OERu's FOSS NGDLE

For Executive Leadership Teams

Dave Lane, OER Foundation

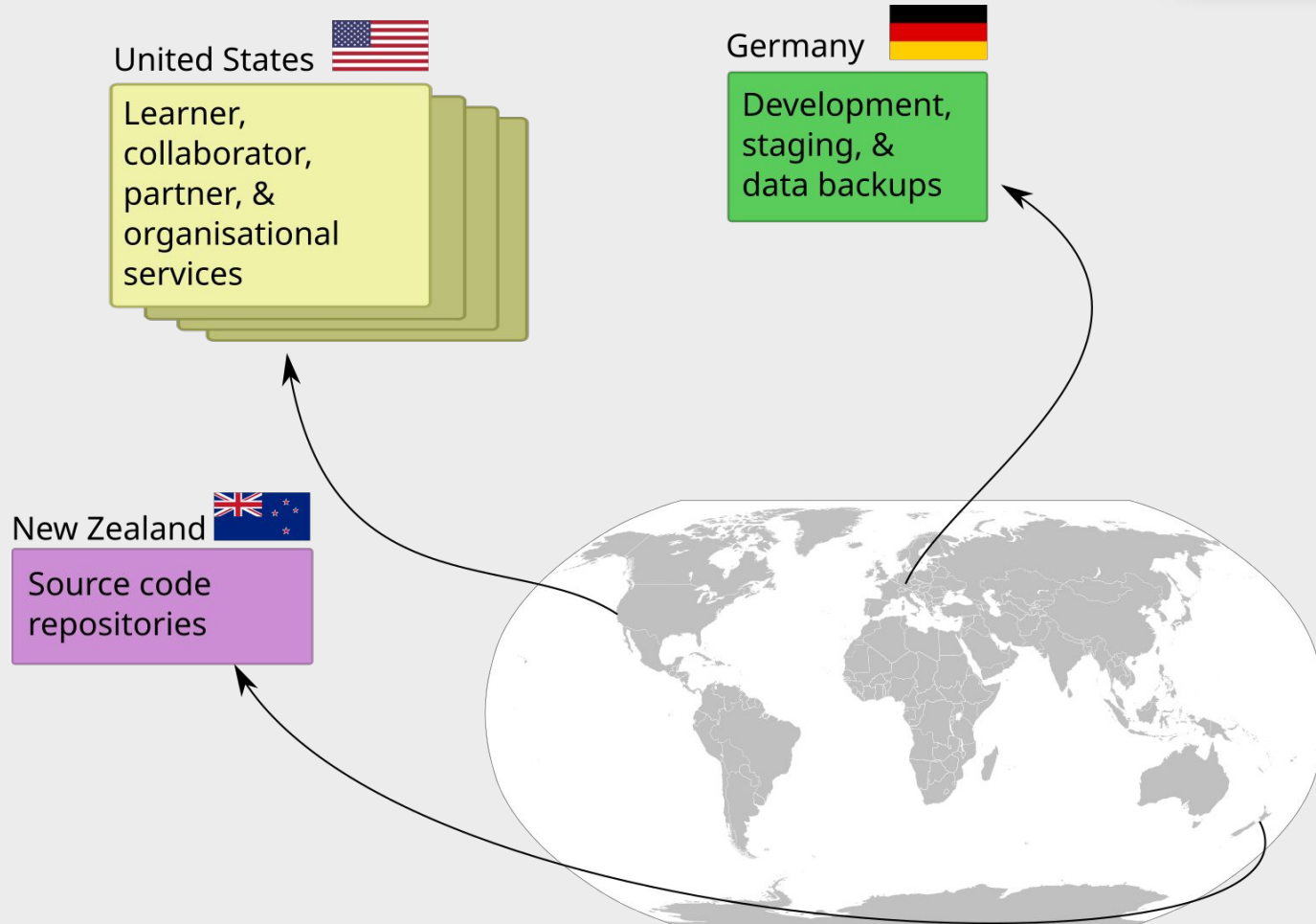# Learning on the internet

OERu

- Best way of supporting learners to develop digital and other learning literacies?

  Use *the same technologies* they need to build digital fluencies for learning.

- Learning on the internet

  – is less constrained than via an LMS

  – enables collaborative content creation (even across institutions)

  – learners control their own work (data sovereignty)

  – learners *use* the technologies and practices of the *real* digital world
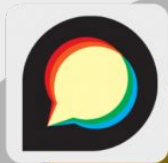
OERu's global infrastructure

United States
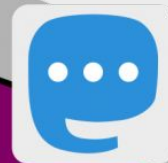Learner, collaborator, partner, & organisational services

Germany
Development, staging, & data backups

New Zealand
Source code repositories

Globe image credit

Learner-facing 'Tech Wheel'
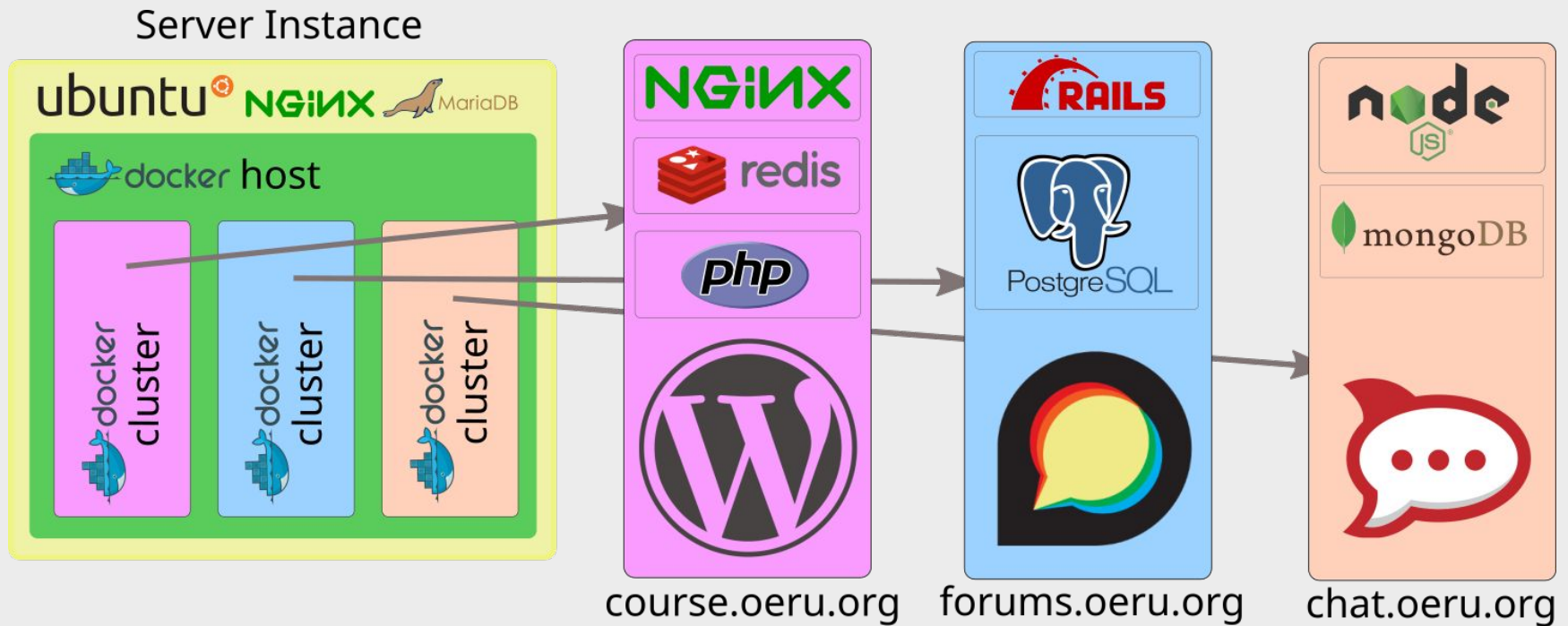
Our FOSS NGDLE tech mix

Benefits of diversity

- Diversity makes digital ecosystems more resilient
- Our digital ecosystem is diverse, both in terms of actual software and hardware, but even more critically, with regard to suppliers.
- We have voluntary dependences on a broad range of open communities or commodity service providers, rather than contractual dependencies on a few proprietary corporations.
- We are, to the extent we want to be, *technologically self-reliant*.
- We can be *agents of natural selection* in our digital world.
- The challenge: diversity can create complexity.

Docker: indispensable

Server Instance

ubuntu NGINX MariaDB

docker host

docker cluster | docker cluster | docker cluster

NGINX
redis
php
WP
course.oeru.org

RAILS
PostgreSQL
forums.oeru.org

node JS
mongoDB
chat.oeru.org

Docker: writing recipes

OERu

Using 🐳 docker to manage FOSS complexity

mastodon mahara LimeSurvey EtherPad

bitwarden Semantic Scuttle Drupal yourls

Nextcloud CouchDB SilverStripe moodle

mongoDB mautic ROCKET.CHAT [[☀]] MediaWiki

Docker: share & replicate

tech.oeru.org

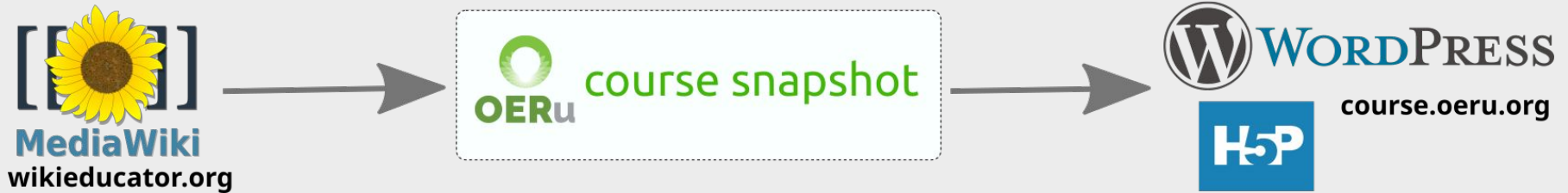The OERu tech-transfer blog providing howtos & overviews of our Docker recipes & our custom FOSS code.

OERu technology · Drupal

git.oeru.org

The OERu software repository for others to use, adapt, contribute to, & learn from our FOSS code.

GitLab · OERu

Strategic development 1

Automating Courseware Deployment

MediaWiki
wikieducator.org → OERu course snapshot → WordPress H5P course.oeru.org

Harvesting Distributed Learner Interaction

Discourse • Discussion forums • Social media • Mastodon • WordPress • Semantic Scuttle • Social bookmarks • Blogs • Medium • Annotations • Course comments • Blogger • Hypothes.is • WENotes WikiEducator Notes ⟷ OERu WEnotes ⟷ MediaWiki WordPress

Strategic development 2

Improving Learner Usability

WORDPRESS ← OERu register enrol plugin

OERu blog feed finder plugin

Automating Learner Administration

WORDPRESS → OERu mautic plugin → mautic

Cost & return on investment

- *Annual* IT costs
    - Fixed costs: infrastructure @ < $4000 + 1 Full time IT person. Wow.
    - Per-learner: ~$0 variable cost
    - Proprietary software licenses? $180 (Zoom)
- ROI maximised by
    - investing in targeted strategic software development
    - sharing maintenance with FOSS communities
- Four tech selection criteria
    - commodity hosting
    - FOSS for SaaS
    - No per-seat cost component
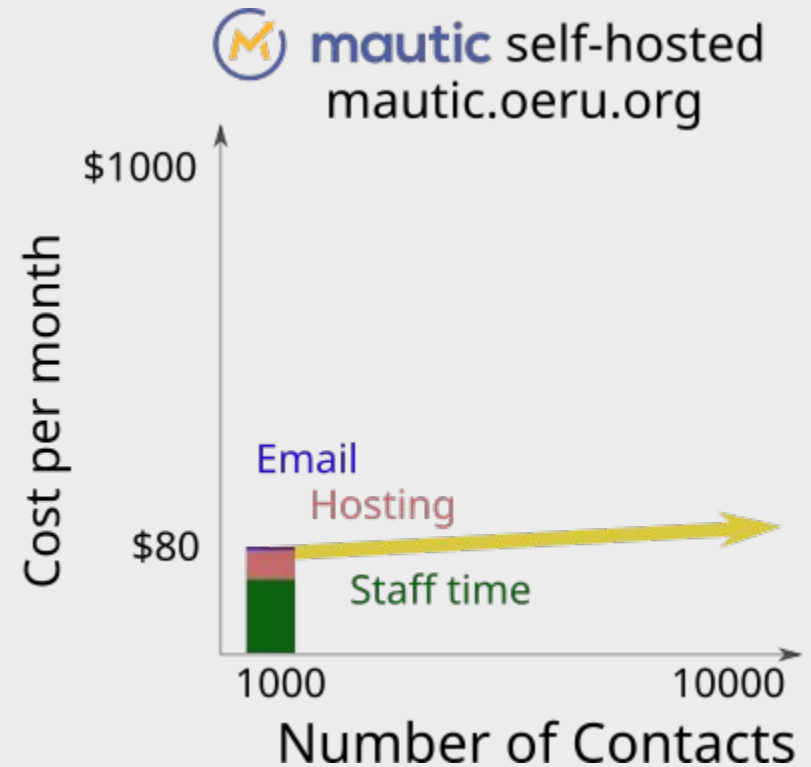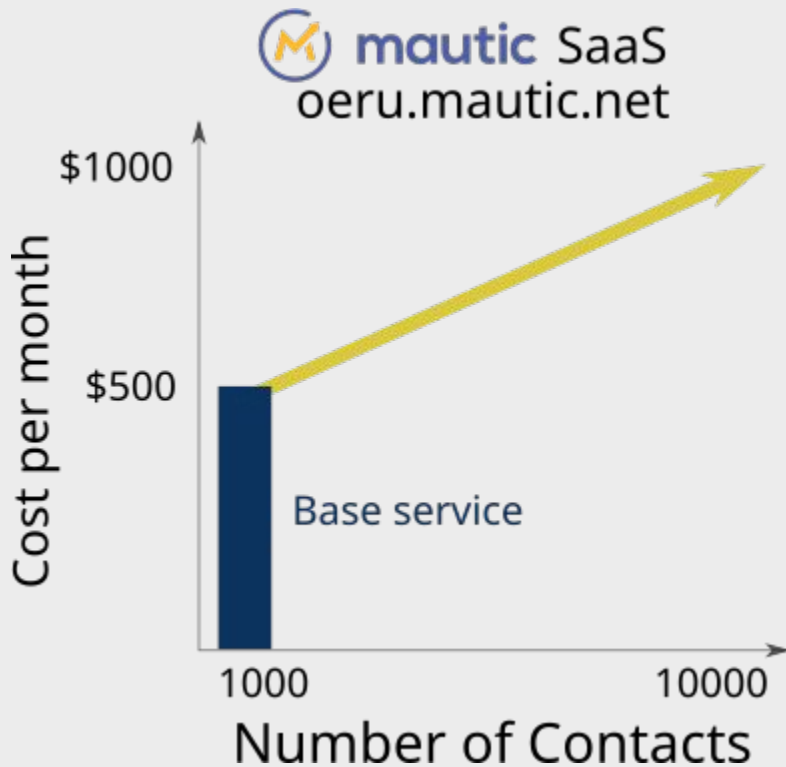   - account for internal staff time in TCO

Image by Steve Buissinne from Pixabay

Case study: Mautic

Mautic emails sent (2019)

19530

12945

8468

3080   3699

231   546   525   882

Jan 2019 Feb 2019 Mar 2019 Apr 2019 May 2019 Jun 2019 Jul 2019 Aug 2019 Sep 2019 Oct 2019

50,706 (Till 24 Oct 2019)

Mautic cost comparison

Advantages for learners

Our NGDLE has multiple advantages for learners

- Ability to navigate own way through their learning

- Development of self-directed skills

- Cost savings (e.g. textbooks)

- Variety of dynamic, open materials (potentially in different languages)

- All courses are 'mobile-friendly'

- Enables lifelong learning

- Learners

  – control their own data during *and after* study

  – are never forced to waive rights to use technology (no 'I ACCEPT')

Pedagogical opportunities

Opportunities for teaching staff and learning designers include

- Identifying, modifying, and developing resources
- Building digital literacy skills including
  - wiki writing
  - web writing
  - using FOSS tools
  - finding open content
- Understanding open licences and the use of OER
- Embracing opportunities for collaboration and innovation
- Enabling cost efficiencies
- Experiencing and applying 'free-range learning'

Conclusion

The OERu's NGDLE offers

- the opportunity to pioneer new approaches
    - Building a rich infrastructure for learners and collaborators
    - Implementing a FOSS end-to-end service
    - Potential to scale up to facilitate learners across the world
- Advantages - both technological and pedagogical
- Incredible cost-effectiveness and adaptability

Our NGDLE experience challenges the status quo for IT infrastructure used by most HE institutions.

It demonstrates the viability of a new, *open* approach.

More info: **OERu.org**

This talk online: **oer.nz/ngdle19**

Our FOSS code: **git.oeru.org**

Tech blog: **tech.oeru.org**

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