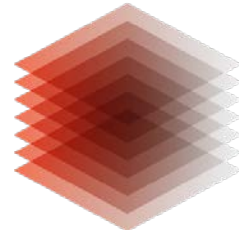LEIBNIZ INFORMATION CENTRE
FOR SCIENCE AND TECHNOLOGY
UNIVERSITY LIBRARY

TIB

Three Rs for Re-Use in Digital Preservation

M. Lindlar
KB - Den Haag, 5th February 2020
Hergebruik / Re-use Seminar for Barbara Sierman

Re-Use

Re-Use

Re-Use

Research based

Reproducible

Responsible

R is for Reserach-based

Digital Preservation is cyclical by nature.

It is about looking at digital objects **today**, which were created in the **past**, in order to keep them available / understandable in the **future**.

It is also about preservation decisions which made in the **past** and are re-evaluating **today** to check if they need to be adapted as we move into the **future**.

These activities require a systematic approach.
They require (applied) **research**.

Re-Use

Applied Research in Preservation Practice

A main function in Digital Preservation is **Preservation Watch**, which includes:

➢ Monitoring **Designated Community**

What file formats do my users expect?

How do they access/use data?

➢ Monitoring **Technology**

What are risks of the file formats we have?

Are technologies/formats becoming obsolete?

➢ Developing **Preservation Strategies & Standards**

Do the standards and strategies we use, e.g., migration, emulation, certification, OAIS, work?

How can we improve them?

➢ Monitoring **my own organization**

Do I have the right (amount) of resources to fulfill my task?

*Are my policies in place and up to date?*

Building Practice on Research (by others)

As **Preservation Watch** shows, digital preservation practice is a large task.

Most large institutions preserve > 100 different formats in > 0.5 Petabyte of data.
Digital preservation teams range between 2 – 10 FTE.

Community Resources include research of others that we can build our work on and that we can contribute our own research / experience to !
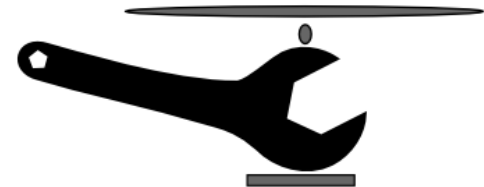
Call to action – research-based:
Sharing is Caring and we can do more of that!

The technical registry
PRONOM

Digital Preservation Q&A

Let's Solve the File Format Problem!

Digital Preservation Research Projects

There have been a number of successful research projects.

But how successful have we been at **keeping the results alive** / the thought process ongoing?

Membership organizations like OPF help **maintain open source tools / standards** … but we need to **keep that knowledge alive** & move it into practice in our instituions as well

Call to action – research-based:
Learn from research outputs & help keep the results alive!

R is for Reproducible

Themes that often come up in digital preservation:
- **Authenticity** (of objects)
- **Transparency** (of processes)

Both share the underlying concept of **reproducibility**, which needs to applied on two levels:
- **Micro** level:
  i.e., reproducibility of changes conducted to single objects
- **Macro** level:
  i.e., reproducibility of overarching processes

Re-Use

Reproducibility on Micro Level

The digital preservation community is good at documenting **reproduciblity** on the level of digital objects / files, via, e.g.:
- Preservation plans
- PREMIS preservation metadata on Objects, Events, Rights, Agents and Environments
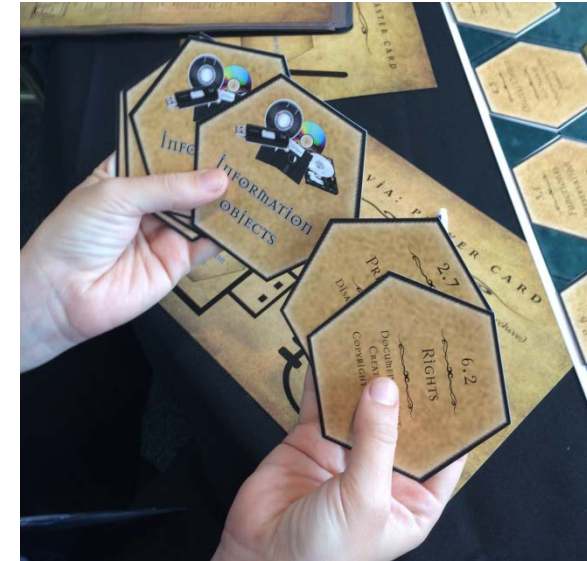
Reproducibility in the sense of **who** did **what**, **when**, based on **which agreement** and with **what outcome** is a unique selling point of digital preservation!

We should use this easy-to-understand concept of to promote our efforts better.

Call to action – reproducibility:
Drive our value more by making reproducibility transparent!

Reproducibility on Macro Level

On a macro level of **reproducibilty**, we are not quite as successful (at least in my opinion).
-   shared terminology exists, but is often understood differently:
    - **Across domains**: e.g., „preservation" between research data management and digital preservation
    - **Across institutions**: e.g., wide spread of „Preservation Planning" implementations
    - **Across departments**: e.g., „independent copy" between preservation team and IT

Call to action – reproducibility:
Continue efforts to speak the same language!

Image: Micky Lindlar CC BY-SA 2.0

R is for Responsible

National Libaries / Archives, large research libaries, museums and similar cultural heritage institutions are by definition or – even better – mandate **responsible** for the preservation of their holdings.

This responsibility can be broken down into two categories.
We are responsible …
…For **what** we do
→ To the objects we care for and the frameworks we base
these actions on
…For **how** we do it
→ How do we fare in the age of globalized information
infrastructure and climate change?

Re-Use

Responsible for what we do

Digital preservation is mainly focused on techno-logical long-term accessiblity of digital objects. Until recently, **sociological considerations** of what we do have been largely neglected.

To illustrate:

- Do we respect the cultural framework in which digital artefacts are produced, stored and consumed?
- Do we exclude potential users via technological decisions / assumptions we make?
- Are we open enough to foster exchange? Why hasn't Code of Ethics for Digital Preservation (proposed by NLNZ / NaSLA) taken off? Why are we so hesitant to talk about failure?

Call to action – responsibility:
Include sociological considerations in our processes!

Image: Erwin Verbruggen https://www.flickr.com/photos/ipres2018/31543864697/ CC BY-SA 2.0

Responsible for how we do it

Digital Preservation has a **significant carbon footprint**. Factors like electricty, cooling and hardware renewal pose an environmental risk.
How can we be more **environmentally responsible** in how we conduct digital preservation?

Tasks to consider include:
- Infrastructure: overall Storage size use
- Processes: do we really need to digitize? re-appraisal?
- Collaboration: deduplication within national / international preservation networks

Call to action – responsibility:
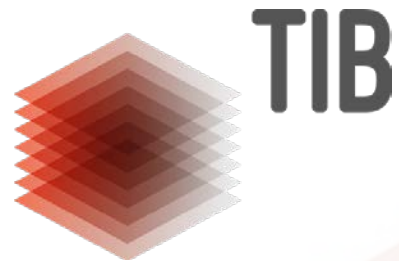**Move towards environmentally responsible digital preservation!**

Pendergrass, Sampson, Walsh, and Alagna. 2019. "Toward Environmentally Sustainable Digital Preservation." The American Archivist 82 (1): 165–206
https://doi.org/10.17723/0360-9081-82.1.165

Conclusion – A ToDo List of Calls to Action:

☐ **Sharing is Caring and we can do more of that!**

☐ **Learn from research outputs & help keep the results alive!**

☐ **Drive our value more by making reproducibility transparent!**

☐ **Continue efforts to speak the same language!**

☐ **Include sociological considerations in our processes!**

☐ **Move towards environmentally responsible digital preservation!**