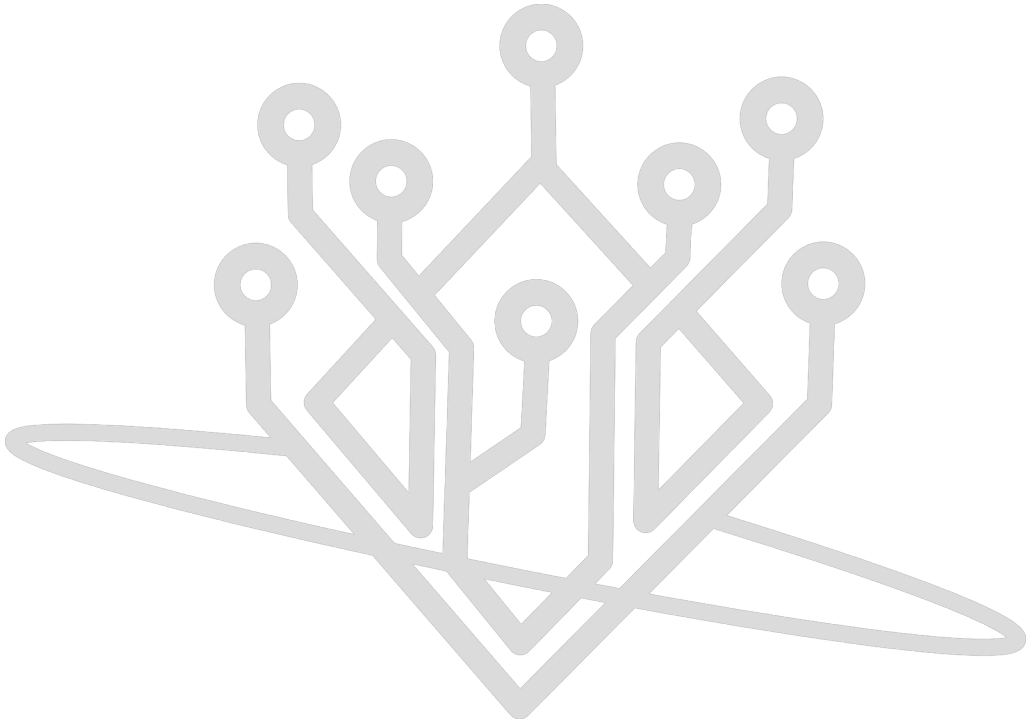
Presenting the FOSS stack for schools



The **Coalition** for **Fair Digital Education** is an ISOC Netherlands workinggroup.

In Dutch: ***C****oaltitie voor* ***E****erlijk* ***D****igitaal* ***O****nderwijs* ***CEDO***

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Coalition for Fair Digital Education

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Public values by design

Free and open source

Follow us on **Mastodon**: @CEDO@mastodon.nl

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Issues and risks for public values in edu tooling

Profiling and Targeting for Ads and Service Personalisation	Behavioral predictions	Personal lock-in Organisational lock-in Societal lock-in	Privatisation of collective effort
Privacy risk	Risk for democracy	Normalization of unethical tools	Unethical practice
	Risk for sovereignty	Risk to academic freedom	Risk of monopoly
		Financial risk	
		Risk of dependency	

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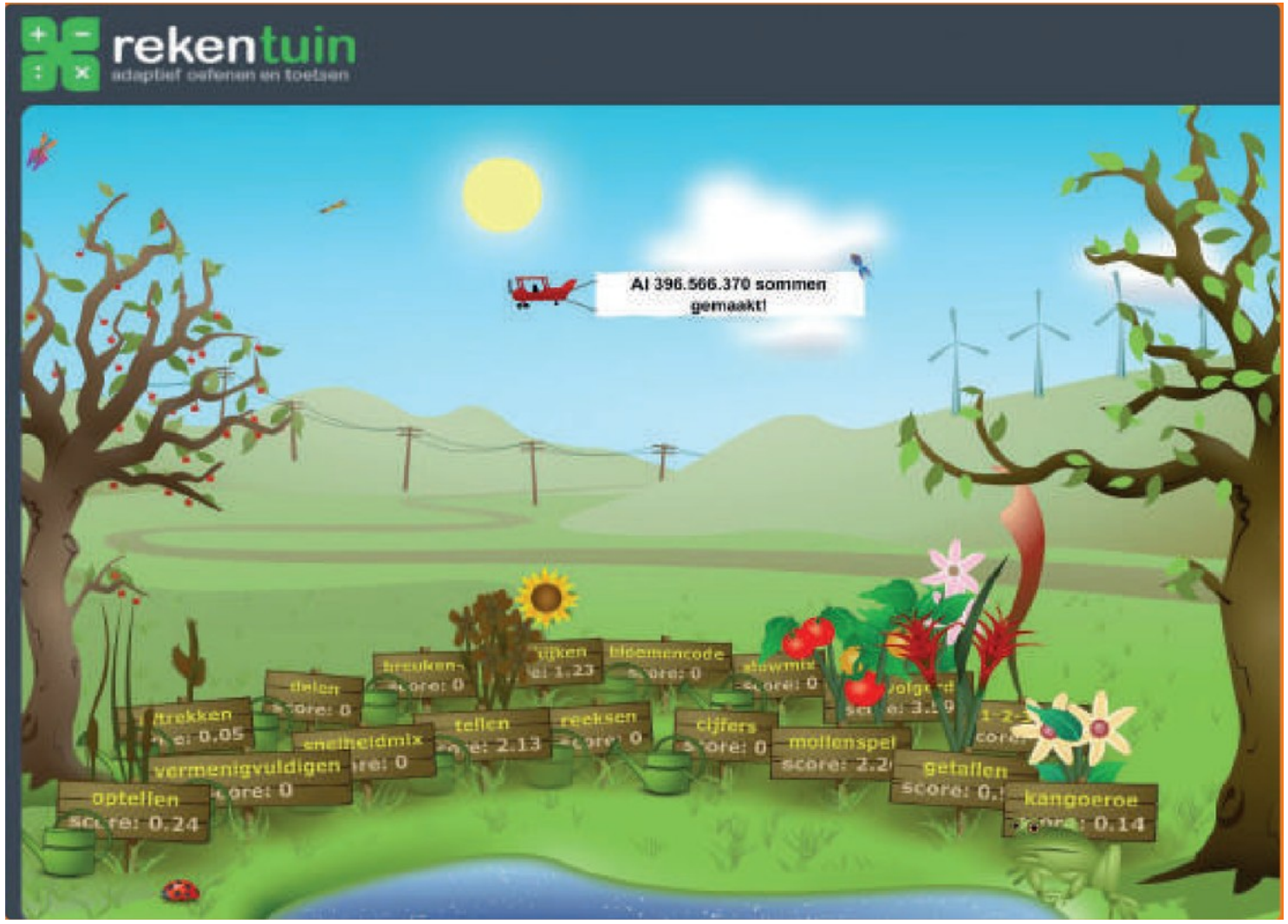
Core issues

Privatisation of collective effort

- Adaptive learning is hot!
- Payed for 3 times:
  - Scientific research into the method with public money
  - School buys proprietary licenses to use form commercial vendor
  - Kids have to train the algorithm at school **-->** bigger dataset, increasing prices!

Example case: Rekentuin



3 types of lock-in

Personal lock-in

Organisational lock-in

Societal lock-in

3 types of lock-in

Societal lock-in

Nice that you love free and open source services, but...

Continuous links and invites to Big Tech cloud services

- Fill out this Microsoft form please
- Join our zoom meeting
- Here is a Google doc
- Join the school WhatsApp group

3 types of lock-in

Organisational lock-in

- Classic vendor lock-in:
  - Proprietary code
  - Lack of open standards
  - No proper API’s
  - Bad documentation
- School has no exit strategy
- Thus migrating complicated and expensive

3 types of lock-in

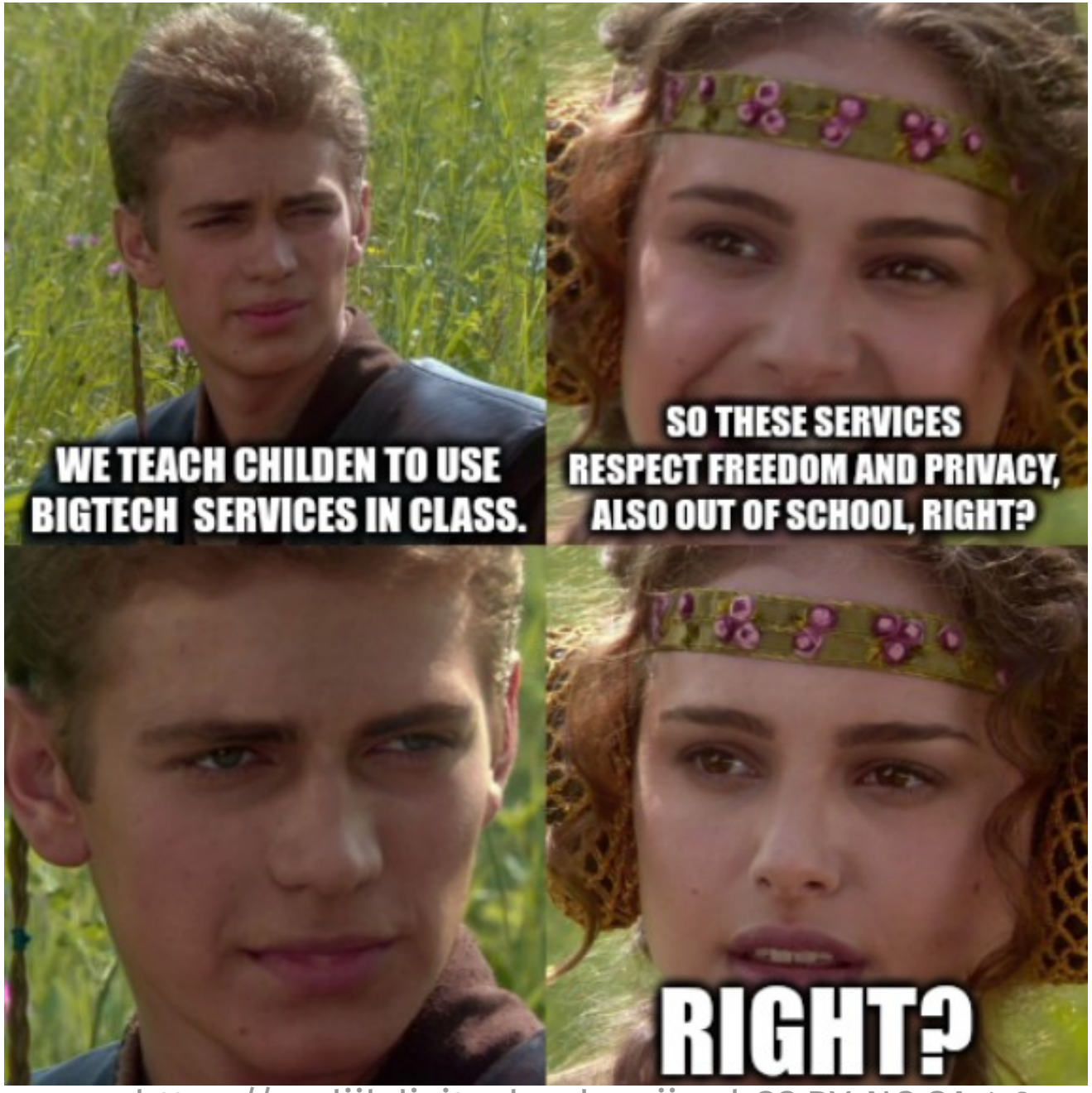
Personal lock-in

- You spend time to learn a tool
- This is what you are familiar with
- You won’t switch easily

Core issues

But school has a dataprocessing agreement...

- Is the technical manual implemented?
- Only applicable to “core services”, but mixed with other services
- Only applicable IN school, not after school



You will accept whatever terms are attached:

Profiling and targetting for adds and service personalisation

Behavioral predictions

Personal lock-in

Organisational lock-in

Societal lock-in

Privatisation of collective effort

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Above all:

It matters what you teach!

If you teach unfree surveillance services, that is what you will get:

A surveillance society, ruled by BigTech


spyware
Google
IS WATCHING
YOU
Fabeltjes
fuik
A dystopian nightmare !
1984
BRAVE NEW WORLD
FAHRENHEIT 451
BALLANTINE BOOKS
STATE
BACK DOOR
APPLE
FBI
HACKERS
REPRESSIVE REGIMES
ETC.

The dutch school system

“Freedom of education” Constitution article 23

- Meaning:
  - Any conviction or religion can start a school based on this law
  - State funds the schools
  - Municipality provides buildings
  - Only a minimal curriculum is prescribed
- So schools decide themselves about:
  - teaching methods used
  - **IT environment used**

Approach the problem from 3 angles:

- Pilots and educate at schools to show case alternative IT
- Lobby, advocate at national and European level
- Journalistic research to enforce legal pressure

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“Freedom of choice”

- The choice is Google, Microsoft and some iPad schools. **You have no say in that.**

- “GDPR” compliant
  - Schools don't implement the required thick manuals
  - Minimal legal compliance only taken in account, other public values are ignored.

4 IT domains in school

Office software:
- Docs
- E-mail
- Videocall
- Calendar

Hardware in class:
- laptops
- tablets
- and Operating Systems

School specific:
- Learning Management System
- Student Administration System
  - DUO [connection]

Educational content:
- wikiwijs
- MOOC
- open acces

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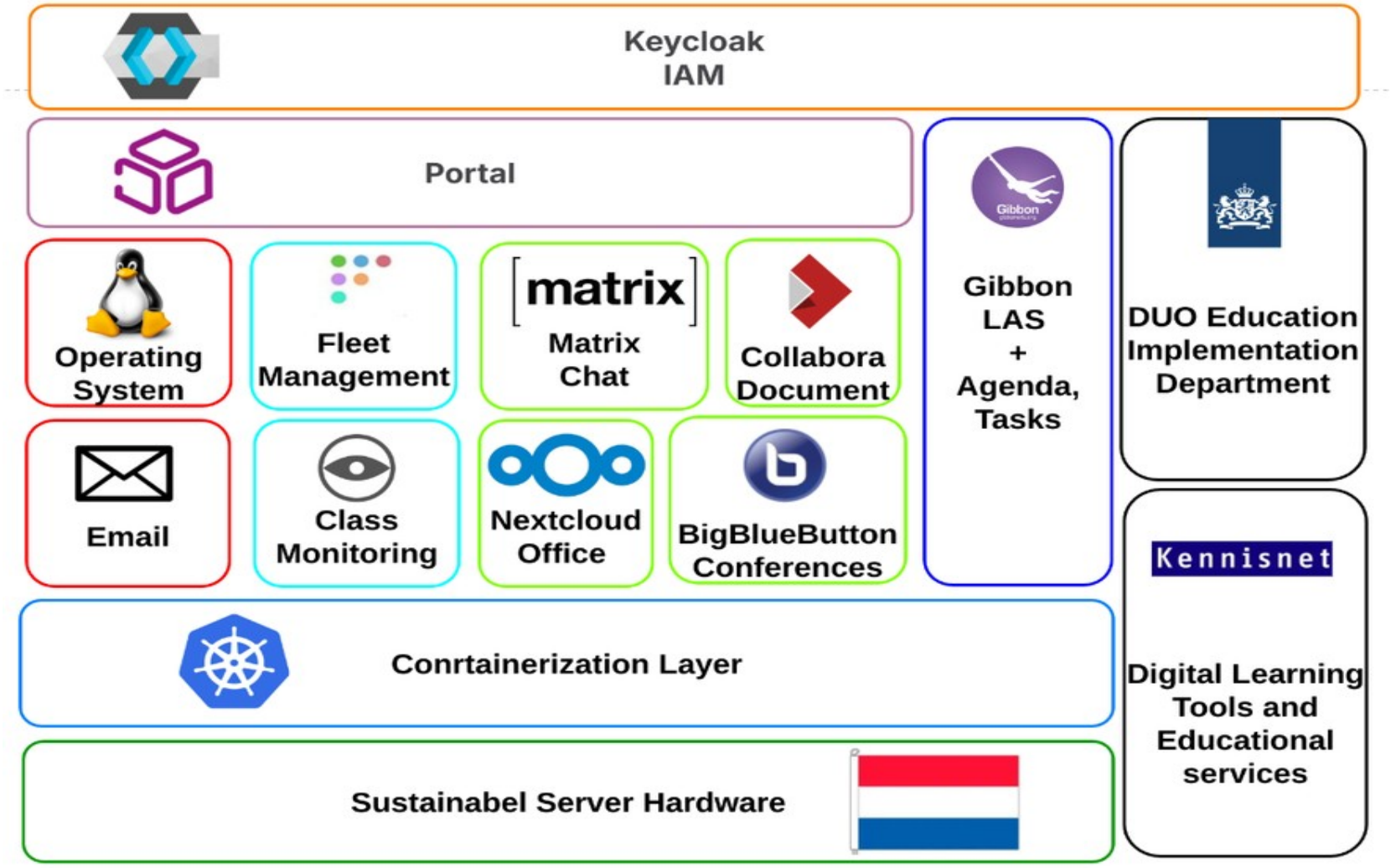
Office and School Specific Software

Function	Functional Component
Identity management	KeyCLoak
Student Aministration System	Gibbon / [Zelfbouw CRM module]
Portal	Bureaublad / Univention
File management	Nextcloud Files
Spreadsheet, presentation & document editing	Collabora Online
Email, Agenda & Tasks	OX App Suite / ?
Chat	Matrix Element
Video calling	BBB / Jitsi

Educational Stack



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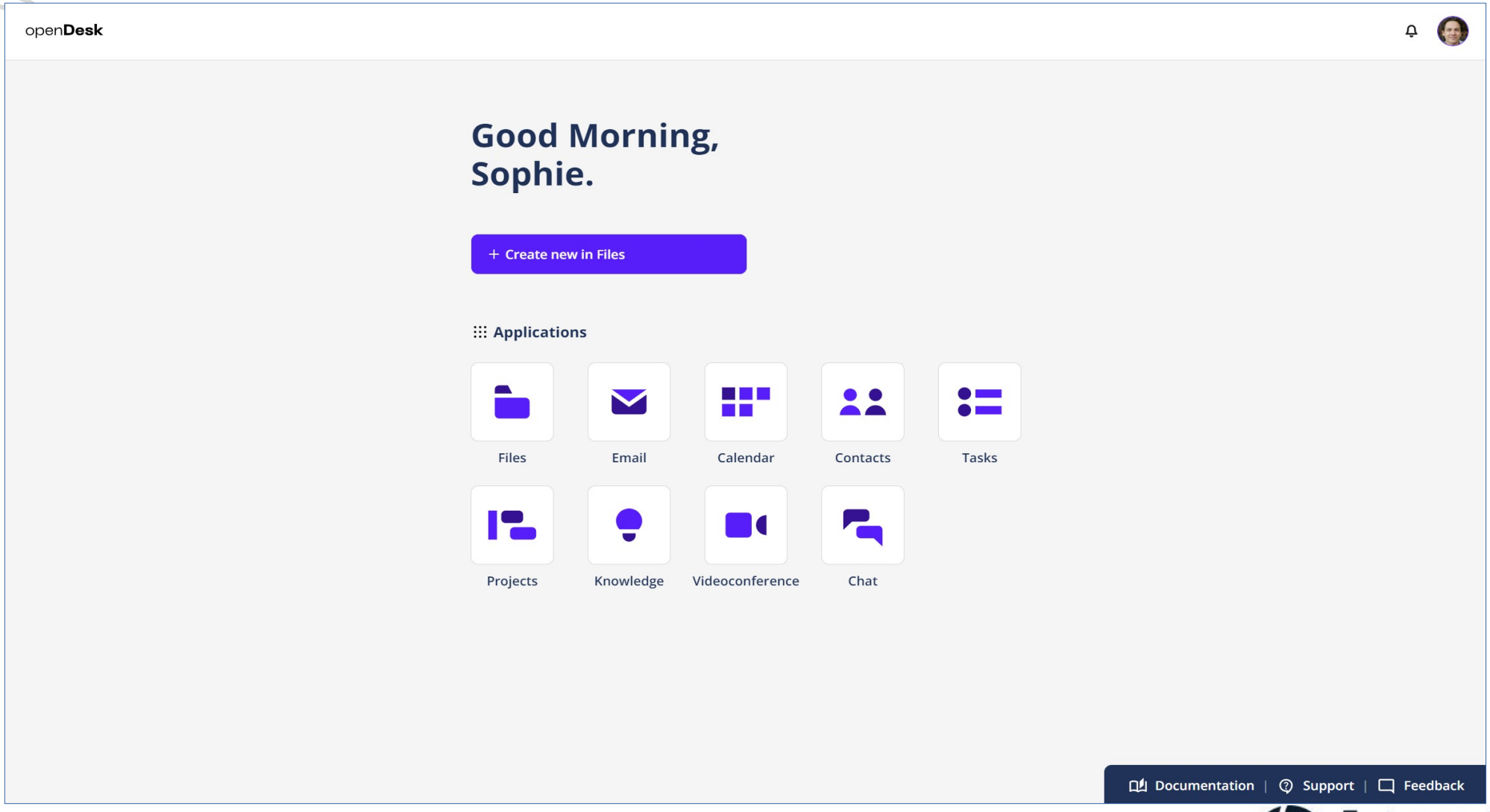
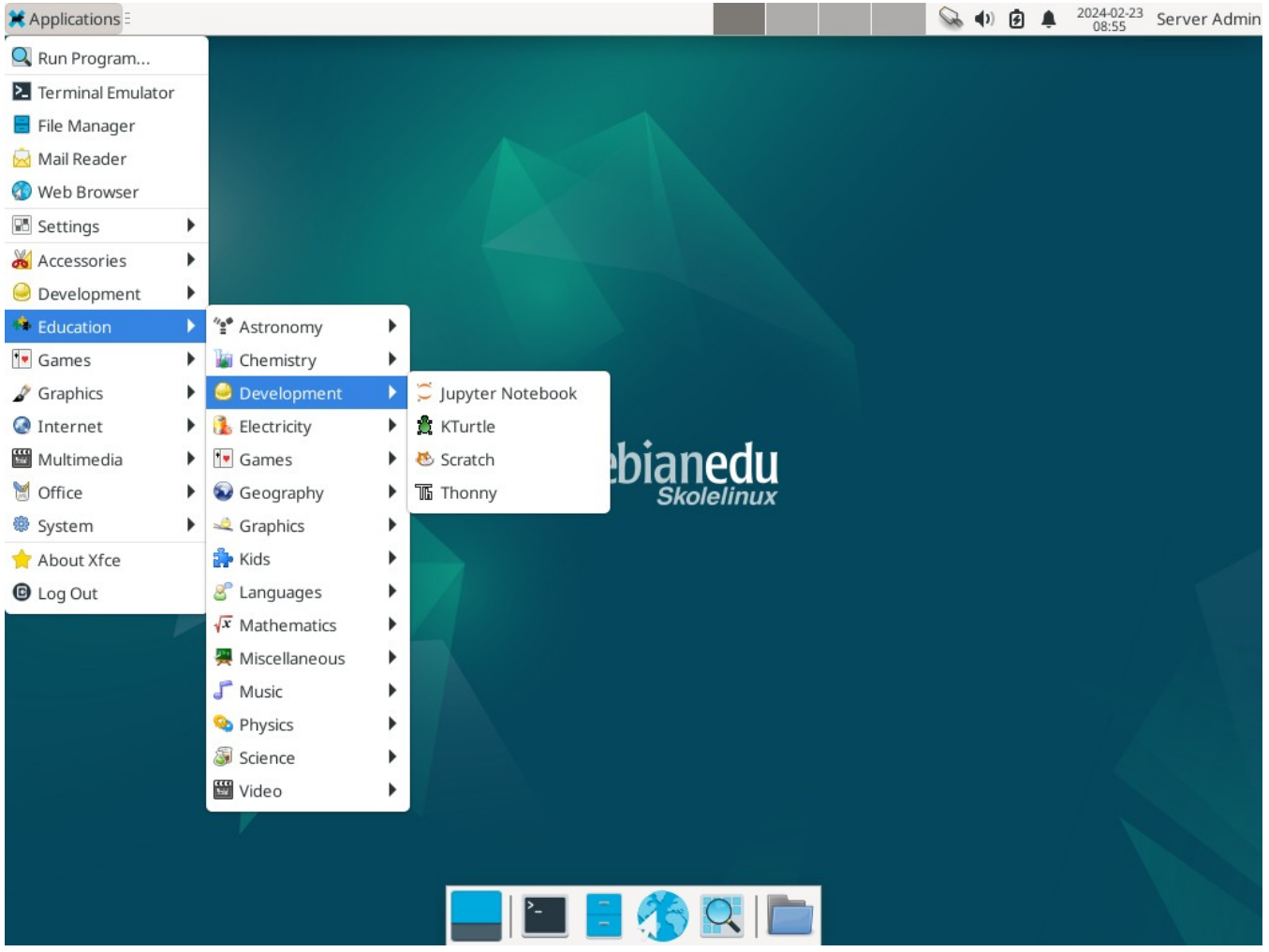
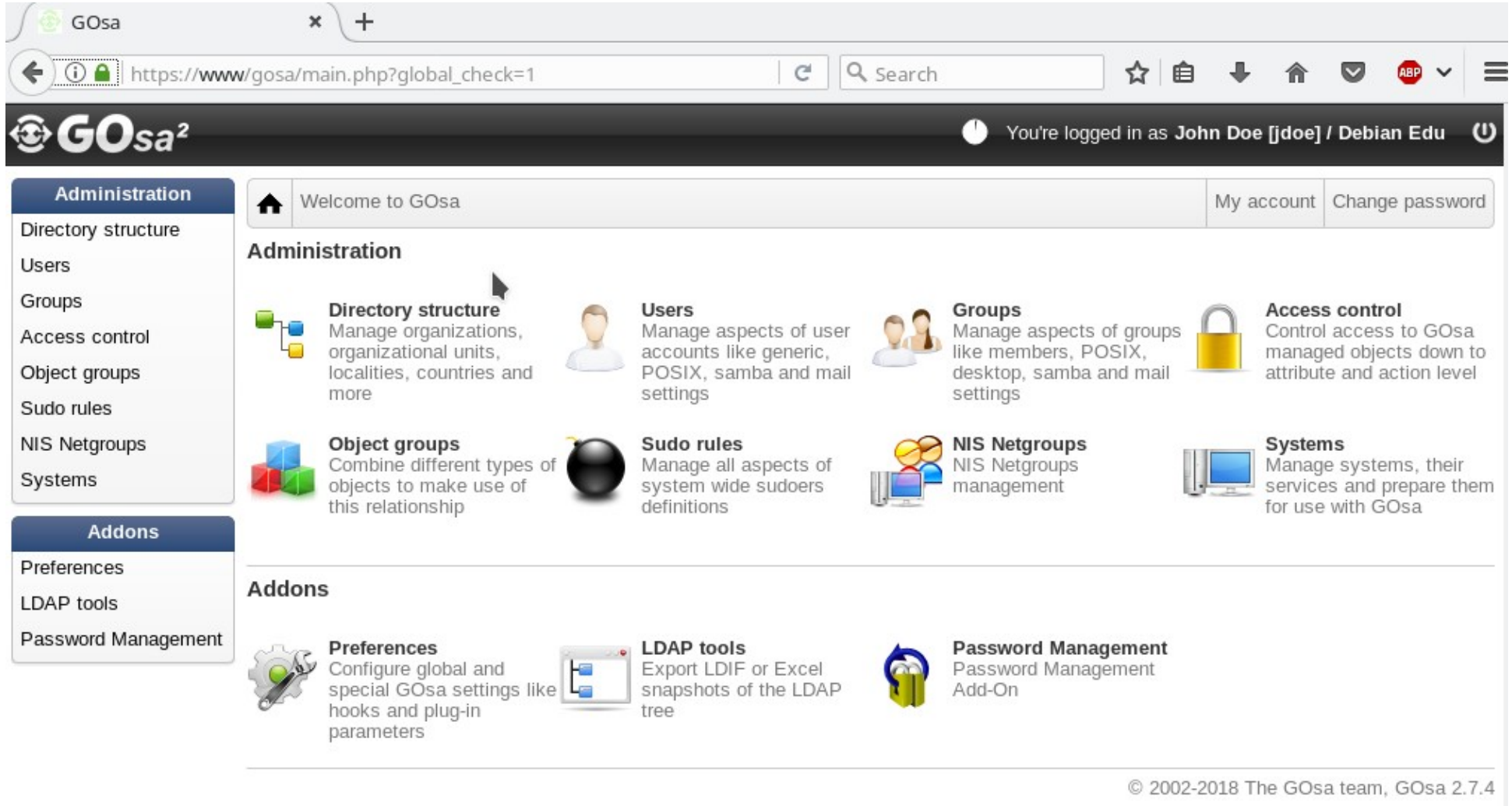
Portal in de “Cloud”



Software on Hardware



DebianEDU management server



Pile of Chromebooks

- School buy Chromebooks because
  - they are cheap
  - connected to software they know.
- When you want to run apps outside the Google ecosystem on them.
  - You need to administer, for example, an aditional Windows suite.
- Many Chromebooks have a short support period
  - With Linux , it can run until it actually breaks

endof10

- Many Windows10 machines are not suitable for Win11
- Great opportunity for an upgrade to Linux :)
  - With Linux, it can run until it actually breaks

Liberated Chromebooks !

School computers need

- Fleet management like DebianEDU
- Minimal desktop
- Portal connected to hosted fair apps
- Sync folder for offline work
- Classroom management and computer monitoring

By design:
- **-Privacy**
- **-Public Values**
- **-Ethics**

It all starts with the design. Do the tools you choose strengthen the core value's that your school or institution stands for? Choose ethical tools!

Data ownership

Schools an institutions should recognise the value of data. Data created by pupils and students is not theirs to sell

Open standards

Use services build on open standards, that allow you to leave with all of you data, and network relations.
Like: Mastodon on the fediverse

Free, open source software

Chose ethical and opensource tools, that an organisation can also selfhost. *Like Jitsi, BigBlueBotton or NextcloudTalk*

Attribute cost for lock-in: "**polluter pays**"

Cost for an exit strategy should be attributed to the party that created the lock-in, not to the service that an organisation is migrating to.

Teach ethical and open source tools

Since it really matters what tools you teach students or pupils, the tools taught in school will also be used and after college or school. Even if you can force BigTech to act GDPR compliant in school, it's unethical to teach those services if those terms are out of reach out of school.

Strengthen the public domain!

When we with millions of people collectively train an algorithm, the result of this should be in the public domain, thus use open source algorithms and open data sets.

Fix the internet: Start at school!

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Join us!

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