

Free and Open Source Software (FOSS)

An introduction

What will we cover today?

- What is Free Software?
- Software freedoms
- Why freedoms matter
- Open Source explained
- Licenses and sharing
- Business and FOSS
- Why choose FOSS?

Section 1: Free Software

In this section, we will:

- History of Software and Free Software
- Why Free software
- Understand what Free Software means
- Learn about software freedoms

Early Days of Software

In the early days of computers:

- Software came with hardware
- Programmers shared code freely
- Fixing and improving was normal

Real-life analogy:

- Scientists sharing formulas openly

Why Was Software Shared Freely?

Because:

- Computers were rare and expensive
- Software was seen as knowledge, not a product
- Users were often programmers themselves

Real-life analogy:

- Mechanics sharing repair tips

What Changed Over Time?

Later:

- Software became a product
- Companies stopped sharing source code
- Licenses started restricting use and copying

Real-life analogy:

- Repair manuals removed from machines

Think About This

If you cannot:

- See how something works
- Fix it when it breaks

Are you really in control?

Why Free Software Started

Developers faced problems:

- Could not fix software they used
- Could not share improvements
- Users lost control over tools

Response:

- Demand for software freedom

The Four Software Freedoms

You are free to:

0. Run the program for any purpose
1. Study how it works
2. Share copies
3. Improve it and share improvements

What is Free Software?

- "Free" as in freedom, not price
- You may pay money and still get Free Software

Think Deeper 🤔

If you buy a mixer grinder:

- Can you open it?
- Can you repair it?
- Can you share its design?

How is software similar or different?

Why These Freedoms Matter

- No vendor lock-in
- You can fix problems yourself (or hire someone)
- Knowledge grows when shared

Real-life analogy:

- Recipes vs secret restaurant food

Success Stories

- Linux
- Android
- PostgreSQL
- Many more

Linux

Linux is:

- A Free Software operating system
- Used all over the world

It runs:

- Servers
- Supercomputers
- Phones
- Embedded devices

The Idea Spread Beyond Software

Free Software showed that:

- Sharing works
- Collaboration scales
- Freedom builds trust
- Power to Commons

These ideas spread to other fields

Wikipedia: Free Knowledge for the World

Wikipedia is:

- A free online encyclopedia
- Written by volunteers worldwide
- Editable by anyone

Key idea:

- Knowledge should be free to access and share

Real-life analogy:

- A public library that everyone helps maintain

Reflect

Would you trust:

- A calculator you cannot check?
- A voting machine you cannot inspect?

Why or why not?

Section Summary

What we learned:

- Software was once shared freely
- Restrictions came later
- Free Software restores user freedom
- Free Software is about freedom
- Freedoms give users control and trust

Pause

Questions so far?

Section 2: Can Free Software be Commercial?

In this section, we will:

- Understand money and Free Software
- Break common myths

Can Free Software Make Money?

Yes.

You can charge for:

- Selling copies
- Support and services
- Custom features

Real-life Analogy

- A free recipe book
- You pay a chef to cook for you

You pay for skill, time, and service

Think About This

If software is free to copy:

- What are people really paying for?

Section Summary

What we learned:

- Free Software and business can coexist
- Payment is for service, not restriction

Pause

Questions?

Section 3: What is Open Source?

In this section, we will:

- Learn what Open Source means
- Compare it with Free Software

What is Open Source?

- Source code is visible
- Anyone can read and use it
- Under an Open Source license

Focus:

- Practical benefits
- Better quality, faster development

Free Software vs Open Source

- Free Software: ethics and freedom
- Open Source: collaboration and efficiency

Mostly same software, different reasons

Reflect

Which argument is stronger for you?

- Moral freedom
- Better quality software

Why?

Section Summary

What we learned:

- Open Source focuses on openness
- Motivation differs, software often same

Pause

Questions?

Section 4: Licenses and Sharing

In this section, we will:

- Understand licenses
- Learn rules of sharing

What is a License?

A license tells you:

- What you can do
- What you must do

Real-life analogy:

- Rules written inside a book

Common License Types

- GPL (share alike)
- MIT / BSD (very permissive)
- Apache (permissive + patent rules)

No need to memorize

What is Virality?

- Some licenses require sharing changes
- If you benefit, you give back
- License requires you to share modifications when you distribute the software.

Think Deeper

Is forced sharing:

- Fair?
- Unfair?
- Good for society?

Section Summary

What we learned:

- Licenses set rules
- Virality keeps sharing alive

Pause

Questions?

Section 5: Business Implications

In this section, we will:

- See how companies use FOSS
- Understand risks and benefits

Businesses and FOSS

Companies use FOSS to:

- Reduce costs
- Avoid vendor lock-in
- Build faster

Examples:

- Linux, Android, Firefox

Risks and Responsibilities

- Must follow license rules
- Must give credit
- Sometimes must share changes

Think About This

Should companies:

- Take from community?
- Give back to community?

What about government?

- Why and why not?

Section Summary

What we learned:

- FOSS is business-friendly
- Responsibility comes with freedom

Pause

Questions?

Section 6: Why Choose FOSS?

In this section, we will:

- Understand user benefits
- See long-term value

Why Choose FOSS?

- Control over your tools
- Transparency and trust
- Learning and skill building
- Community support

Real-life analogy:

- Owning tools vs renting tools

Reflect

As a student or citizen:

- Do you want control?
- Or only convenience?

Is there a balance?

Final Summary

We learned:

- Free Software is about freedom
- Open Source is about openness
- Licenses guide sharing
- FOSS benefits users, society, and business

Thank you!

Any questions?

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