FOSS 101: Open Source Unveiled
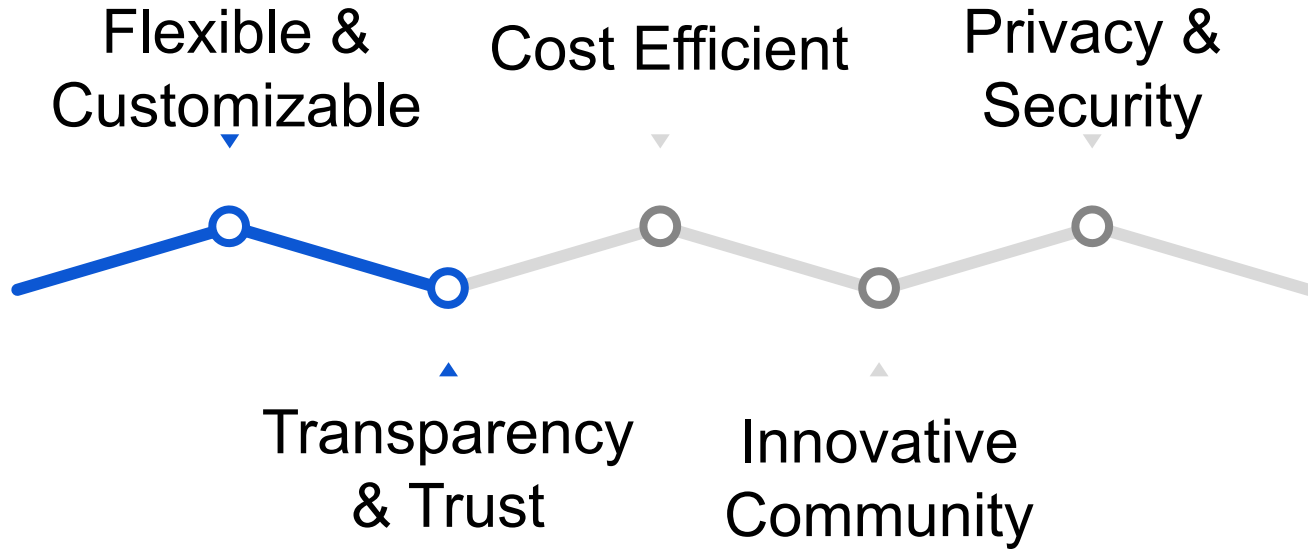
Curated by FOSS UNITED

<u>*What is FOSS?*</u>

<u>Free and Open Source Software (FOSS)</u> refers to software that is freely available for anyone to use, modify, and distribute. Unlike proprietary software, FOSS encourages openness, collaboration, and accessibility.

1. *<u>Freedom to Use</u>:* Allows anyone to use the software for any purpose, *without restrictions on personal or commercial use*.

2. *<u>Access to Source Code</u>:* Users *can view the source code*, enabling transparency, trust, and the opportunity to learn from the software's structure and functionality.

3. *<u>Freedom to Distribute</u>:* Users *can share the original or modified versions of the software,* promoting knowledge sharing and accessibility.

4. *<u>Community-Driven Development</u>:* FOSS projects are typically supported by *a community of volunteers*, resulting in continuous improvements and *collaborative innovation.*

Curated by FOSS UNITED

History of Open-source

- **Early Foundations (around 1960s)**
  - software was generally shared freely among **academic and corporate researchers** using OS like **Multics**

- **UNIX & Software Sharing**
  - developed by **AT&T**
  - source code was distributed to universities and institutions

- **Launch of the GNU Project (1980s)**
  - Launched by **Richard Stallman** (aimed at creating free **UNIX-like OS developed by AT&T**)
  - founded the **Free Software Foundation (FSF)**, establishing the **General Public License (GPL)** to enforce open distribution and modification rights

- **Release of the Linux Kernel (1991)**
  - Created by **Linus Torvalds**
  - a free kernel when **combined with GNU** software, made a fully functional open-source operating system.

- **Community-Driven Projects**
  - **Apache HTTP Server**: widely used server globally at that time
  - **Mozilla (Firefox)**: launched by **Netscape**, led to the development of Firefox browser

- **Collaborative Platforms**
  - **SourceForge** (1999) & **GitHub** (2008): enabled easy access to code repositories.
  - Google, IBM, and Microsoft started contributing to and adopting FOSS

- **Present Day**
  - FOSS is in nearly every technology, from OS (e.g., Linux, Android) to cloud infrastructure, artificial intelligence, and IoT.

Benefits of FOSS

Flexible & Customizable

Cost Efficient

Privacy & Security

Transparency & Trust

Innovative Community

Curated by FOSS UNITED

	FOSS	**Proprietary software**
Free/Low Cost, Customizability	✅	❌
Vendor Options	✅	❌
Ease of Integration	❌	✅
UI/UX, Optimized Features	❌	✅
Security	community-driven security	Full Time Professionals

Curated by FOSS UNITED

Popular FOSS Tools & Projects

Operating Systems:

Linux: A widely used open-source OS.

FreeBSD: Known for its reliability and performance.

Development:

Git: A version control system widely used in software development.

Visual Studio Code: A popular open-source code editor by Microsoft.

Design:

GIMP: An image editor alternative to Photoshop.

Inkscape: A vector graphics editor.

Web:

Mozilla Firefox: An open-source web browser.

How to get Involved?

Membership:
Join the FOSS Club community to learn and collaborate

Projects:
Get involved in projects to build skills and contribute to open-source community

Resources:
Access to the exclusive resources including learning resources, mentorship and much more

Contributing:
Learn how to contribute to open-source both in terms of code and doc

Activities & Events

1. **Workshops:**
   Hands-on sessions to learn about various open-source tools and platforms.

2. **Hackathons:**
   Coding events where participants work together to create open-source solutions.

3. **Awareness Sessions:**
   Informative sessions covering open-source principles, philosophy, and benefits.

4. **Project Collaborations:**
   Opportunities for members to work on real-world FOSS projects, contributing code and docs

Curated by **FOSS UNITED**

Future Plans and Events

Advanced workshops and sessions on open source technologies

Collaboration with other FOSS communities and clubs for cross-campus collaborations

Upcoming hackathons and FOSS conferences

Q&A