

Public Libraries Supporting Personal Digital Archiving – an Extended Interpretation of Ranganathan’s Laws

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Abstract

By using computers, smartphones, tablets or digital cameras people produce a lot of personal digital data and digital objects. Some of these might be interesting and necessary not only for a short term but also in the long run. Competence in selecting, managing – including reorganizing and renaming – as well as in saving and adding necessary metadata and in preserving personal digital data and digital objects is essential for everyone. Such activities are called “Personal Digital Archiving”. The competence and – related to it – supporting services for Personal Digital Archiving could be provided by THE local competence centers for information and media literacy: public libraries. The paper suggests activities and services supporting citizens to save their personal digital legacy by applying measures of personal digital archiving.

Keywords

Public libraries, services, personal digital archiving, Ranganathan’s Laws, file formats, metadata, storage media

1. Introduction

The introduction of digital cameras more than 20 year ago has changed the way we take pictures. Today, most pictures are digital. Meanwhile, every year about 1.2 billion digital pictures are taken p.a. and there is an increase of about 100 million pictures p.a.¹ More than 85% of these pictures are taken with smartphones. Meanwhile more than 2.7 billion smartphones are in use. Those small handheld computers are used for messenger services, e-

¹ <https://www.businessinsider.de/grafik-zeigt-so-viele-bilder-werden-jedes-jahr-auf-der-welt-geschossen-2017-9>

mail, web searching, sound recording, taking videos and pictures and a lot of other purposes enabled by a continuously growing amount of apps. All these applications are producing a lot of digital traces. Some of them are used for the widespread business models of international online companies, others just remain on our smartphones. Some of the data remaining on our devices should be kept – as a reminder, as a memory, as a proof of record or for other purposes. But how should we deal with them?

In most cases we just leave them stored on our digital devices. Due to the increasing amount of available digital memory and the decrease of cost per GB the necessity to copy and save digital data from our digital devices has declined. In addition, cloud-based storage possibilities are offering storage services which relieve us from the burden of saving and storing data on different memory devices that are kept in different places.

As a result, awareness for and knowledge of how to save and store digital data of personal or general relevance has declined during the last years. Unfortunately, it has never been popular and widespread at all. An important reason for this diagnose is the effort and the consistency needed for saving and preserving data in a proper way.

In the 21st century, competence in organizing and saving one's own personal data is getting a crucial skill. If the everyday traces and records are digital, Personal Digital Archiving (PDA) becomes more and more important. The risk of losing (access to) one's own data or the risk that international companies like google or Facebook will become the only ones having access to our personal digital data and objects increase – a situation which is a contradiction to our understanding of being autonomous persons. Therefore, people should be enabled to decide which records should be kept at all, they should be enabled to manage these records and to make sensible decisions which of this data should be preserved over time by whom and where. Nevertheless, a lot of people ignore the need to manage their data properly and to ensure storage and preservation – until disaster strikes.

Everybody who has experienced a head crash on their computer or whose smartphone has been stolen or lost can tell stories about the high expense of time and money spent to get at least some of their data back. If they were successful, they can call themselves lucky – or at last well organized. Organizing one's own data by structuring, naming and classifying it is an important contribution to keep and at least restore such data. All this is part of the concept we call "Personal Digital Archiving".

2. What is Personal Digital Archiving about?

PDA has its origins in personal information management as well as in digital preservation and combines these basic concepts to a bundle of suggestions and activities helping people to manage and preserve the self-selected traces and memories of their digital lives.

PDA is a concept to support people by creating, processing, naming, filing and preserving their digital objects as part of their personal collection or archives. Suggestions, guidelines and training courses should enable individuals to care for their personal legacy.

PDA bundles methodological knowledge from information and computer science and transforms it for everyday use. PDA is an adaption of professional knowledge and experience normally applied in archival and information science to popular use by individuals. A very

popular and widespread activity in PDA has been realized by the Library of Congress (LoC) in the US in cooperation with the American Library Association (ALA). The so-called “Preservation Week” provides individuals with hands-on information for saving and preserving their private digital objects.²

Against this background, Personal Digital Archiving conferences have taken place on a yearly basis since 2010. Their main purpose is analyzing, enhancing and spreading the knowledge on PDA. Especially solutions to deal with the large number of digital pictures taken by individuals have been a main topic at the conferences.³

A broad movement creating awareness for the topic has emerged, primarily in the US. Marshall (2008a & 2008b), Copeland & Barreau (2011), Ashenfelder et al. (2013), Brown (2015) and Marshall (2018) have given good overviews on the state of the art of research on the topic.

In Germany, a nestor working group has been active in the field of PDA⁴ since 2016, providing material on PDA for distribution. It cooperates with libraries and archives and “aims to develop and publicize comprehensible guidelines for the responsible handling of private digital data. Based on existing knowledge of and approaches towards institutional long-term preservation, the aim is to develop and put forward modular proposals which can be combined to reflect the large number of highly diverse application cases of individuals.”⁵

3. Thematic focuses of PDA activities⁶

A great variety of challenges must be met for a successful implementation of PDA. When PDA comes into mind, most people think about file formats, storage media and security issues like passwords or encryption methods. Information science specialists might think about structural naming, diverse collections of metadata or the versioning of files. Computer scientists might think about tools for organizing and distributing digital objects. And legal experts might focus on issues of personal rights, copyright, data protection and privacy as well on the right to inherit access to social media platforms and usage rights related to digital objects which are licensed or owned.

Although neither of these aspects is more important than the other ones, some topics are fundamental. Without choosing a sustainable file format, adding relevant metadata to a digital object and ensuring the accessibility and operability of the storage media being used PDA will not work. Let us focus on these three aspects separately – being aware that there are others which are relevant as well.

2 The Library of Congress (LoC; Washington) participates in the Preservation Week organized by ALA on a yearly basis. Since 2012, LoC has cooperated with public libraries to offer online advising services (see Ashenfelder et al. 2013).

3 There is no central website for these conferences available. Please see e.g. the website of this year’s conference at Houston, Texas, April 23rd – 25th, 2018; <https://sites.lib.uh.edu/pda18/>.

4 See Oßwald, Iordanidis and Schumann (2016) and <https://wiki.dnb.de/display/NESTOR/AG+Personal+Digital+Archiving> for details.

5 Cited from <https://wiki.dnb.de/pages/viewpage.action?pageId=120326618>.

6 Parts of this paper reflect ideas of a presentation and paper given by the author and Dirk Weisbrod at the German Library Convention 2017 at Frankfurt/Germany (see Oßwald and Weisbrod 2017).

Storage media

When it comes to archiving most people think of saving and storing data on a bitstream level. Bitstream preservation is indeed a *conditio sine qua non* for PDA. But saving and storing data should be realized with at least two or three different storage media, e.g. following the LOCKSS concept (see <https://www.lockss.org/>). In addition, the expiration time of the different kinds of storage media in use has to be observed.

Storing data and digital objects by using a cloud-based service might solve some basic issues of repetitive and redundant bitstream preservation. Users should check the terms and conditions, especially the data protection and usage rights of a cloud-based service. For security reasons cloud-based services alone should never be exclusively used for storing one's personal digital objects.

Metadata

Metadata is a key to accessing and understanding the content of a digital object. A descriptive name including a reference to the content (e.g. location, person or date) is a basic way of including metadata. But metadata might not only be descriptive in such a way or as we know it from library activities. Metadata can include structural or administrative data related to technical circumstances and usage rights.

Devices and software used to produce digital objects create elementary metadata elements. By adding further metadata users have to make up their mind about the designated usage of the digital objects in future. In relation to the designated usage and the designated users different metadata elements might become relevant as significant properties⁷ of the digital object.

File formats

Different digital objects are created in different digital environments and result in different file formats. Only a few of them are useful for long-term preservation. These file formats should be "open", i.e. well documented and not proprietary. They should be in use by a widespread and numerous user community. If these suggestions cannot be fulfilled file formats should be at least migratable to sustainable ones suitable for long-term preservation. Nevertheless, there will be still some need for a kind of format control.

4. Who is going to spread knowledge about PDA?

As described above, most people are not familiar with the technical, organizational and metadata-related issues of storing and preserving their personal digital objects. If they want to save and archive their own digital data, they may need help and advice by trustable institutions – as long as they do not have the money and trust to engage a business-based service.

Such trustable institutions might be local archives, sometimes also related with local religious

⁷ See OAIS for details at <https://www.iso.org/standard/57284.html>

communities. Unfortunately, these institutions are understaffed in most cases and are not able to offer this kind of support on a regular basis.

Adult education centers (“Volkshochschulen” in Germany) and comparable organizations in other countries might offer courses in PDA. But taking a course on the topic assumes at least some basic awareness and the ability and willingness to spend time and money for a systematic approach. That is a hurdle only a few individuals will take.

Instead most people will ask for task-based advice in a specific situation helping to solve a problem at hand with their personal digital objects. This is a chance for public libraries to offer new services. Public libraries

- are located in the neighborhood and easily accessible
- are trusted institutions with a good reputation
- have experience in serving different types of users in terms of age, education or status
- have experience in addressing people with different educational levels.

When LoC chose public libraries as partners for its concept of the “Preservation Week” all of these arguments are presumed to have played a role.

Only a few public libraries will be able to provide PDA-related material and knowledge for their services by themselves. Therefore, most of them will need support from a central service offering material and experience related to the topic. This is the reason why LoC supports public libraries with material and a special website⁸ which provides material for events of information and education. A special service of LoC is the material provided to run a “Personal Digital Archiving Day”⁹. It allows libraries to realize an event based on the know-how of specialists without being specialists themselves. But even if such support is not available for a public library, cooperation with local computer clubs or an academic institution nearby might be an option to make people familiar with the topic and to provide basic information services on PDA.

Dissemination of PDA-related knowledge: a small case study from Cologne, Germany

An example of such a cooperation are the activities of students at the Institute of Information Science at the Technical University Cologne¹⁰ in cooperation with Cologne Public Library¹¹, which started in 2016. Under the guidance of the author, students carried out an information event entitled “Digital workshop – cloud, hard drive and CD-ROM in a shoebox”¹² in which basic information on how to deal with different types of digital objects like text files,

8 “Personal Archiving. Preserving Your Digital Memories”, LoC, <http://digitalpreservation.gov/personalarchiving/>

9 See “Personal Digital Archiving Day Kit” at <http://digitalpreservation.gov/personalarchiving/padKit/index.html>

10 See https://www.th-koeln.de/en/homepage_26.php

11 See <http://www.stadt-koeln.de/leben-in-koeln/stadtbibliothek/index.html#> for details (website in German only).

12 German title: „Digitale Werkstatt – Cloud, Festplatte oder CD-ROM im Schuhkarton“, 17/11/2016. With regard to the concept of the workshop the library explained on its website: A hands-on concept is applied which has been developed in the context of the EU-project ‘Digital Literacy 2.0’ by six libraries and institutions for further education. For details see <http://www.stadt-koeln.de/leben-in-koeln/stadtbibliothek/bildungsangebote/digitale-werkstatt-1> (website in German).

pictures, videos and audio files were provided. Handouts¹³ containing information and examples how to organize, name and store personal digital objects were provided. The participants – about 2/3 of them were in the age group 50+ – were happy to get hands-on information from a non-commercial source helping them with their personal challenges to organize and archive private digital objects.¹⁴ Unfortunately, a repetition of the event has not yet been realized due to the obligations students have felt for their course of study.

Nevertheless, the students received the “Team Award Information Professionals (TIP) 2017” at the National German Library Convention 2017 in Frankfurt/Germany. They also published a paper on the workshop and the concept behind it (Mühling, Piontkowitz, Pütz and Wähler 2017).

5. The role of public libraries in teaching awareness and skills to apply PDA: recommendations for action

Public libraries are institutions which are close to citizens: real and figuratively. They have great experience in teaching media and information literacy. Therefore, they are predestined to offer knowledge and services related to PDA. With reference to this assumption public libraries should offer at least the following measures and services to support citizens in their attempts to save and archive their personal digital objects (see Copeland & Barreau 2011, Peters, 2017, Oßwald & Weisbrod 2017 for further details).

Supporting awareness and giving general advice by

- raising awareness of the requirements to save digital data frequently on different storage media and deposit the storage media at different places or at least use a cloud-based service for this purpose;
- offering events with basic information and demos (lasting 1-3 hours) on a repetitive basis, presenting successful and failed attempts to preserve one’s own digital objects;
- providing information events embedded in a regional or national context like the “Personal Digital Archiving Days” in the US to offer best practice examples and hands-on advice;
- supporting the reflection for whom people are going to save and preserve their digital objects (the so-called “designated communities” of digital preservation) which would result in enhanced openness to add metadata relevant for the designated community selected (e.g. names of persons or places shown in the pictures);
- providing links to freeware software tools and to low-budget tools that have proved to be appropriate.

13 The handouts in German language are provided to the public via the wiki of the nestor working group “Personal Digital Archiving”, see <https://wiki.dnb.de/display/NESTOR/AG+Personal+Digital+Archiving>

14 Personal e-mail communication with the author.

Providing personal advice

- In addition to the suggested general information events, public libraries could offer consultation hours during which citizens can ask questions regarding PDA; such a service could be connected with a general media-related consultation service.
- Practical IT-related support could be offered in cooperation with computer clubs.

Providing infrastructure for further services

Accompanying measures could be provided by public libraries to

- offer infrastructure for migrating data from outdated storage media to storage media and file formats suitable for long-term preservation – or at least to provide information about such services;
- provide advice in selecting commercially based services for digitizing, storing and preserving (personal) digital data.

Not every public library will be able to provide all of these services. Nevertheless, it is important to fly the flag and offer at least some of these services.

6. Summary and conclusions

By creating digital objects using computers, smartphones, tablets or digital cameras we all produce a lot of personal digital data and digital objects. Some of these might be interesting and necessary not only for a short term but also in the long run. Competence in selecting, managing – including reorganizing and renaming – as well as in saving and adding necessary metadata and in preserving personal digital data and digital objects is essential for everyone. Such competence and – related to it – supporting services might be provided by commercial service providers. Nevertheless, most citizens would be happy if awareness, advice and support could be provided on a non-commercial basis by THE local competence centers for information and media literacy: public libraries.

Hands-on services provided by the Library of Congress via their “Personal Digital Archiving Days” campaign in public libraries have been very successful in rising awareness and disseminating competence to deal with this challenge. Workshops and case studies in the digital preservation community (see e.g. Lunghi, Tibbo, Schumann 2016) and advice for individual citizens in Europe (see e.g. Oßwald 2016) have shown that there seems to be a need and a basic demand to enhance efforts in providing such services.

Providing advice and services connected to PDA would offer a chance to public libraries to strengthen their position as non-commercial, citizen-related information and service centers in the neighborhood. By doing so public libraries would prove themselves as a “growing organism” in the sense of Ranganathan’s 5th law. In addition they would “save the reader’s time” because their services would be tailored to and focused on the needs of at least groups of citizens and users of public libraries. In doing so they would interpret Ranganathan’s Laws by adopting them to today’s needs of readers.

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