What is open source software?

KS3 KS4 Ages 11-16 ⏰ 2 min read

Most software you use keeps its inner workings secret. You can use Microsoft Word, but Microsoft won't show you the actual code that makes it work — just like a restaurant might let you eat the food without sharing the recipe. **Open source software** does the opposite: it publishes the recipe for anyone to read, copy, modify, or improve.

What "source code" means

Every piece of software is built from **source code** — the instructions, written in a programming language, that tell a computer what to do. When software is "closed source" (also called proprietary), only the company that made it can see that code. When it's "open source," the code is publicly available for anyone to examine.

A closed-source app is like a vending machine: you put in money, something comes out, but you have no idea what's happening inside. Open source is like a recipe book: you can see exactly what went into the dish, change the seasoning if you want, and share your improved version with everyone else.

Who makes open source software?

Open source projects are often built by communities of volunteer programmers from around the world. Anyone can contribute — fix a bug, add a feature, improve the documentation. Popular projects might have thousands of contributors who have never met in person. They collaborate through websites like **GitHub**, where code changes can be proposed, reviewed, and either accepted or rejected.

Big companies also contribute to open source. Google, Meta, Microsoft, and many others have released large projects as open source, partly to attract talented developers and partly to build an ecosystem around their technologies.

Famous examples

You interact with open source software constantly without realising it:

- **Linux** — the operating system that powers most of the world's web servers, Android phones, and supercomputers
- **Firefox** — the web browser
- **Wikipedia** — not software, but built on open source principles
- The software running most of the internet's infrastructure

Why does it matter?

Open source software means anyone can check for security flaws (or fix them). It means software doesn't disappear when the company behind it closes down. And it means developers in poorer countries can build on the same tools as developers in Silicon Valley, without paying expensive licences. It's one of the genuine success stories of collaboration over competition.

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