Lessons learned in developing digital preservation tools the right way (and the wrong way)
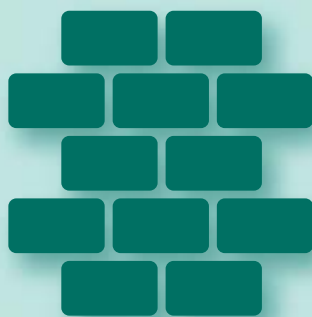
You know that something has gone wrong when the data outlast the preservation solutions designed to preserve them. Short term project funding has kicked off many digital preservation developments, but it hasn't often led to strong or sustainable results. New developments need to fit well within the context of existing infrastructure and solutions, they need to have a roadmap, some sensible governance and a maintenance plan that is realistic given an uncertain funding outlook. Most importantly, a community of users and digital preservation expertise needs to be at the heart of this approach. This is vital to ensure that the right developments are made, using sensible technologies and in a way that others can maintain on into the future.

Engage with the community

Engaging with the community from the very beginning enables new work to be shaped to the needs of real users. With the users in the driving seat, and the community coming along for the journey, the support is there to ensure results are of a high quality.

Key lessons learned:
* Capture and *share* the requirements
* Consult with the community before you start and work to solve their problems
* Work with actual examples or user data
* Designate a problem owner and a solution provider
* Facilitate frequent engagement between them

Build on existing work

There are many examples of digital preservation development that has gone it's own way, despite existing solutions from within or outside of the community. This duplication is incredibly wasteful. Engaging with existing work, even if it's outside of our community, *can* have a real impact and and reduce effort.
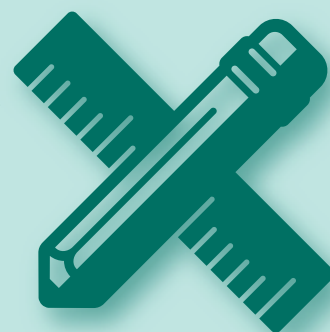
Key lessons learned:
* Thorough literature review should result in action!
* The outside world will care if we engage
* Support for missing digital preservation requirements *can* be added to existing work

Design for longevity

Digital preservation developments should of course employ digital preservation principles. New work should be designed for purpose and designed to last. Good management, planning, and/or software development techniques should be employed to ensure quality and sustainability.

Key lessons learned:
* Independent review can catch many issues
* Choose a technology and/or medium that is sustainable
Make preservation tools:
* Focused and atomic so they can be integrated easily
* That embody genuine open source techniques and tools
* Easy to test, enhance and maintain with community effort

Ally with a custodian

With so many new developments relying on external funding, the creator is often a project with a short lifespan. With a more long lived organisation engaged as a custodian from the very beginning, developments can benefit from their experience, community, support skills and stewardship. This might include the Open Planets Foundation, the Digital Preservation Coalition or the National Digital Stewardship Alliance.

Key lessons learned:
* Involve the custodian from the beginning of the development
* Draw on their skills, and community to ensure the development meets real needs
* Choose technologies that reduce barriers to interaction with users, and simplify the maintenance of resources
* For web hosted results, seek locations that will survive beyond the life of a project
* Remove legal barriers to resuse by ensuring all your results are published with clear licenses
* Separate (and hide) uninteresting operational details from real results on retired project websites. Even better, transfer the best results to a longer lasting home

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