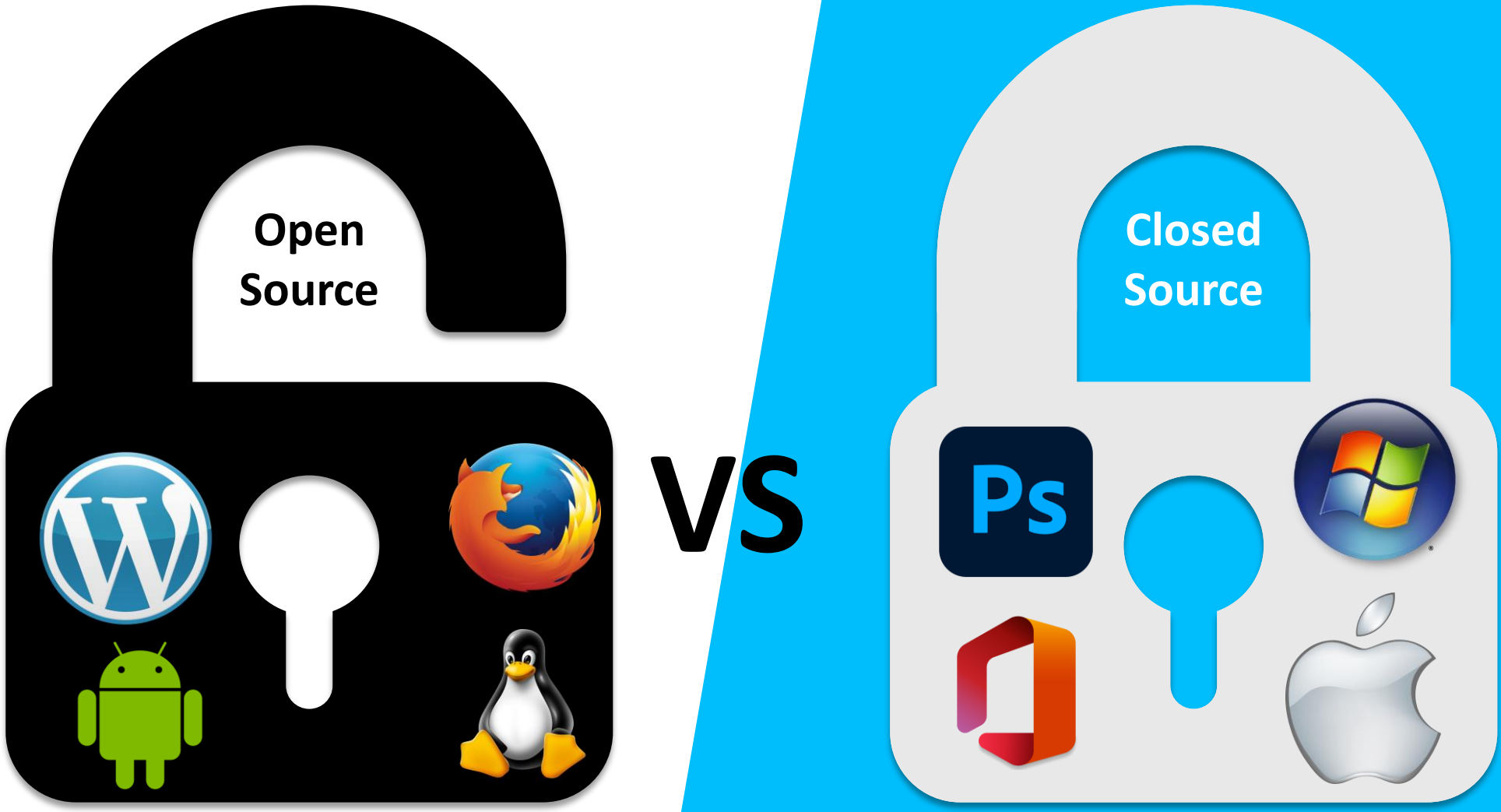
→ **Open Source**

We need to know about the Openness

→ **Software**

We need to know about the software development process

Brief Introduction of OSS

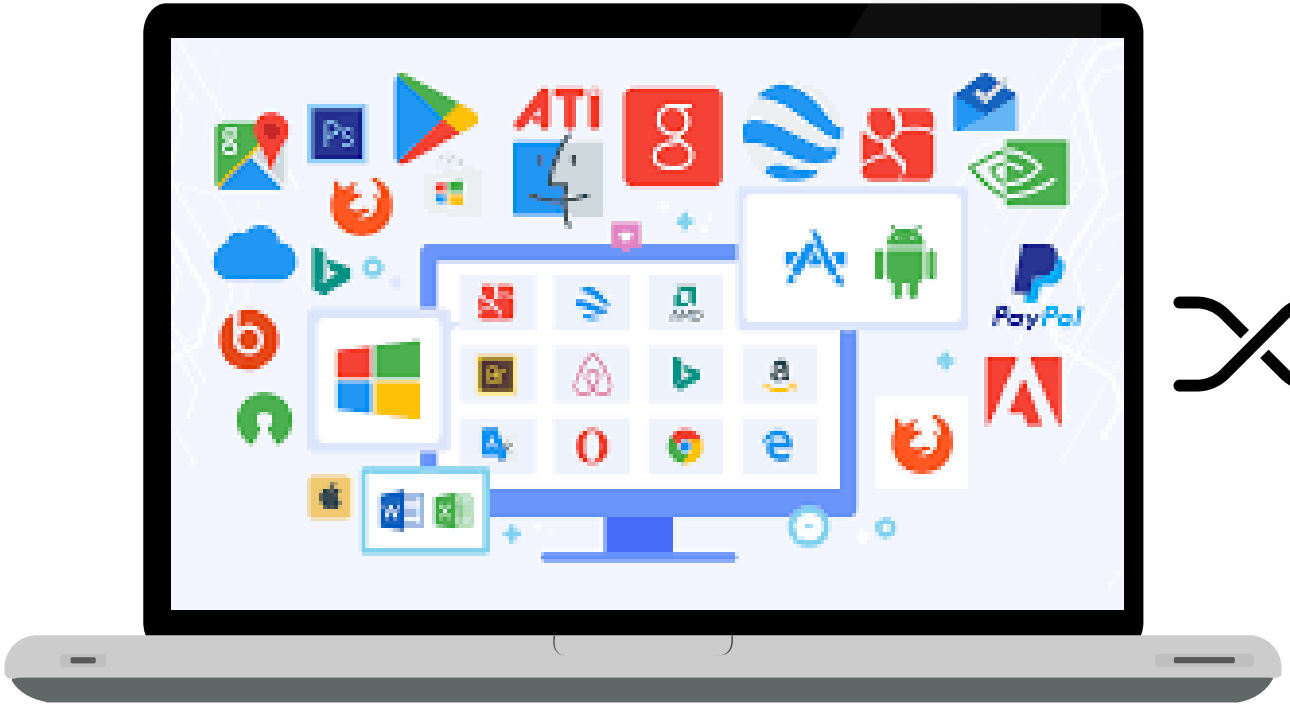


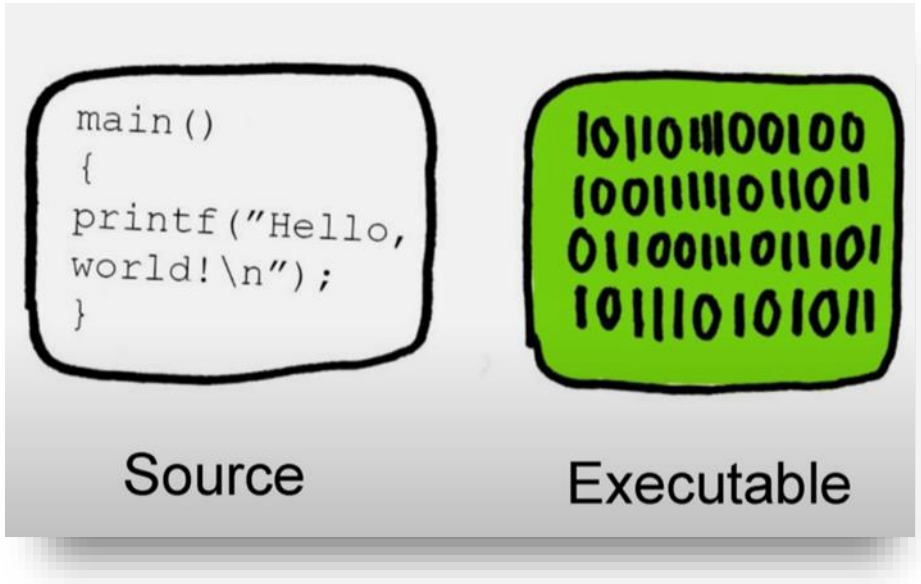
Software by license type

Software type	Free (cost)	Redistri-butable	Unlimited use and users	Source code available	Source code modifiable
Commercial (Close-source)	-				
Shareware	X	X			
Freeware	X	X	X		
Royalty-free libraries	X	X	X	X	
Open source	X	X	X	X	X

Source Code

The Technical blueprint that tells a program how to function





Software Release

Software Creators

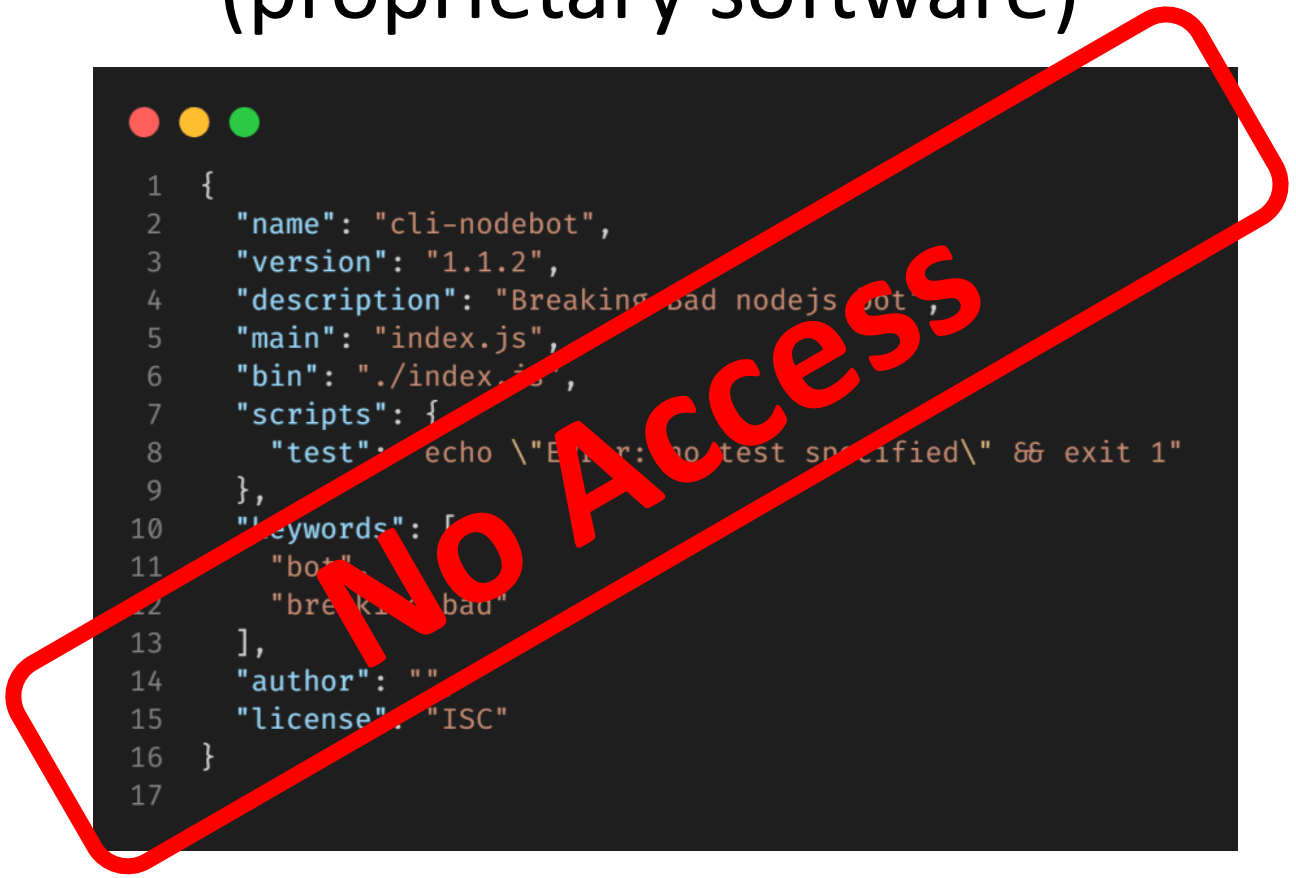
Open Source

Close Source

Close Source Software

- Closed source software, also known as

(proprietary software)

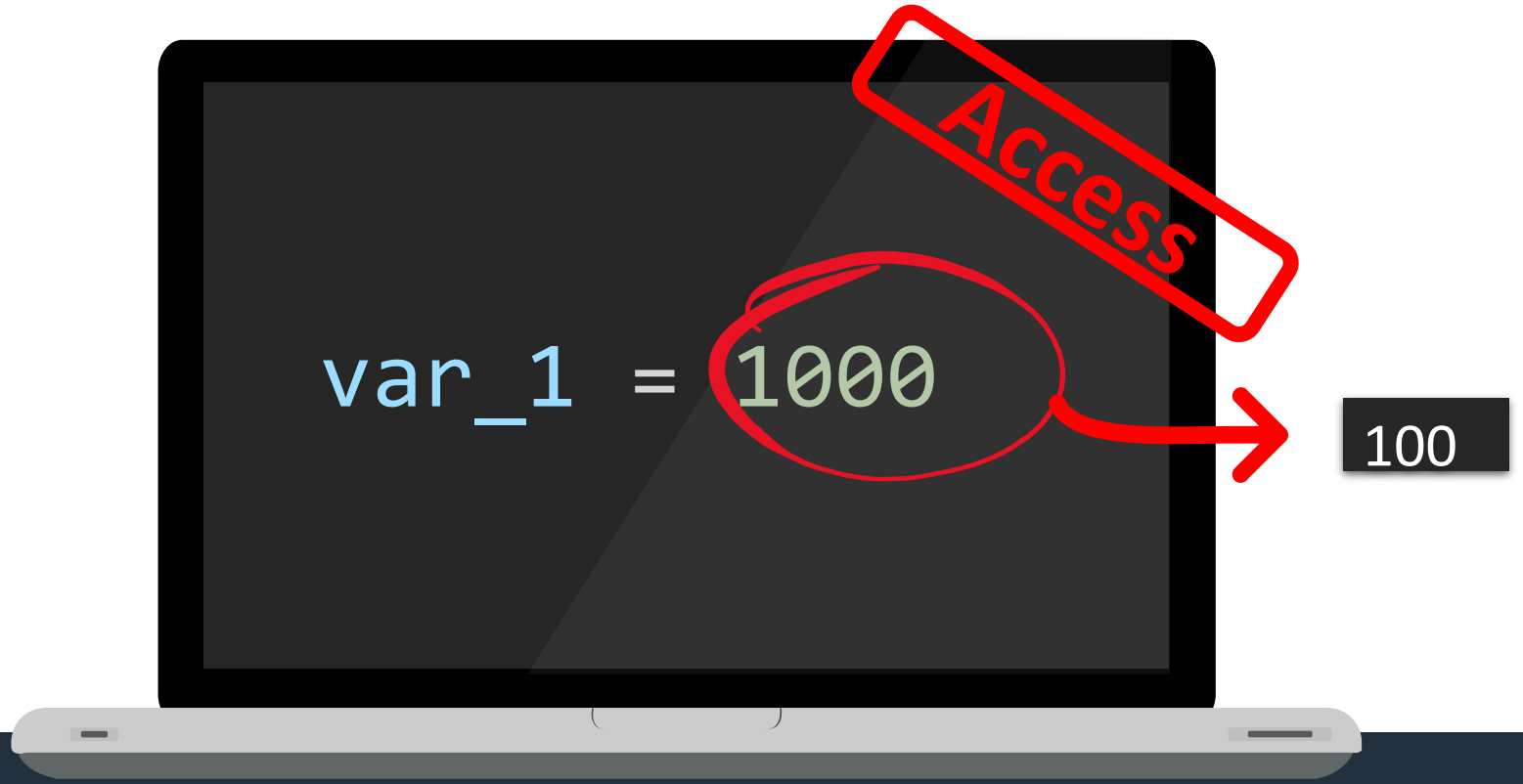


Close Source Software

What is Open Source Software?

Access to source code

Free = freedom to use, modify, copy



Open Source Is Not Just the Code

- Open-source software is more than just software whose code is available.
- It is inseparable from the community of people who contribute to it, who use it, and who actively work to support it in numerous number of ways.
- It is always together from the philosophy of sharing and freedom that produced the **Free and Open-Source Software** movements
- Open source is
  - an idea,a philosophy that software should be **Free**,
  - a method of building software that involves people working together **towards a common**, **shared goal**, within **a social structure** of their own making, created with the hope that it ensures the project's success.

Source: Stewart Weiss : http://www.compsci.hunter.cuny.edu/~sweiss/course_materials/csci395.86/slides/introduction.html#1

What is Open-Source Software?

- So what does that mean?
- A software that is collectively **developed by a community** of **technologists** with an interest in a particular application or tool and then distributed at no cost to the broader community of individuals who can find a use for it

- [Software that] anyone is freely licensed to use, copy, study, and change […] in any way, and the source code is openly shared so that people are encouraged to voluntarily improve the design of the software. – **Wikipedia**

What is Open Source Software? Really?

- Free to use
- Free to change
- Free to distribute
- An alternative to commercial software

Open Source Software is Everywhere

- Free and open source software is all around us, more than you probably realize. Some examples:
  - The code that secures Internet transactions, OpenSSL;
  - The Android operating system in many smartphones;
  - The Firefox browser;
  - The Linux kernel and operating system;
  - The code that many web developers use to build web pages, such as Wordpress and Drupal.
- Look at The Octoverse 2023, a report produced by GitHub, to see just how much activity happened in 2023 surrounding free and open source software.

Source: Stewart Weiss : http://www.compsci.hunter.cuny.edu/~sweiss/course_materials/csci395.86/slides/introduction.html#1

Openness In General

- The free and open source software movement covered the way for a more general philosophy of open access, sometimes called the Open Source Way (see The open source way) or simply Openness.
  - Open encyclopedias such as Wikipedia
  - Open digital libraries such as Internet Archive
  - Open maps such as OpenStreetMap
- Open data in general. There are thousands of open data sets. Government ones include:
  - municipalities like New York City: NYC Open Data
  - states, like New York State: New York State Open Data
  - the federal government: United States Open Government
- and many, many more.

Supporting Institutions

- There are many, many institutions that support free and open source software. Some of the major ones in the U.S. are:

The Free Software Foundation

The Open Source Initiative

The Software Freedom Conservancy

The Mozilla Foundation

The Linux Foundation

The Creative Commons

there are many others around the world

Attribution

- Some Slides are copied from **Prof. Stewart Weiss Lectures :** http://www.compsci.hunter.cuny.edu/~sweiss/course_materials/csci395.86/slides/introduction.html#1

Reading Materials

- **Books:**
  1. VM Brasseur, *Forge Your Future with Open Source*, The Pragmatic Programmers, LLC. 2018.
  2. Karl Fogel, *Producing Open Source Software: How to Run a Successful Free Software Project*, O'Reilly Media, 2009.
- https://www.gnu.org/philosophy/free-sw.html
- https://blog.lizardwrangler.com/2008/01/22/january-22-1998-the-beginning-of-mozilla
- https://opensource.org/licenses
- https://www.coredna.com/blogs/comparing-open-closed-source-software
- https://linkedretail.com/open-vs-closed-source/
- https://www.assignmentprime.com/blog/open-vs-closed-source-software
- https://www.gnu.org/philosophy/free-sw.en.html
- https://opensource.org/osd
- https://pavanganeshbutha1998.blogspot.com/2019/10/free-software-philosphy.html
- https://www.youtube.com/watch?v=Ag1AKIl_2GM&t=89s

Thanks

Office Time: Monday-Friday (1000 - 1800)

You can send me an email for meeting, or any sort of discussion related to class matters.

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