



## D6.5 USE OF OPEN STANDARDS AND COLLABORATION TOOLS

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## Executive summary

One of the objectives of WP6 is to “assure the dissemination of the Project results under free licenses and open standard formats, and its raw data as Open Data”. Within WP6 there is one task dedicated to this and two deliverables: Task 6.3, “Policies for open dissemination of DiDIY Project results” (M2-M26) (Leader: FKI).

This Task is aimed at formulating a set of policies for the Consortium with respect to the development and publication of results of the Project. In line with various guidelines and recommendations of the Commission, the Consortium considers that the results should be equally accessible and reusable by all European citizens and organisations. Therefore the Project work has been and shall be published under free/open licenses and its raw data as Open Data, conforming to the EU directive on reuse of PSI information (Directive 2003/98/EC), thus facilitating the reuse and distribution by any interested party. This WP has developed a set of internal guidelines for effective collaboration, respecting a diverse group of participants with a range of different computer software and practices. Therefore open standard formats would be encouraged as to ensure the diversity of applications used.

The two related deliverables are:

- D6.4, “Legal aspects of dissemination of the project results”: policy on legal aspects of dissemination of the project results;
- D6.5, “Use of open standards and collaboration tools” (the present deliverable): guidelines to encourage the use of open standards and collaboration tools.

Given the importance for the internal collaboration in the Consortium and exchange with the wider community, this Deliverable has been prepared in the first two months of the Project and was approved by the Steering Board. Reaching the end of the Project we include a brief synopsis of the lessons learnt, at the end of this document.

Revision history			
Version	Date	Created / modified by	Comments
0.0	23/02/15	FKI	First incomplete draft for internal circulation (through hackpad & TB list).
0.1	27/02/15	FKI	Extensions, fixes, etc; first distribution to TB, approved and implemented in the Project.
0.2	24/01/17	FKI	Small corrections, preparing for final submission.
0.3	20/02/17	LIUC	Revised draft.
0.4	24/02/17	FKI	Further extended draft.
1.0	28/02/17	LIUC	Approved version, submitted to the EC Participant Portal.



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## 1. Background

The FKI has developed a set of effective practices to maximise the dissemination and reuse of project results, which has evolved and has been tested in previous projects such as the SELF project (FP6-IST), the Free Technology Academy (FTA) project (LLP) and the openSE project. SELF included policies to encourage the collaborative construction of free educational materials and open educational resources. FTA published all its educational materials under free licenses and was heavily downloaded and reused by various universities. openSE included the development of an open content framework to encourage the Seeding, Evolutionary Growth and Reseeding cycle as proposed in the SER model by Fischer and Ostwald to enrich participatory design with informed participation.

This deliverable takes the lessons learnt in these projects and applies them in the DiDIY Project.



## 2. Open Standards Policy

This section describes the issues we have taken into account in order to choose and define the different standards which have been supported by the Project. First of all, we provided an appropriate definition of the term “open standard”, which is basic for the selection of acceptable standards.

### 2.1 Definition of Open Standards

The following are the minimal characteristics that a specification and its attendant documents must have in order to be considered an open standard<sup>1</sup>:

- the standard is adopted and will be maintained by a not-for-profit organisation, and its ongoing development occurs on the basis of an open decision-making procedure available to all interested parties (consensus protection of privacy in the electronic communications sector or majority decision, etc);
- the standard has been published and the standard specification document is available either freely or at a nominal charge. It must be permissible to all to copy, distribute and use it for no fee or at a nominal fee;
- the intellectual property, i.e., patents possibly present, of (parts of) the standard is made irrevocably available on a royalty-free basis;
- there are no constraints on the re-use of the standard;
- however, the first condition does not have to be fulfilled in the case that a complete reference implementation of the specification exists in Free Software (a.k.a. Open Source or Libre Software), i.e., under a license approved by either the FSF or OSI.

### 2.2 Arguments for Open Standards

In line with this definition, the need for the use of Open Standards is based in the following main reasons:

- Open Standards guarantee interoperability; in other words, they allow the exchange of information independent of the software that is used. Therefore, Open Standards are a precondition for technological neutrality;
- Open Standards guarantee that the information digitally generated in a certain moment in time will be readable and reusable in the next millennia. This is independent of the fact whether the programs used for its generation will be still available or not in the future. Thus, public and open specifications guarantee the preservation, durability, integrity and re-usability of the information without restrictions;
- Open Standards allow for a level playing field for all software developers, which favours competition in the market, stimulates innovation, while at the same time drives costs down;
- Open Standards facilitate the interaction of citizens with public administrations and private entities, as they do not impose any particular software vendor. A company or citizen who uses a software based on Open Standards will never find itself forced to acquire a competing software of the one they are already using, to exercise the right to communicate with their public administration;

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<sup>1</sup> See a summary of definitions of Open Standards at: <http://freeknowledge.eu/definitions/openstandards>.



- Free Software tends to use and help define Open Standards, since it consists by definition of publicly available specifications, and the availability of its source code promotes an open, democratic debate around the specifications, making them both more robust and interoperable.

### ***2.3 Agreed formats and protocols***

During the kick-off meeting of the Project, the following initial agreement has been reached:

- for editable office documents, the ISO approved Open Document Format (ODF<sup>2</sup>) shall be used, i.e., as source file;
- For static, non-editable office documents the ISO approved Portable Document Format (PDF<sup>3</sup>) shall be used;
- Microsoft Office format should only be used in exceptional cases, as this is no Open Standard format and can therefore not be implemented in other office suites with full guaranteed compatibility. Using this format may require additional formatting and validations, as it cannot be guaranteed that all partners and receivers of these documents have the same software.

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<sup>2</sup> <http://en.wikipedia.org/wiki/OpenDocument>.

<sup>3</sup> [http://en.wikipedia.org/wiki/Portable\\_Document\\_Format](http://en.wikipedia.org/wiki/Portable_Document_Format).



### 3. Lessons learnt

In this section we briefly summarise the implementation of this Policy and what we learnt.

Online and remote collaboration systems that have been put to use for the remote Project teams have had an important influence on the use standards in the exchange and storage of information.

#### **Website with public and private filesharing repository**

The website was implemented with Drupal and includes a public filesharing repository. Additionally, for confidential, internal information, the Project has set up a private filesharing repository based on the Seafile Free Software.

#### **Hackpad, <https://hackpad.com>**

Hackpad was proposed by the FKI and agreed upon by the Consortium for online collaborative editing, as a lightweight alternative in between Etherpad Lite and Google Docs. Hackpad is a combination of Etherpad and various other Free Software tools. The Project had a dedicated project space at the global Hackpad server<sup>4</sup>. It was used during the first part of the Project and allows rich text collaborative editing.

#### **Google Docs**

In the second half of the project Google's platform was used, as several partner found that environment more convenient for producing larger documents. While the export into ODF and other standards is assured, the users have no control over their data, which are exploited for private gain by the Alphabet Inc. corporation (a.k.a. Google).

#### **Microsoft Office document formats vs. Open Document Format**

While ODF<sup>5</sup> is to date the only implemented Open Standard for editable document formats, many larger organisations have not implemented effective measures to use it, with the consequence that Microsoft Office is still prevalent in many organisations. The network effect of many people requiring Microsoft Office suite means an effective vendor lock-in. This has been observed also inside the DiDIY Consortium and while partners are able to read ODF, they still produce mostly documents in Microsoft Office formats. On the other hand, the final editable versions of all documents officially produced in the Project are in ODF format.

#### **PDF – Portable Document Format**

The main Project results are contained in documents that are published in the PDF format. However not all versions of the PDF format are true Open Standards and can be implemented in a vendor-neutral way. PDF/A<sup>6</sup> is the ISO-standardised version of PDF which in particular refers to version PDF-1.4, based on the format proposed by Adobe Systems. It is this version that is used in the Project.

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<sup>4</sup> Hackpad was acquired by Dropbox in the early stages of the DiDIY Project.

<sup>5</sup> <https://en.wikipedia.org/wiki/OpenDocument>.

<sup>6</sup> <https://en.wikipedia.org/wiki/PDF/A>.





## Appendix

Open standards that have been selected for their compliance with the Open Standards definition as part of the SELF Project (2008) are the following (they may require updating).

7z

ASCII (American Standard Code for Information Interchange)

Dirac / Schrodinger

DocBook

Free Lossless Audio Codec (FLAC)

GZIP

HTML 4.01

IMS Learning Design (IMS LD)

ISO/IEC 8859

Joint Pictures Expert Group (JPEG)

LaTeX

Learning Object Metadata (LOM)

Ogg Theora (with warning, see: Free Video Formats)

Ogg Vorbis

Open Document Format (ODF)

Open Document Format for Office Applications (OpenDocument) v1.0, v1.1, v1.2

OpenEXR

Portable Document Format (PDF), the ISO-standardised version of PDF, called PDF/A, which uses PDF version 1.4

PostScript (PS)

PBM, PPM, PGM, PNM

Portable Network Graphics (PNG)

RIFF Windows Audio (WAV)

Scalable Vector Graphics (SVG)

Sharable Content Object Reference Model (SCORM)

Tape Archive (tar)

Unicode

W3C eXtensible Hypertext Markup Language (XHTML)

W3C MathML

W3C Extensible Markup Language (XML)

W3C XHTML 1.0

Windows Bitmap (BMP)