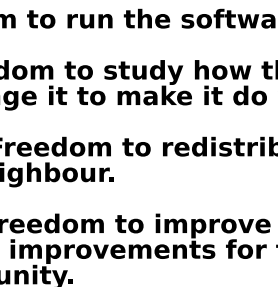# How to Understand

Free &
Open
Source
Software

A visual guide by Martin Owens

Why Does it Exist

The ideas of Free and Open Source software are driven by the social and political ideals of Free Software, defined by the four kinds of freedom, for the users of the software:

1. **Control** - Freedom to run the software, for any purpose.

2. **Education** - Freedom to study how the program works, and change it to make it do what you wish.

3. **Consideration** - Freedom to redistribute copies so you can help your neighbour.

4. **Collaboration** - Freedom to improve the program, and release your improvements for the betterment of the whole community.

Think Free as in speech, not free as in money.

The Free Software Definition, Free Software Foundation
http://www.fsf.org/

How it Works

The ideals of Free Software are the right reasons, but reasons alone aren't enough to make good software that respects user's freedoms.

We use a most effective economic commons system called Open Source to organise the work and together we get FOSS:
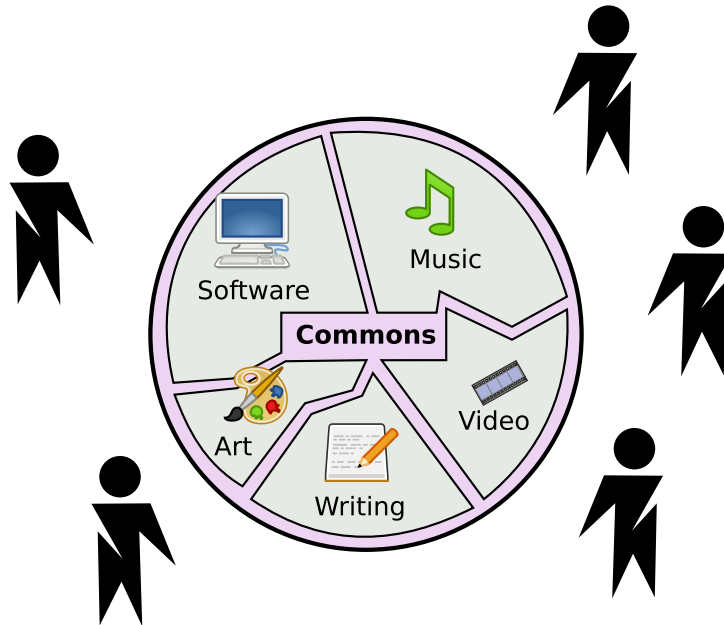
**Free and Open
Source Software
(FOSS)**
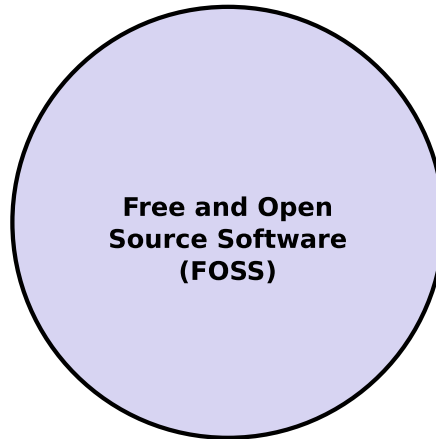
The Commons

Resources that are accessible to everyone,
regardless of country or ability to pay.
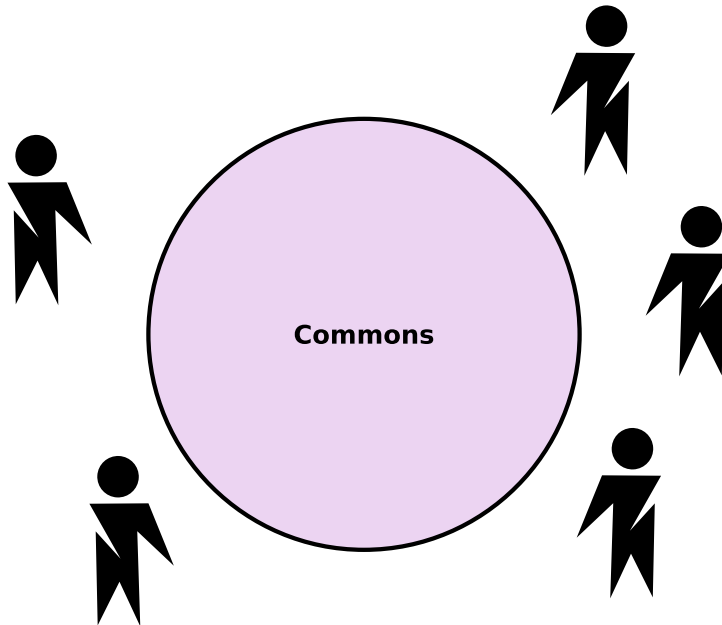
Commons

The Commons

These resources can be anything.
The Creative Commons is for all types of creative works.

Software

Music

Commons
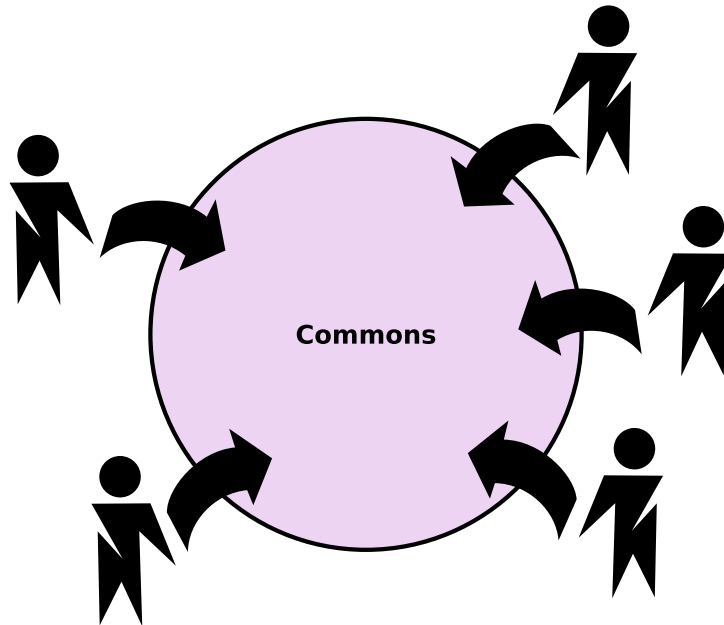
Art

Writing

Video

The Commons

Everyone can make copies of anything
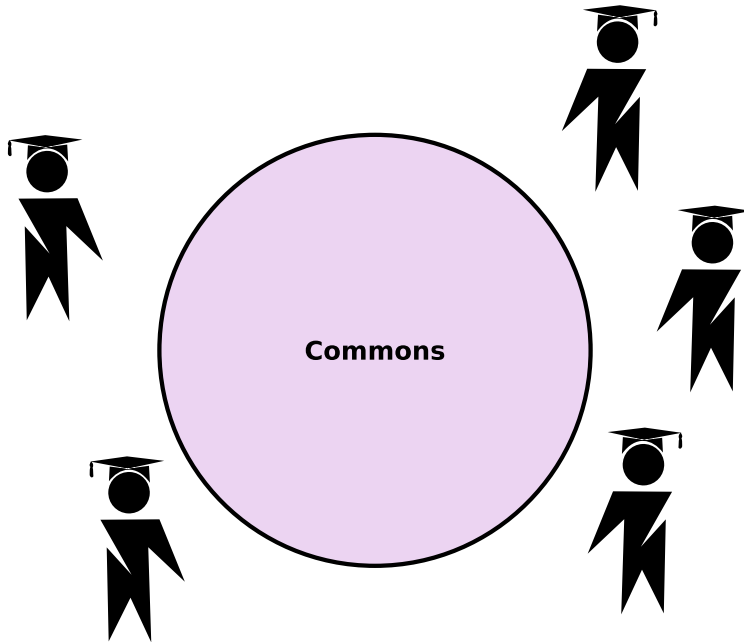in the Creative Commons.
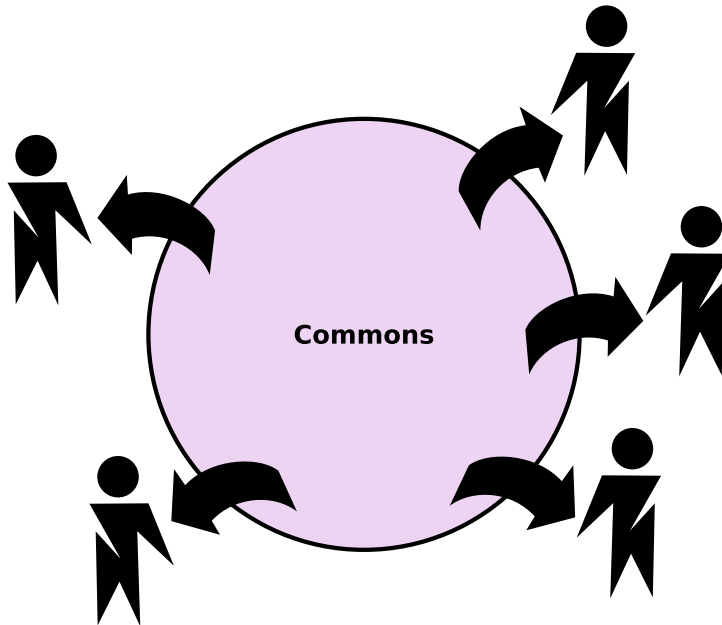
Commons

The Commons

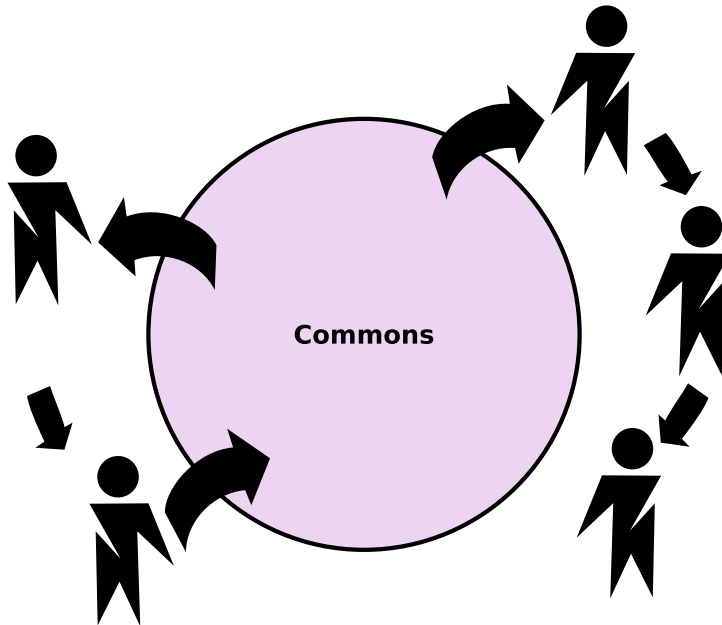**Everyone can add anything
to the Creative Commons.**

Commons

The Commons

**Everyone can learn from
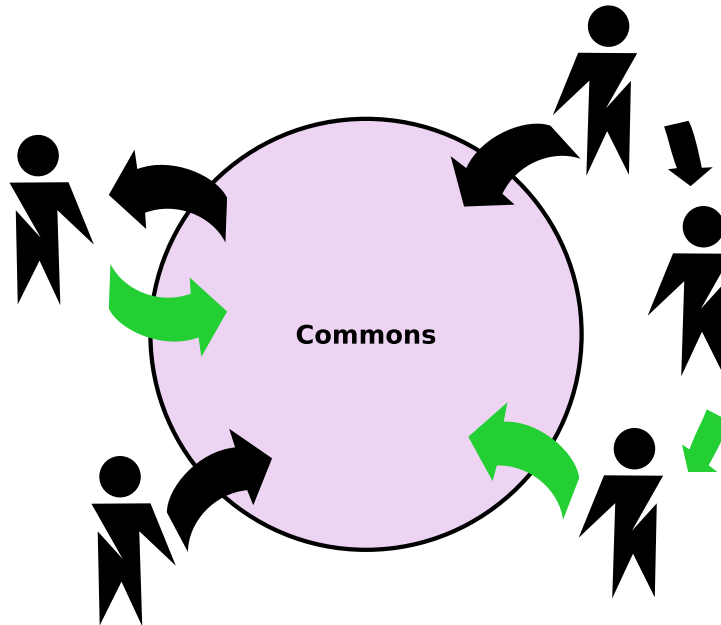the Creative Commons.**

Commons

The Commons

Anyone can share the Creative Content
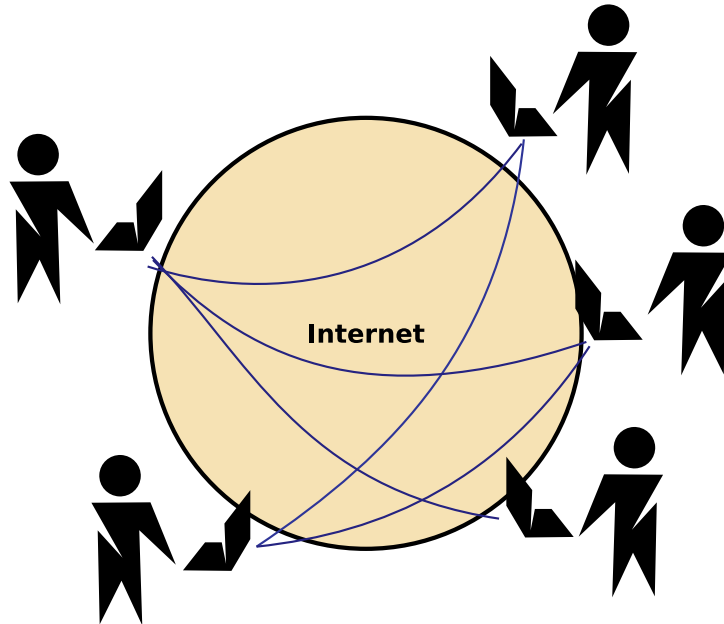with anybody else.

Commons

The Commons

Because the source is available, anyone can build on other works to create new "derivative" works.
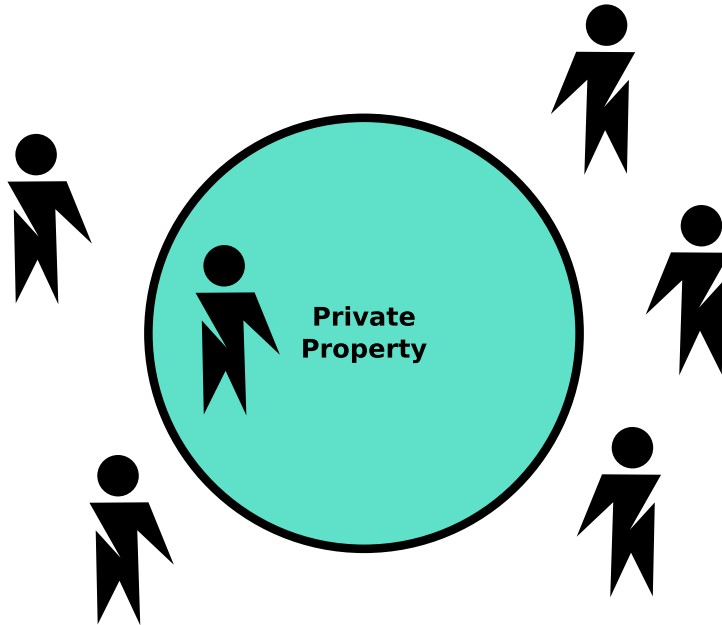
The Internet

The Internet allows this free exchange
of ideas and creative works across the whole world.

Internet

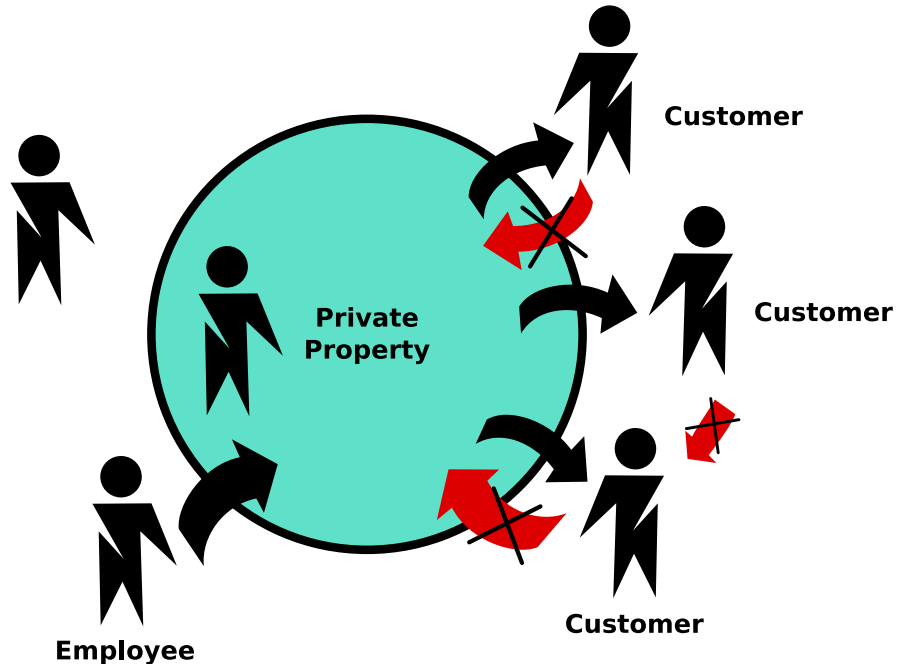# Closed Source

Closed source is the same as Non-Free.
It is the creation of content as a private property freely
accessible only to the owner (company or person).

**Private
Property**

# Closed Source

The Private Property model does not allow normal users to share, build upon or learn from the work. Each user is divided.

Customer

Customer

Private Property

Customer

Employee

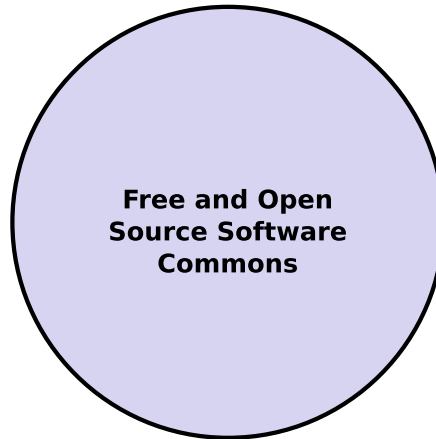# Closed Source

The user has only one right, the right to use. The only option is to find or create a completly different alternative.

Customer

Customer

Private Property

Customer
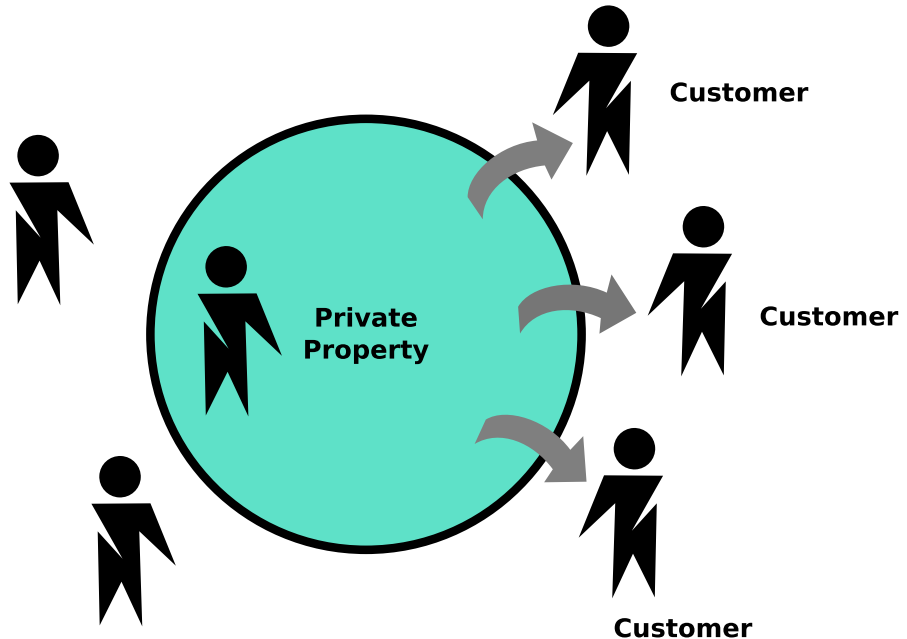
FOSS

That is why FOSS is a Commons system*, not a Private Property system. This has some implications....

Free and Open
Source Software
Commons

* also sometimes known as 'copy-left'

Once Created
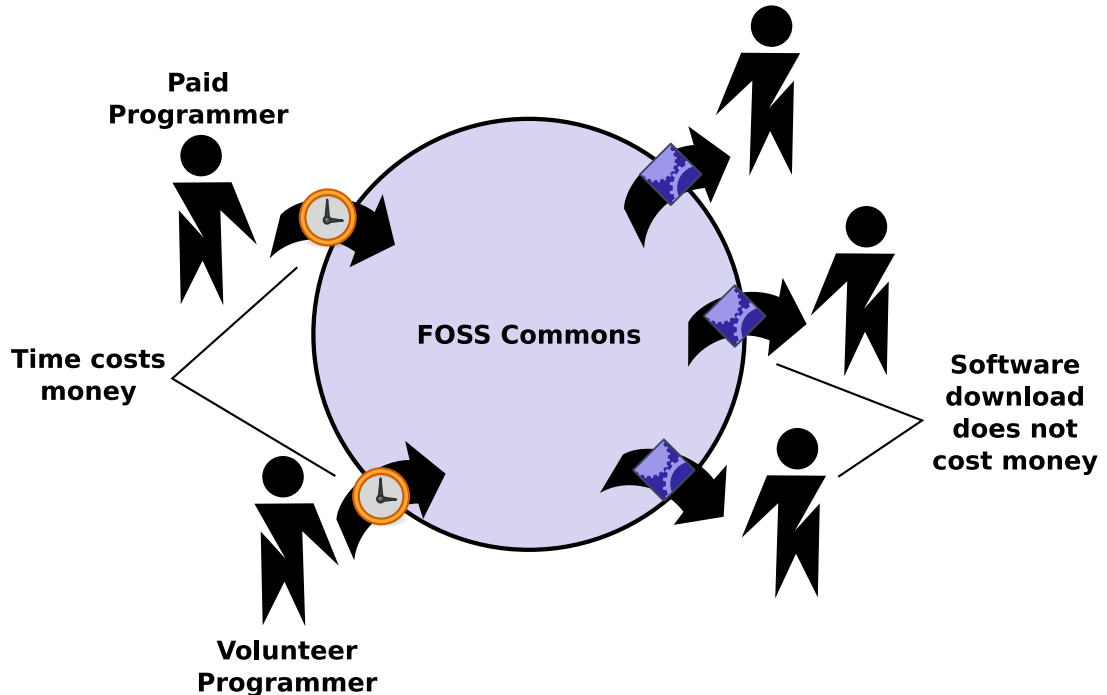
**Once software has been created and placed into the Commons
It can be used by anyone, for any reason, at any time.
The number of copies is never limited.**
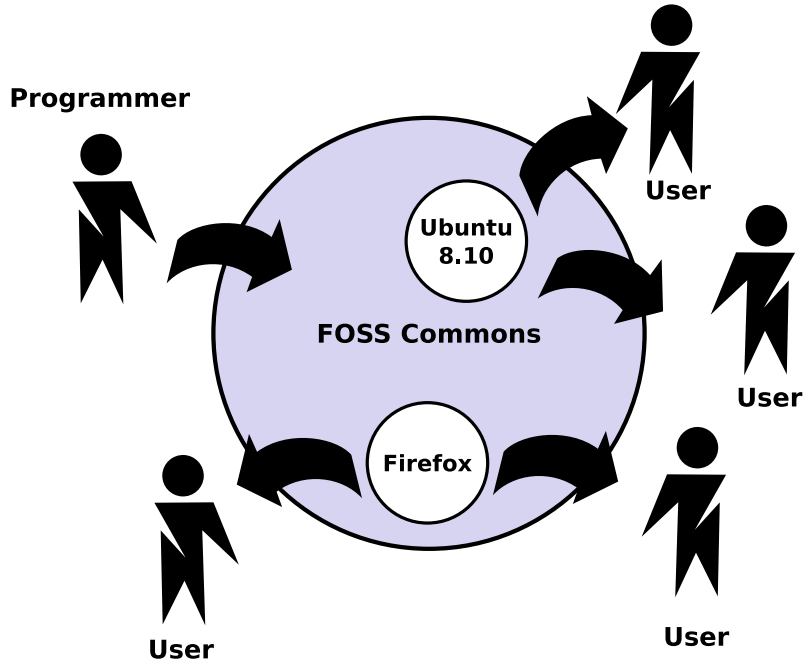
Creation Costs

But software creation, new features and bug fixes
do cost resources (money, time, etc).

Paid Programmer

Time costs money

FOSS Commons

Software download does not cost money

Volunteer Programmer

Creation Costs

Compared to the costs of closed source.

Customer

Employee
Programmer

Customer

Private
Property

Time is paid
for by investment
from the owners.
Users uninvolved.

Every copy
costs money

Employee
Programmer

Customer
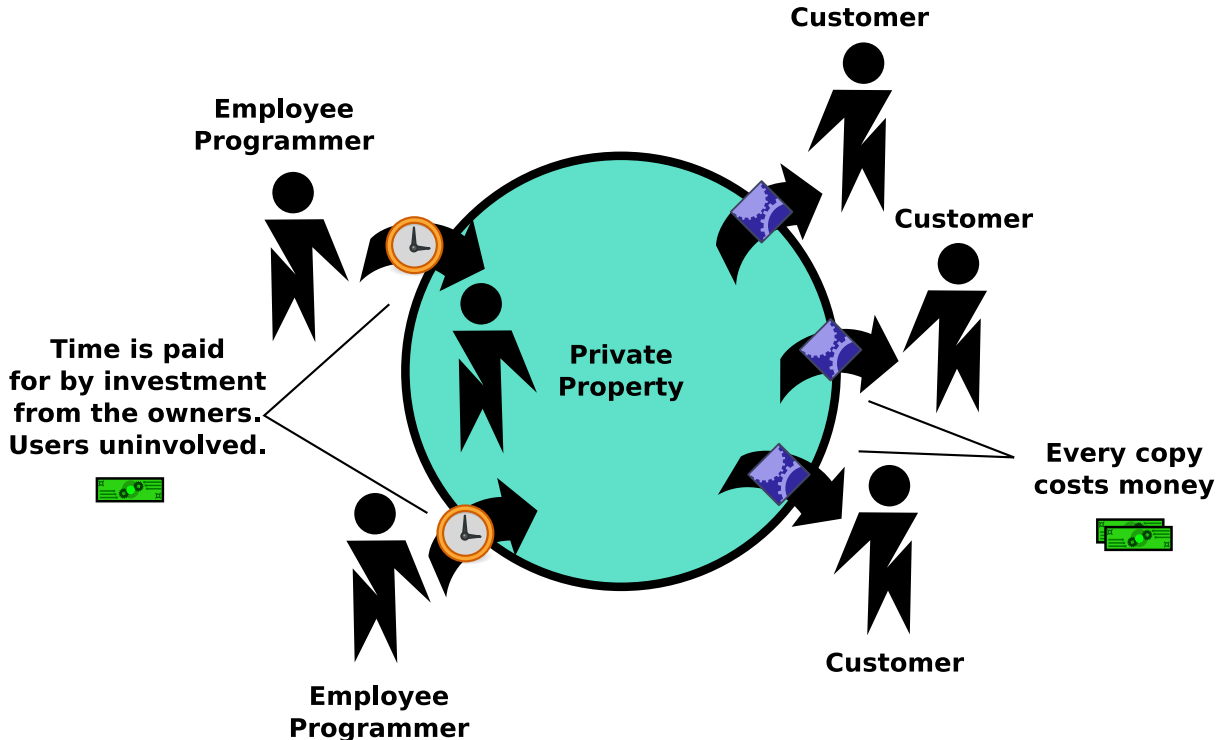
Paying the Costs

Supporting development costs requires resources.
Example:

Programmer
(ready to work)

Programmer
(needs feature)

FOSS Commons

User
(needs feature)

User
(needs feature)

User
(needs nothing)
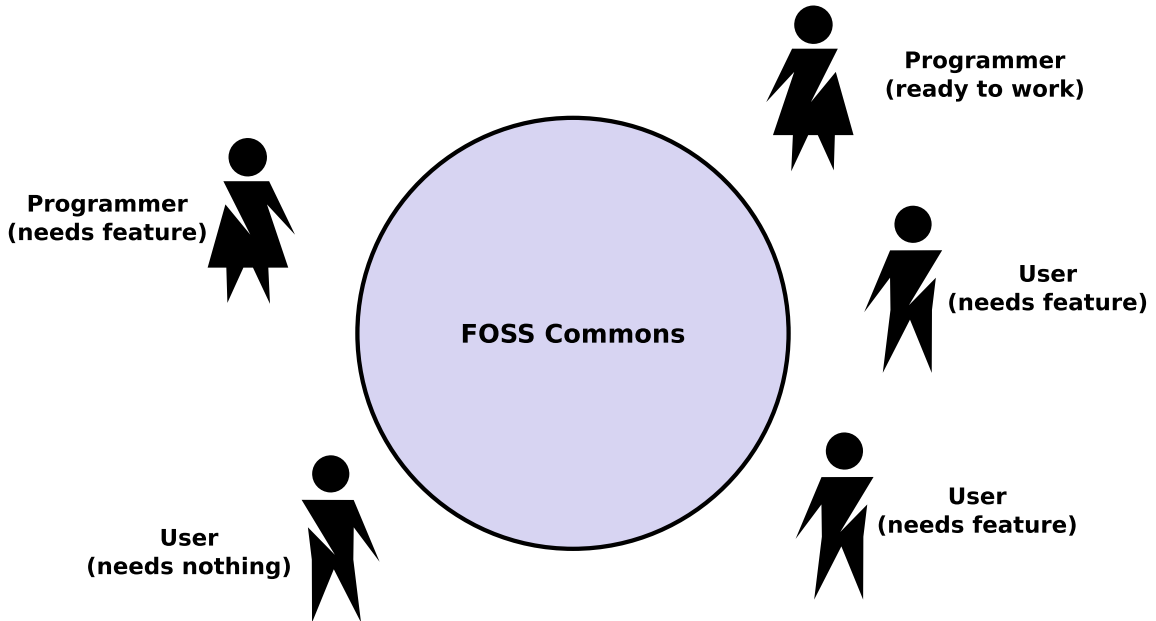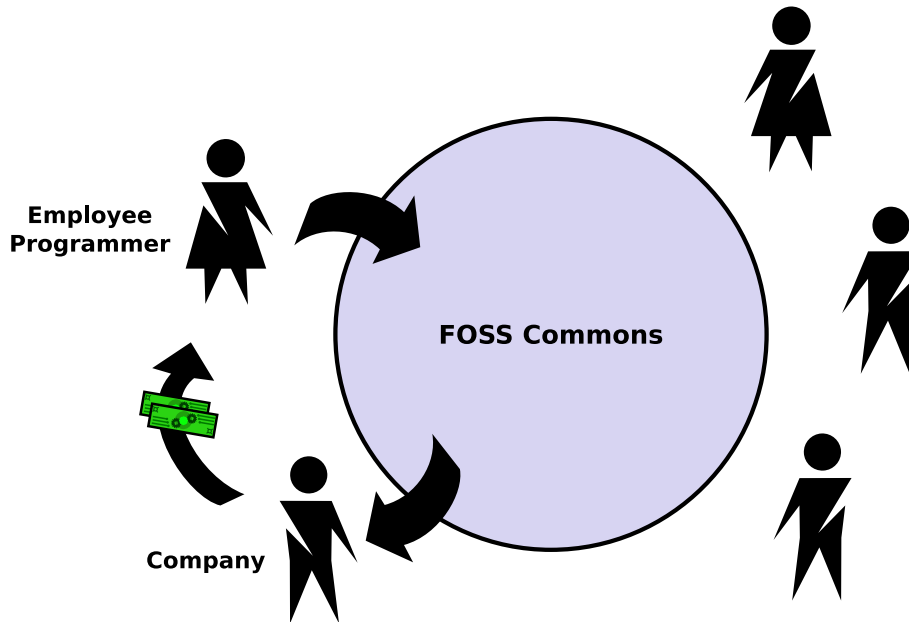
Enlightened Self Interest

A skilled programmer with access to the source code can
serve her own needs, giving back to the community in the process.

Programmer
(adds features)

FOSS Commons
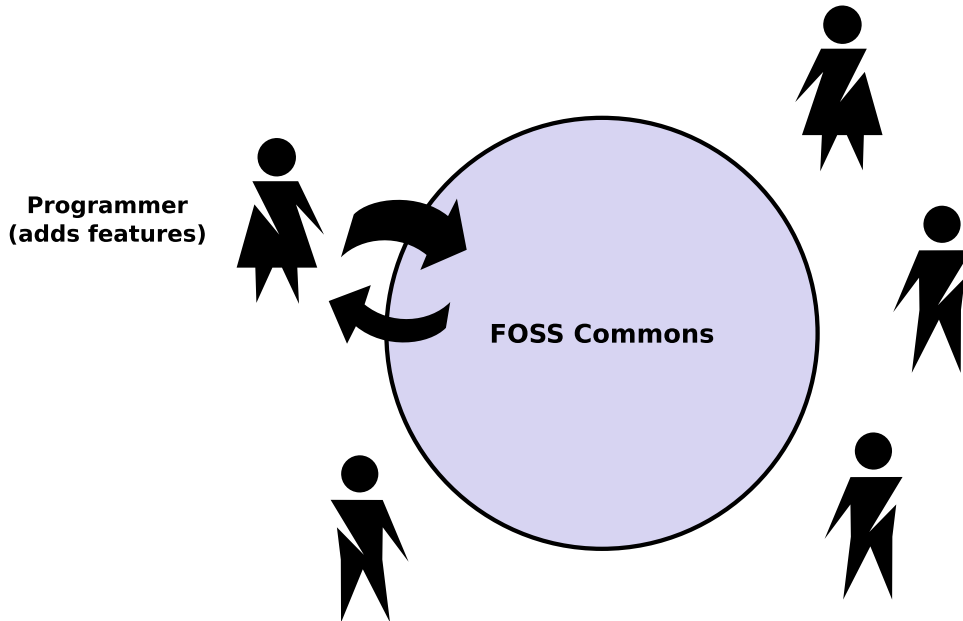
Employed

An organisation can use an employee to serve
their software development needs in the commons.


Employee
Programmer

FOSS Commons

Company

Aggregated Funding

If the programmer can aggregate money from multiple users, she can get paid for creating software they need.

Programmer (Creates feature)

FOSS Commons

User (adds money)

User (adds money)

User (adds money)
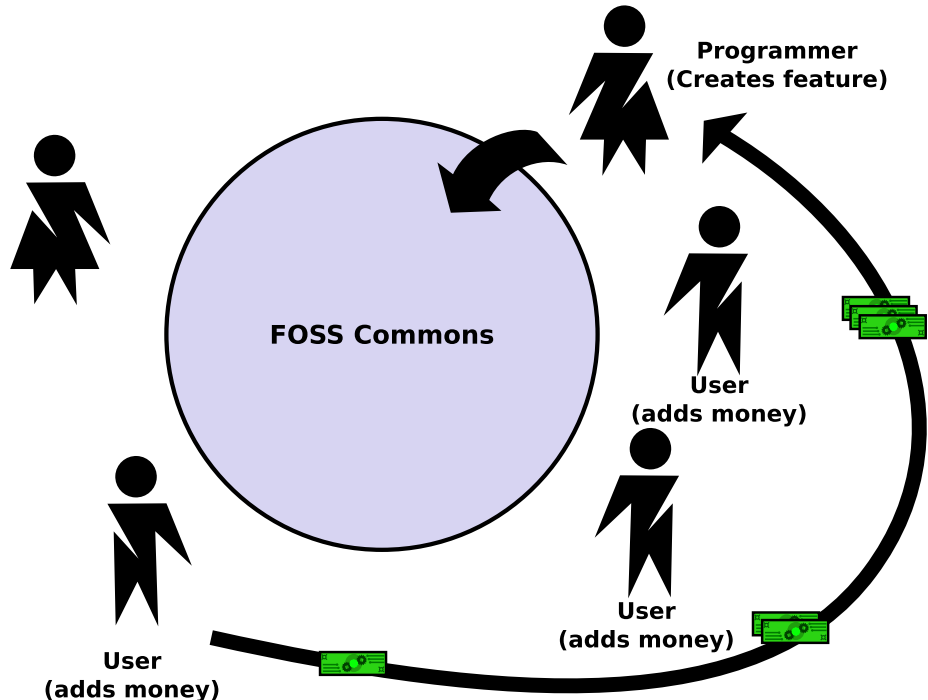
# Support

Because users get to choose who supports and develops
their software, they have the choice of any service supplier.

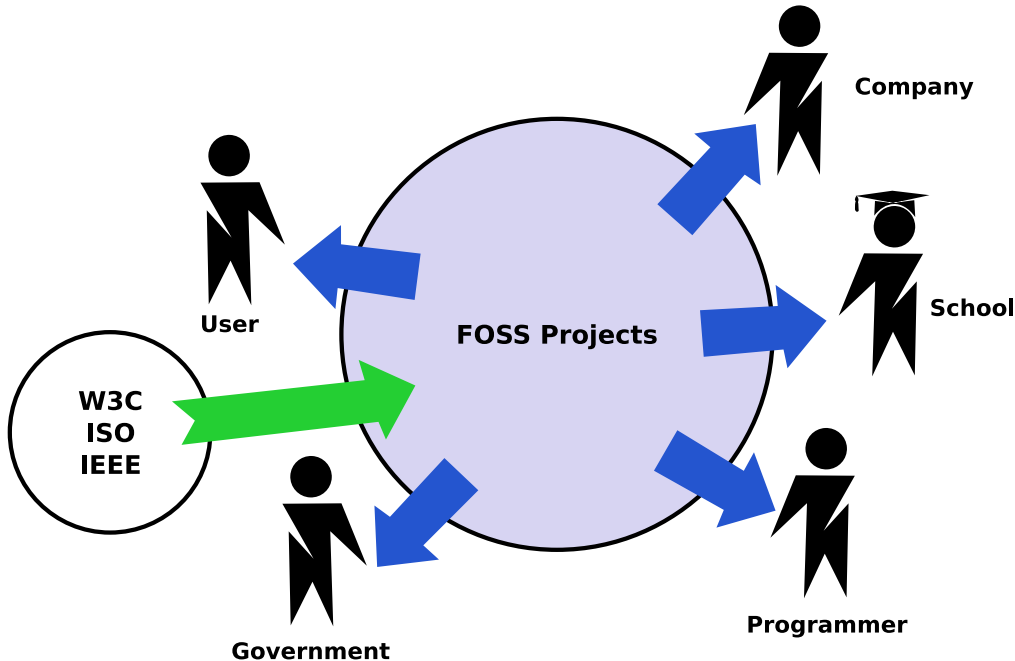FOSS Commons

Support
Company A

User

Support
Company B
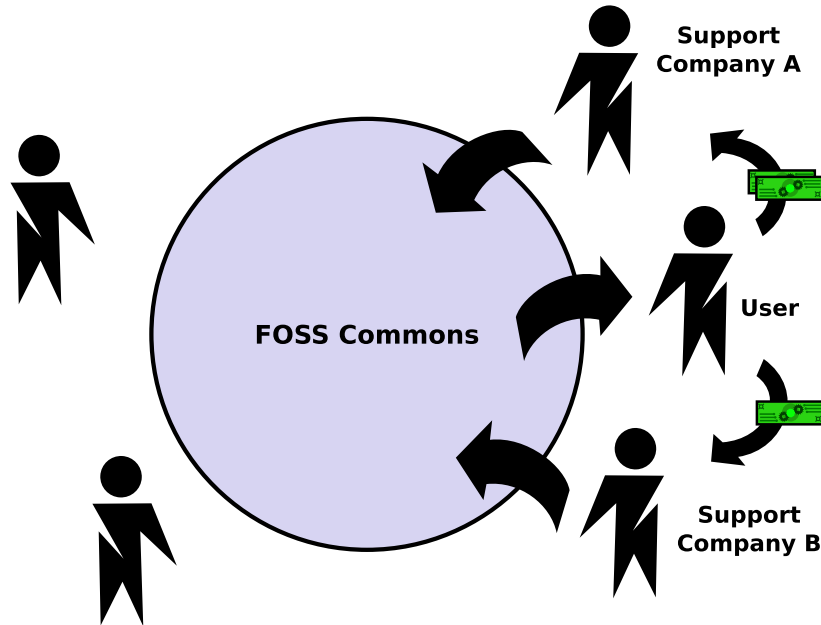
Community

Programmers, organisations and users are all able to work with each other in a community to further the development.
With each contributing member, the pace of development increases.
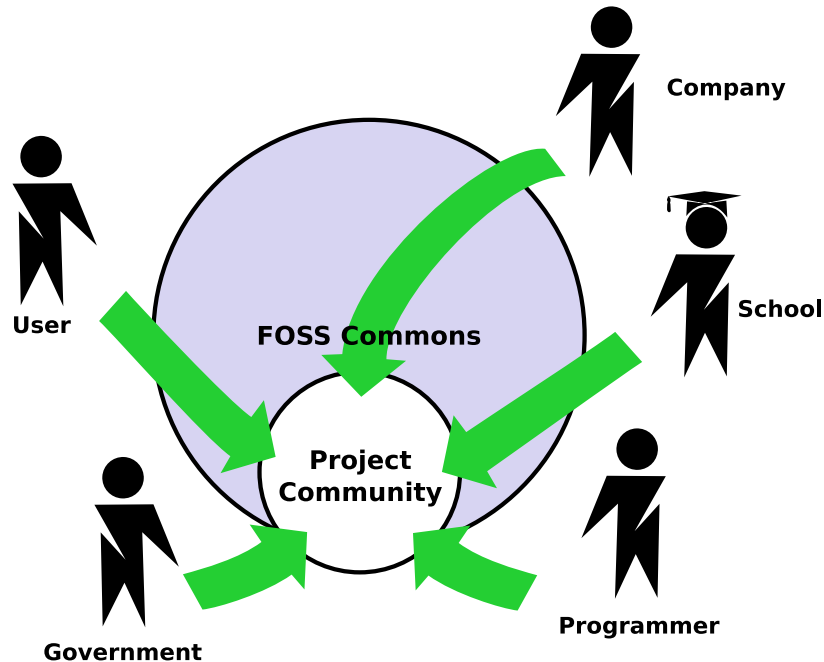
Standards

The number and variety of people developing FOSS
makes it very attractive to use international standards.
Facilitating sharing of files, even when using two different programs.

Company

School

Programmer

User

FOSS Projects

W3C
ISO
IEEE

Government

The End

FOSS development has many advantages, hopefully this guide has helped you understand how it works.

Free Software Foundation

http://www.fsf.org/

Creative Commons

http://creativecommons.org/

Learn More

Open Source

http://www.opensource.org/

Electronic Frontier Foundation

http://www.eff.org/

Thank you for reading.