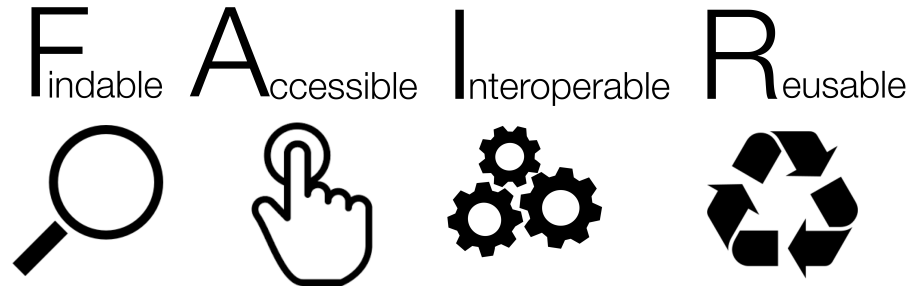# Github pages for open and FAIR teaching material

Geert van Geest

Open and FAIR teaching material

- FAIR:
  - Findable
  - Accessible
  - Interoperable
  - Reusable

F$_{indable}$ A$_{ccessible}$ I$_{nteroperable}$ R$_{eusable}$
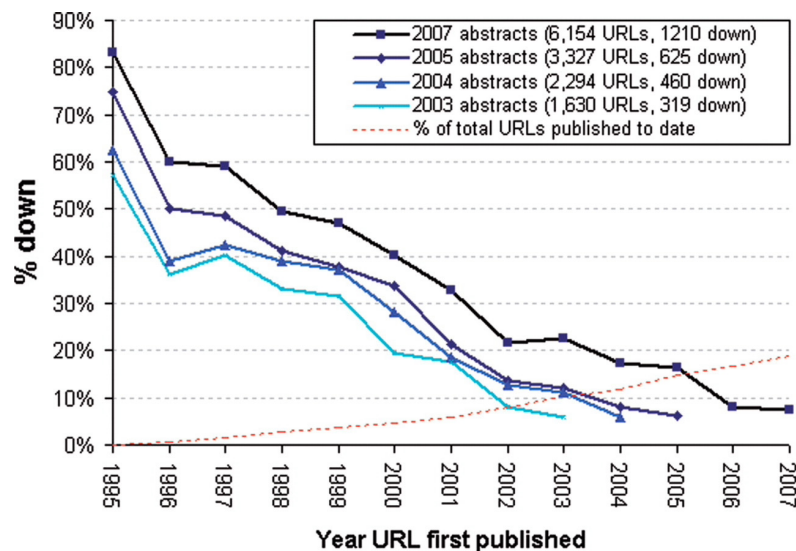
Sangya Pundir - Own work – CC-BY-SA-4.0

- Open:
  - Accesible to all levels
  - Transparant
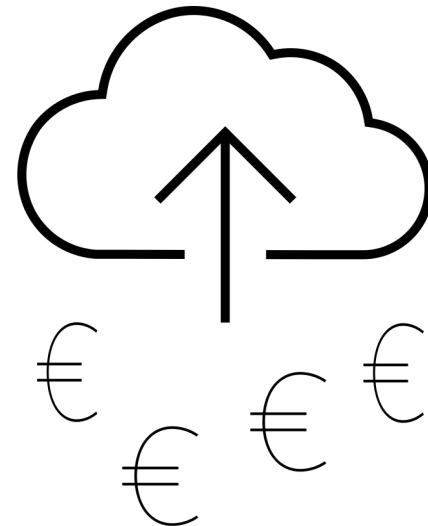 - Reproducible

Findable material

- Assigned to a unique and persistent identifier
- Searchable resource
- **Persistance and searchability are hard to accomplish even by a large organization**

Wren JD. URL decay in MEDLINE - A 4-year follow-up study. Bioinformatics. 2008;24:1381–5.

Accesible material

- Standardized communications protocol
- Open and free
- **Proprietary/in-house developed tools can limit availability**

Interoperable material

- Broadly applicable language
- **The language/format of e.g. pdfs/word files is not easy to modularize**

Reusable

- Clear and accesible license
- Domain-relevant standards
- **Where to communicate licenses, and how to re-use course material?**

Open

- Accessible to all levels
- Transparent
- Reproducible
- **Existing course material needs to be shared with a wide public**
- **Versions need to be tracked**
- **Structure of the course should be part of course material**

Other issues

- **Co-development** of course material, independent of individuals
- Store and document code/material in **one place**
- Reporting mistakes/**issues** by the **community**

A set of solutions

- Exercises and text material written in a **universal** mark up **language** (i.e. plain text) [**markdown**]

- Use **version control** [**git**]

- **Store** course material in a **single repository** [**github**]

- Make use of resources that are there for **persistence** and **identity** [**zenodo**]

Github pages + mkdocs

- **Deploy** a website from a **repository** containing structured **markdown** files
- Functional and aesthetic

https://www.mkdocs.org/

The tools

- **markdown**: unified markup language for texts

- **mkdocs**: render a set of structured markdown files into a website

- **git**: version control

- **github**: remote storage of a git repository + website hosting

- **zenodo**: persistent storage