FOSS in Engineering Education

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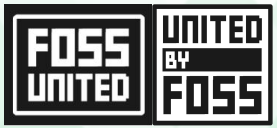


Use FOSS

Operating Systems like Debian, Ubuntu, FreeBSD

Day-to-day tools like Chromium, LibreOffice, Codium, Matrix, Proton Pass Password Manager, Mastodon

College-specific tools like FreeCAD

Ref matrix.org

Ref debian.org

Ref freecad.org

Ref joinmastodon.org

Ref vscodium.com

Ref proton.me/pass

Ref libreoffice.org

Help your friends use FOSS

Assignment

Other FOSS alternatives?

Assignment

Make friends from different academic backgrounds

Assignment

Find communities to participate in

Assignment

Speak and Write in English, Listen to English

Contribute to FOSS

Thoroughly read the documentation and improve it

Triage bug reports from users

Test the FOSS projects, manually and using automated tests

Ref ros.org

Ref scikit.bio

Ref scikit-image.org

Ref esim.fossee.in

Ref qgis.org

Ref circuitverse.org

Help your friends contribute to FOSS

Assignment

Other FOSS alternatives?

Assignment

Actively engage with FOSS communities

Assignment

Migrate course/lab to FOSS (e.g. FOSSEE)

Assignment

Find problems from different academic backgrounds

Understand FOSS

What is Free/Libre software? What is Open Source Software?

What are Free Software licenses and What are OSS licenses?

What is the history of the FOSS movement?

Ref [oreilly opensources]

Ref [producingoss.com]

Assignment

What is the history of your favorite FOSS project?

Assignment

What is the difference between a GPL and an MIT license?

Assignment

Follow FOSS leaders (other than just RMS and Linus Torvalds)

Create FOSS

Solve problems that you experience regularly

Create FOSS that can be used for your college courses

Make an impact, no matter how small

Osdag®
Open steel design and graphics

Ref osdag.fossee.in

open source hardware

Ref oshwa.org

RISC-V®

Ref riscv.org

Computational Fluid Dynamics

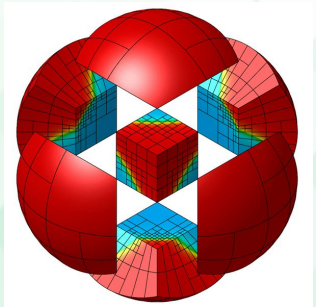
Ref cfd.fossee.in

Bioconductor
OPEN SOURCE SOFTWARE FOR BIOINFORMATICS

Ref bioconductor.org

Ref astropy.org

Ref quantecon.org



Ref mfem.org

DWSIM
Chemical Process Simulator

Ref dwsim.fossee.in

Work with your friends to create FOSS

Assignment

What problems do you care about?

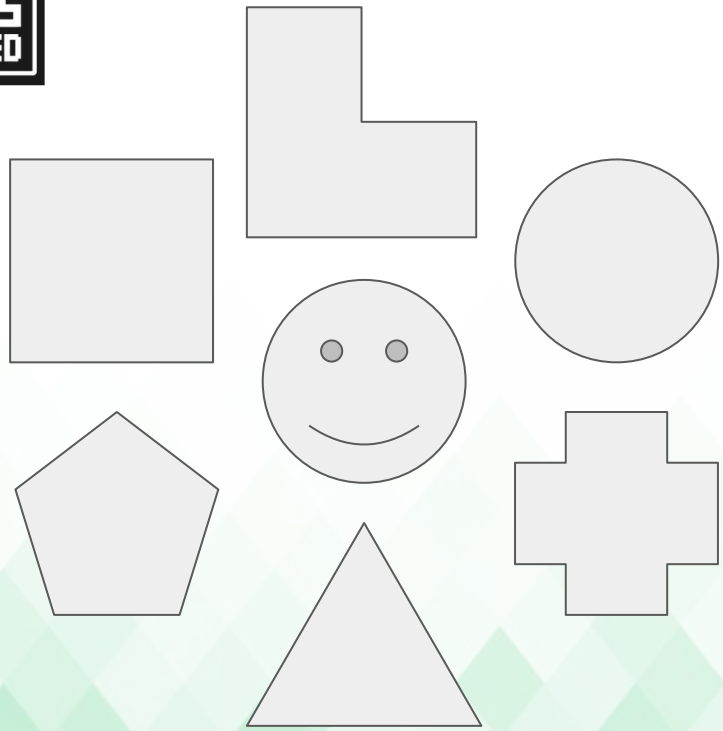
Assignment

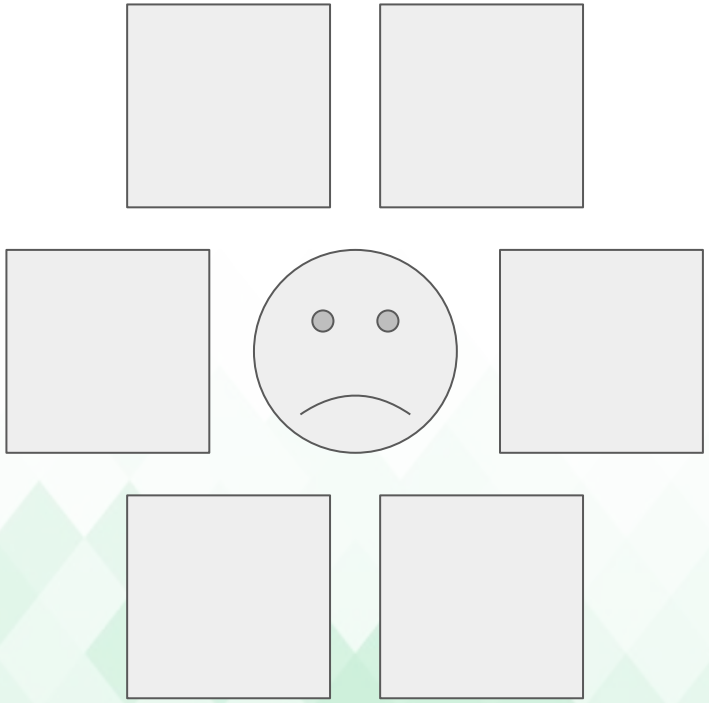
What problems do your friends care about?

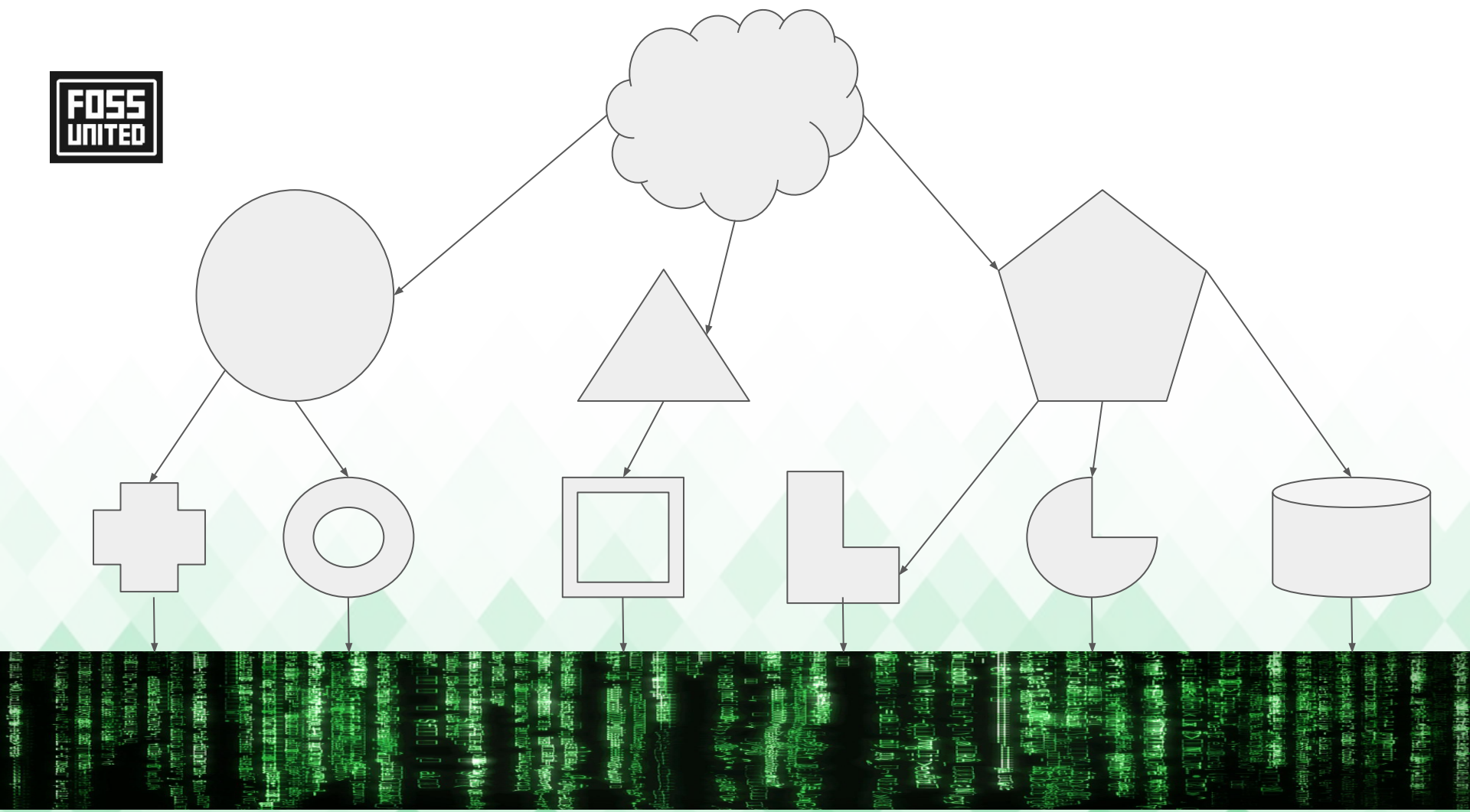
Influences

Ref [Implementers, Solvers, and Finders]

Ref [Untold stories from 6 years working on Python packaging: Links and refs from PyCon US 2024 keynote]



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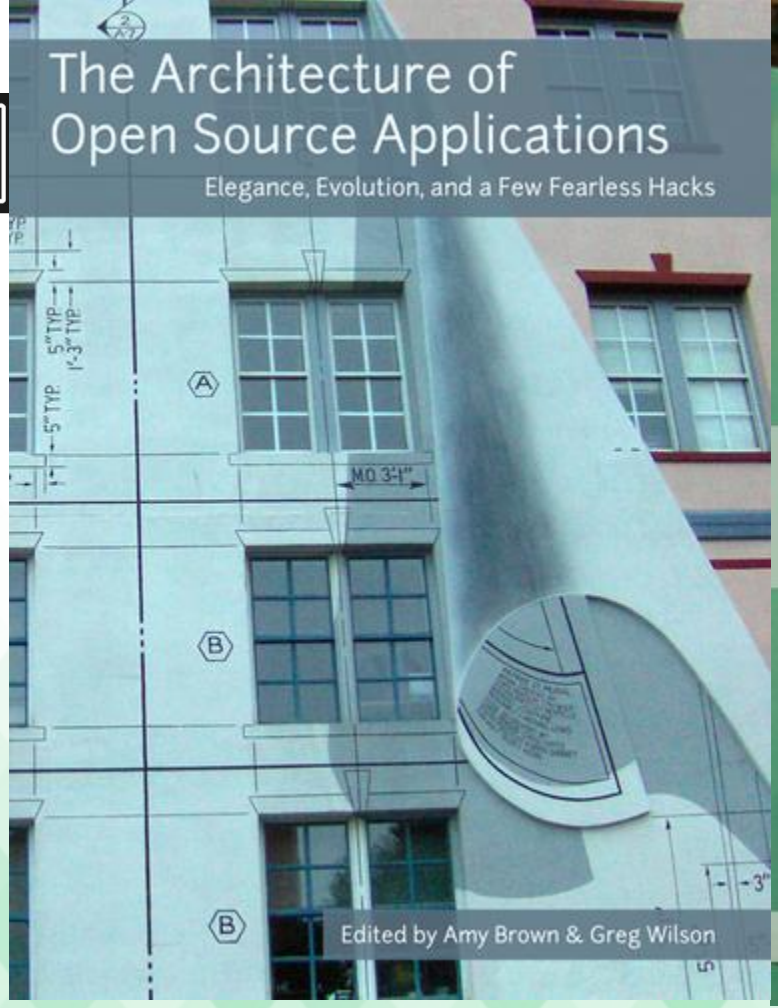

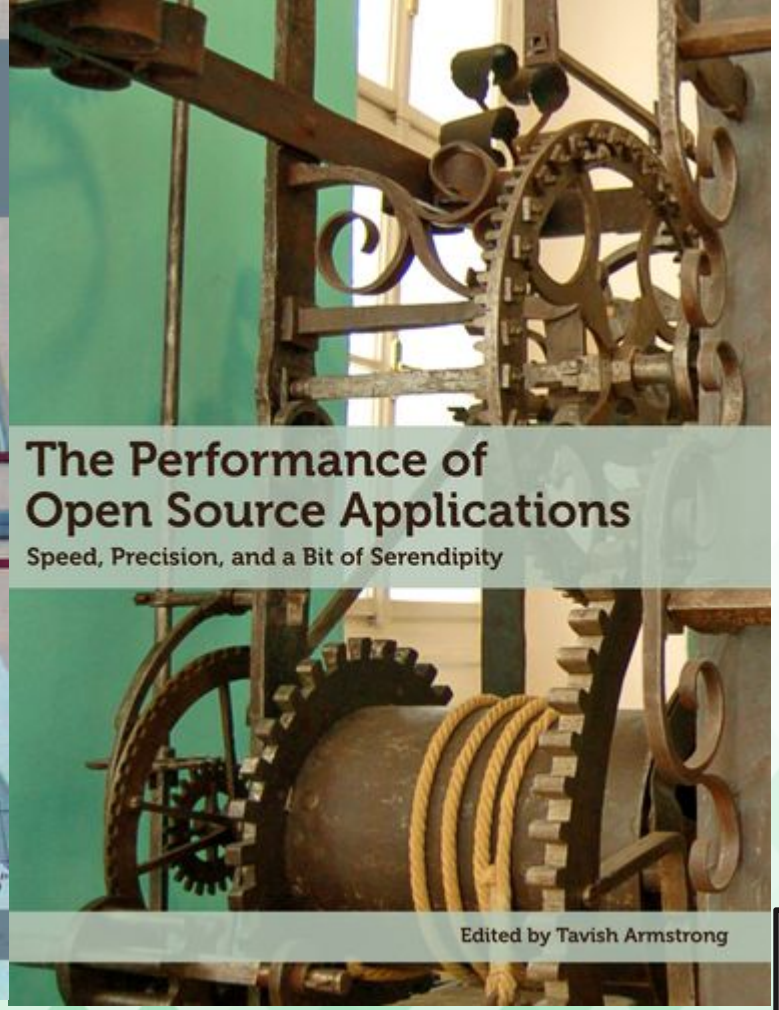

Ref aosabook.org

Ref aosabook.org

Thank you

- Engineering Physics
- Engineering Chemistry
- Engineering Graphics (CAD)
- OOP using Java
- Electronic Circuits Lab
- Microprocessors Lab
- Fluid mechanics
- Structural analysis/simulations
- Compiler design
- Digital Signal Processing
- Industrial instrumentation and automation
- Geoinformatics
- Computational Fluid Dynamics
- Finite Element Analysis
- Robotics and Automation