

Dissertation proposal

Personal Digital Archives:
Preservation of Documents, Preservation of Self

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Abstract

Personal archiving is a practice through which people manage and preserve documents that have particular meanings to them for a long time. The pervasive use of digital technology in everyday life changes the way that people interact with documents and thus have an influence on archiving practices. Viewing personal archiving as a self-reflective practice that involves psychological and social processes of reviewing, understanding, and presenting life and self, the proposed study aims to explore digital archiving of ordinary individuals in relation to the construction of self. It uses in-depth case studies to gain a holistic understanding of how people conduct and experience archiving in a digital environment as close to research participants' perspectives as possible. Findings of the proposed study will eventually contribute to development of a theory or a model of personal digital archiving, which can have implications for research on digital cultural heritage preservation and personal information management/archiving tools and services design.

I. Statement of the problem

1. Personal archives and archiving

Many people selectively keep certain documents and form personal or family archives throughout their lives. A wide variety of documentary materials (i.e., information objects as by-products of everyday life: e.g., letters, e-mails, diaries, memos, photos, sound recordings, and self-made videos) that people own by creating, receiving, collecting, and purchasing can be included in private archives. These personally preserved documents assume a special prominence in an individual's mental and physical environments. As evocative objects, "goods-to-think-with" (Turkle, 2007, p. 4), these documents are closely tied to how people recall their memories about past events and experiences and how they envision lives of previous generations. They not only stimulate memories but also assist people to make their memories and life narratives

tellable. Some of the documents are kept beyond one's lifetime and passed down to next generations. Although people may not call them their "archives" in a real life setting, this collection of documents, however, constitutes archives in the sense that it functions as a reference to the past for the person who owns the documents, either as evidential resources or as memory objects.

Some of these documents are displayed in a public space for various purposes, ranging from simple decoration to symbolic memorials (e.g., diplomas at the office, family pictures on a refrigerator) while others are kept in private places and treated as personal treasures (Cox, 2006b; Kirk and Sellen, 2008). Thus, archives of individuals are not likely to exist as a centralized repository of old documents, but rather they are ubiquitous in different forms. Personal archives can be formed as a part of bookshelves, photo albums, file cabinets, shoeboxes, and a digital storage device.

Australian archivist and an educator in archival studies, Sue McKemmish (1996) notes that the lifelong acts of creation, accumulation, and maintenance (e.g., ordering, keeping, and discarding) of personal documents is the process of forming personal archives. The formation of personal archives is also an on-going process that makes records be "always in a state of becoming" (McKemmish, 2005, p. 20). From this perspective, personal archiving can be viewed as a type of personal recordkeeping through which a document gains its significance and/or new value beyond its purpose of initial use. Certain documents might obtain or lose their values to the owner overtime as time passes or as one's life changes.

With the pervasive use of digital technology to create and store documents, contemporary individuals' personal archiving practices involve the long-term preservation of documents in digital form. Managing digital materials, however, seems to become a burdensome task due to

excessive volumes of digital documents accumulated and constant technological changes. Based on her research about information management strategies of individuals, Marshall (2007 and 2008) argues that the lack of the time and patience to manage large amounts of digital materials promotes a strategy of benign neglect that requires people to be tolerant of loss of digital belongings and endangers the long-term survival of personal digital objects. Although this notion needs additional investigation, it gives us a sense that the transition from an analog-based to digital-based information environment means more than a change of the medium of documents. The proposed study attempts to investigate how people live with their digital documents particularly focusing on personal recordkeeping and archiving.

2. Digital mediation in documentation practices

Digital technology aggressively penetrates and defines the condition of our everyday lives and even changes how people think (Turkle, 1984). The impact of digital media and associated digital tools on our documentation practices is radical and profound. Although people have generated and shared records throughout history, a substantial difference in the current digital environment is the great extent to which individuals are able to interact with digital documents. Digital technology encourages vigorous participation in the producing and sharing of documents that is unprecedented (Garde-Hansen, Hoskins, and Reading, 2009, p. 131; Beagrie, 2005).

In digital form, documents become more flexible in terms of their modifiability and transferability. Using digital tools, people can create, alter, remix, and duplicate digital documents in a much more active way. In the networked environment such as the Web, it becomes easier and faster to retrieve, access, exchange, and distribute digital documents than

before. Moreover, while more types of documents in conventional form are being (re)born in digital form (e.g., pictures, music, films, books, newspapers), new genres of documents are emerging in parallel with the evolution of digital technology (e.g., websites, blogs, profiles and contents on social networking sites, e-mails, instant messages, text messages, tweets). This dynamic nature of digital media promotes further creation and sharing of documents for a variety of purposes. Through use of digital technology, contemporary individuals have more opportunities and methods to actively document life events around them, express themselves, and share their thoughts and life stories with others (Arthur, 2009). The explosion of document sharing sites such as Flickr and YouTube offers a glimpse of the documentation activities of individuals.

As a result of living in an increasingly digital-technology rich environment, 1) the quantity of personal documents that belong to one individual is growing rapidly, 2) people hold a variety of types/genres of personal documents, including documents that reflect their personalities, opinions, a point of view, and thoughts, and 3) public visibility has become an important characteristic of many personal documents. Most documents created and disseminated by individuals over the Web are meant to be “seen” by others to some degree (Garde-Hansen, Hoskins, and Reading, 2009, p. 132). Personal digital documents are generally more open for ready access by a broader audience than documents in analog media.

3. Problems of preservation of personal documents in the digital environment

How our documentation practices change with digital technology has an influence on how people manage and preserve personal digital documents in their everyday lives, mostly in a challenging manner.

Low sustainability of digital media

Unlike documents in conventional form such as paper, digital bits and bytes must have a proper device and/or system in order to be displayed as documents. The unavoidable reliance of digital documents on their supporting digital technology makes the long-term preservation of digital documents difficult. Since digital technology, including hardware and software, changes constantly and quickly, digital media do not provide the same level of stability that conventional media have offered for several hundred years. People have already experienced inaccessibility of aged – but still relatively young – digital objects due to obsolescence of format and equipment. People seem to normally expect a problem of becoming unusable regarding the long-term fate of their digital materials. In order to keep digital documents accessible and usable through rapid technological change, the continued application of a digital preservation action (e.g., emulation, migration, and media refreshing) is necessary, which has been a considerable challenge even for information preservation professionals.

Decreasing control

More problems stem from individuals' lack of control over their documents in a digital environment. Design purposes, policies, and the political and economic intentions of digital tool developers and/or service providers, such as social networking sites (SNSs), play a significant role in how users interact with these digital environments (Garde-Hansen, 2009). The choices made by these developers and service providers may circumscribe individuals' use of their products to some degree. In the case of documents created and stored in the cloud computing environment (i.e., Internet-based computing), individuals are forced to rely on the technology behind and options employed by service providers. As a result, there are few ways for end-users

to make their documents or content that they create independent from the service providers' systems and to keep them under their control. In addition, ownership of content created and stored at service sites is not always made explicit. Even after owners have deleted content from the service site, materials may continue to remain in the service provider's data storage. The blurred line of ownership and who can have control over personal digital content created and saved on the Web can cause many problems and concerns including the risk of violation of privacy, or a breach or a misuse of personal information.

Keeping as a social default

Digital technology itself encourages a fast growing and often unintentional accumulation of personal digital documents while readily available, ever-decreasing costs for digital storage technology make it feasible to keep, literally, everything (Gemmell & Lueder, 2006; Czerwinski et al. 2006). Observing the technological capability of keeping information as well as recording human activities, Mayer-Schonberger (2007) argues, "in our analog past, the default was to discard rather than preserve; today the default is to retain" (p.4). It indicates rather a dramatic shift regarding our approach to preserving our documentary heritage. The space and cost problems that had been major limitation factors for preserving records is about to be lifted. As a result, the purpose of appraisal of records would depart from reducing the volume of records but focus on other factors such as protection of the privacy of people related to the record and respect for the cultural norms of where the record comes from.

The keep-everything approach offers an attractive option. It relieves anxiety about which documents to keep and which to discard. For individuals, the keep-everything approach reduces chances of regrettable deletions. For society, the abundant accumulation of documents means

more resources for research and/or commercial use. It also becomes a convenient solution for people to manage an overwhelming amount of information. Recent research on personal information management reveals that people easily prefer the keep-everything approach as an everyday digital recordkeeping practice, which demands less of an effort than sorting out and deleting files (Williams et al., 2008).

From a more innovative perspective, some researchers view the technological promise of capturing and keeping everything as an opportunity to actualize the vision of Vannevar Bush's memex, "an enlarged intimate supplement to his [one's] memory" (Bush, 1945). Researchers have attempted to design devices and applications to automatically capture, store, and provide access to entire lifetime activities in digital form, the so-called "lifelog" (Stevens, Abowd, Truong, & Vollmer, 2003; O'Hara, Morris, Shadbolt, Hitch, Hall, & Beagrie, 2006; Sellen and Whittaker, 2010). Microsoft's MyLifeBits and the Memories for Life (M4L) project of the U.K. computing and engineering community are examples of lifelogging technology research. The potential benefits of lifelog data are certainly appealing. Lifelog data can assist remembering, replaying, and sharing past events as well as improving personal time management, security, and medical health. (Czerwinski et al., 2006; Bell & Gemmell, 2007; Sellen and Whittaker, 2010). Lifelog data can also be utilized for many purposes including research and micro advertising. Despite its innovativeness, however, lifelogging technology research brings up many questions to answer along with its concentration on technology. For example, what will having lifetime data about oneself actually mean to a person? How and in which way will individuals live with the massive amounts of lifetime data about themselves? While there is no one size fits all answer, usable lifelog technologies for individuals need to be built upon a thorough understanding of the complexity of how human memories and minds work (Dijck, 2007),

including the psychological and social function of forgetting as well as remembering and the relationship between active forgetting and intentional deletion of the recorded past.

4. Reconsideration of personal archives in the digital age

Considering individuals' archiving practices in relation to the changes in our documentation activities with digital technology and the challenging picture of digital recordkeeping raises interesting questions that initiated the proposed study. For example, as we live in an information environment where retention of records, rather than discarding, is a default choice, will personal archiving practice become an unnecessary activity? Is this practice now regarded mostly as wholesale data back-up in a digital environment? How can people preserve personal materials created and saved on Web-based sites (e.g., blogs, social networking sites)? Could holding the account of an online service mean the same as keeping or preserving the digital documents created and accumulated on the service site? Who will guarantee or be responsible for the long-term survival of these digital documents? Do people need to be comfortable with the idea that each document on the Web may be archived no matter whether they want to keep or discard it? More broadly, how have recent technological trends and challenges affected personal archiving practices that have been conducted for centuries before digital documents were introduced in our everyday lives? How do people form and preserve a meaningful body of personal documents for themselves and for possible future audiences in the digital environment?

II. Purpose of the proposed study

Keeping the above questions in mind, the proposed study concerns the formation of personal digital archives by individuals on a daily basis and throughout their lives. It aims to gain holistic understanding of how people experience life-long personal digital archiving, including their ways of working with archival digital documents, emotional aspects of archiving, and what archiving and the body of archived digital documents mean to them. The exploration of ordinary individuals' digital archiving practices is important in two respects: preservation of cultural heritage and development of personal information management tools.

Preservation of cultural heritage

The significance of records lies in nurturing our understanding and (re)discovery of the political, economic, and cultural life of a society. Personal documents that have survived as a result of preserving efforts by individuals also serve as vital primary resources for researchers to study our collective past and to conduct historical research. One of the missions of cultural institutions, such as collecting archives, is to acquire, preserve, and make accessible personal papers and/or manuscripts.

As the number of personal documents created in digital form is increasing, some archivists pay particular attention to the preservation of personal digital archives (Hyry & Onuf, 1997; Beagrie, 2005; Burrow, 2006; Cox, 2008; Thomas, 2007). The uncertainty of the digital information environment threatens the long-term survival of personal digital materials more seriously than the survival of institutional electronic records. Unlike institutional digital records, whose technical longevity would be monitored through a professional records management program, it is hard to have any general expectation of technical stability of private digital

materials since individuals have different levels of skill, knowledge, and preferences relating to their digital technology use. Technical vulnerabilities of personal digital materials increases the chance that the materials would be inaccessible or unrecoverable when archivists acquire them at the end of an individual's life or following the death of individuals (e.g., password-protected materials donated after the person passed away). Moreover, private digital records donated by individuals would be highly heterogeneous in terms of what they are (i.e., purpose of creation and use, genre, format, storage media, computing systems and digital tools used to create). Finding a proper preservation strategy for each collection and/or for different materials in the collection would be challenging. As a result, personal digital archives becomes a growing area of interest for the archival profession. The Personal Archives Accessible in Digital Media (Paradigm) project in U.K. is an example of personal digital archives research. This recently completed project aimed to seek out solutions for preserving digital private papers. Through hands-on work with six living politicians as record creators, the Paradigm team examined characteristics of research subjects' personal record collections, preservation policies, and preservation tools (e.g., digital repository software, metadata extraction tools).

Although research about personal digital archives is only beginning and still mostly centered on how archivists can capture and preserve the personal digital collections especially from well-known individuals, archivists have recognized the role of record creators in safeguarding the survival of digital documents. For example, among the major outcomes of the Paradigm project are the guidelines for record creators about how to manage and maintain their personal digital materials (Thomas, 2006 and 2007). Furthermore, Cox (2008) talks about the idea of "citizen archivists," as a future direction for long-term preservation of personal digital collections. He notes that with digital technology individuals have more ways to administer and

manage their own personal documents. He emphasizes the importance of individuals who function as their own archivists in preserving our digital documentary heritage and refers to them as “citizen archivists” (vii). He actively suggests that a new role for professional archivists and records managers is to nurture and equip individuals as archivists of their own documents in the digital era. At this point, examining how personal archives are constructed in a digital environment at the personal level can provide valuable insights that can help archivists find constructive methods and strategies for working with “citizen archivists” in practice and/or for contextualizing personal digital archives of individuals in our overall societal and cultural landscape.

Development of PIM/archiving tools and services

Stimulated by the phenomena of information overload – excessive volume of information and the difficulty of managing it, which is accelerated by digital technologies – a number of research efforts have been aimed at finding alternative or new ways for individuals to manage their digital information more efficiently (Jones & Teevan, 2007): personal information management (PIM) studies. While it began when personal computers (PCs) were introduced in 1980’s, PIM research has lately expanded its area of inquiry with the everyday use of PCs and other digital devices. Those who work in commercial companies such as Microsoft as well as researchers in academia are actively participating in PIM studies. Proposing the development of personal information management, storage, and archiving systems, services, and tools as a major goal, earlier PIM studies have typically focused on technological aspects of PIM tools. The importance of understanding the psychological and social issues involved in individuals’ recordkeeping activities, however, have recently been acknowledged. A naturalistic and

longitudinal investigation of personal information management behavior and PIM tool evaluation also has gained attention in PIM studies (Kelly, 2006; Naumer & Fisher, 2007).

Archiving, as a form of long-term personal information keeping, has been one of the PIM research topics. For example, Lifestreams is one of the early projects to develop a virtual storage model for personal electronic data. It uses time-based ordering – past, present, and future streams – as its key mechanism to archive/store and organize all documents created and received. In the Lifestreams model, a newly created or incoming document appears at up-front of the user interface, as a “present stream.” Reminders and to-do-items are displayed as a “future stream.” An aged document is pushed back consisting of “past” streams (Freeman & Gelernter, 1996).

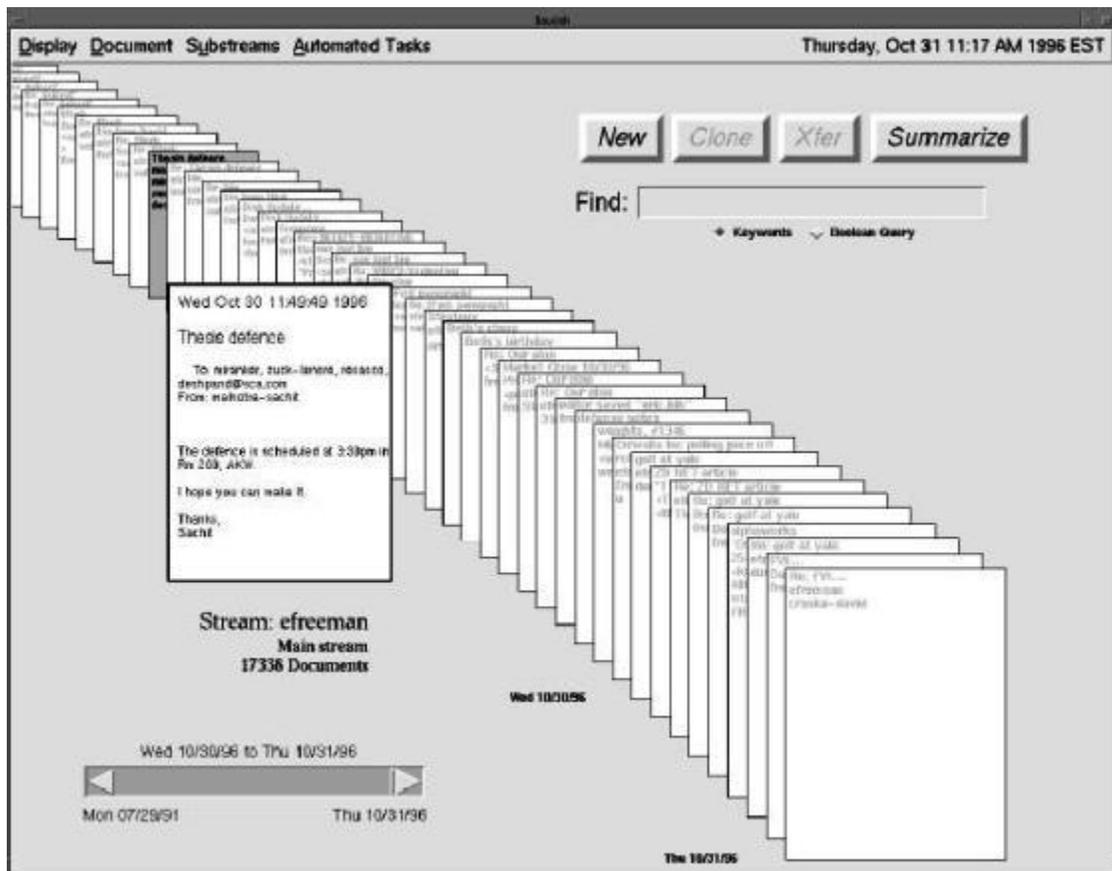


Figure 1. Image of the Lifestreams X Windows interface from Eric Thomas Freeman’s PhD dissertation (1997), *The Lifestreams Software Architecture*.

Developing tools like this that assist personal digital archiving is required, especially considering challenges in preserving digital materials mentioned above – the increasing amount of material, low sustainability of digital media, and decreasing control over the content of personal documents that exist on the Web. The precision of the terms “archiving” and “archives,” however, has decreased in PIM studies since they are often used without clear distinction from mere backing-up or storing information objects, especially in computing. If long-term preservation of personal documents – potentially beyond one’s lifetime – is pursued as an essential function of PIM/archiving tools and services, it is necessary to understand and differentiate “archival” documents from others based on their values and meanings to the owner. The unique purpose of personal archiving – collecting and preserving documents of personal significance – should be recognized and taken into account in PIM/archiving technology design.

Therefore, more research is needed investigating how personal “archiving” activities are situated in the context of an individual’s everyday digital information management and how digital technology plays a role in individual archiving practices.

The absence in current research of theoretical perspectives and microanalysis of how people engage in the archiving of personal digital materials marks the starting point of the proposed study. Findings of the proposed study will contribute to development of a theory or a model of personal digital archiving, which can have implications for research on digital cultural heritage preservation and PIM/archiving tools and services design.

III. Background: Previous research on personal archiving/archives

In his examination of the various functions of personal documents, Cox (2006b) mentions

that there must be “an impulse that leads most people to hold onto older records” (p. 4). The proposed study begins its inquiry about personal digital archives with the question of why people select and keep particular personal documents for a long time. A plain answer to this question would be that those documents have continuing or enduring value in one’s life in some way. In many cases, the enduring value of a document is not what the document inherently has, but something assigned or determined by the owner of the document at a given moment and situation, thus may vary from time to time, place to place, and person to person. Then, what kinds of “continuing value” can be attached to personal documents? Research conducted about personal information management (PIM) provides findings regarding this question. In addition to PIM studies, experiences in the archival community, where personal papers have been professionally acquired and preserved for a long time, offer certain insights into the value of documents to an owner of the document. In this section, this study will review related literature and propose specific types of values that people would likely allocate to their personal documents.

1. Why do people keep personal documents?: Types of value of personal documents

Whittaker and Hirschberg (2001) investigate the nature and function of personal paper archives in office work. They collected online survey data from 50 people and follow-up interview data with a subset of 14 people in a research laboratory. Since the laboratory was in the middle of moving to a slightly smaller office space, research participants had opportunities to spend time in discarding and rearranging their personal paper records for the move. Regarding what factors influence individuals’ decisions to continue to keep particular documents, the authors identify “functional” and “emotional or sentimental” reasons for keeping information.

The major categories of functional reasons are: 1) as reference for future projects, 2) as legal and administrative evidence, 3) for immediate access, 4) for later re-use, 5) as a reminder of the possession of that information, and 6) the lack of trust in external information storage. According to the authors, “an emotional or sentimental” reason explains why people retain paper documents even though they did not see much direct use of the documents for the future (p. 166). These documents include reviews of their first published papers and materials on their thesis. Research participants considered them as a part of their intellectual history and could not just throw them away (p. 159). The category of “emotional or sentimental” reasons for keeping information suggests that individuals have an emotional bond with specific documents, which is not always explicit, but somewhat unexplainable or indescribable in words.

Kaye et al. (2006) observe individuals’ information archiving and organizing behavior in both physical and virtual spaces. After conducting semi-structured interview and office tours of 48 scholars in various academic fields, they identified five goals of personal archiving: 1) easy retrieval for later use, 2) building legacy archives as a unified body of materials that reflect their career trajectory, achievements, and personal pride, 3) sharing resources with others, 4) fear of losing irreplaceable information, and 5) constructing, maintaining, and expressing their identity through archiving practices. Kaye et al.’s research findings provide a picture of the internalized meanings of work-related documents to scholars in academia, beyond the original purpose of creation and use of documents. These documents serve as a significant indicator of what has been achieved, thus, they help their owners to review themselves, build their legacies, and continue to form their identities as scholars.

Williams et al. (2008) examine how personal collections of individuals are built, including decision factors in archiving. Through in-depth interviews with 25 individuals in

politics, the arts, and the sciences, the authors address “affective/emotional” and “utilitarian” factors that influence individuals’ archiving decisions. First, they categorize the possible future use of records and the necessity of backup as “utilitarian” factors. Possible future use includes both direct re-use of a document (e.g., instructor’s lecture notes reused annually) and use for other than its original purpose (e.g., materials related to the course that one does not teach any longer but are kept for historical value). Second, the authors explain the “affective/emotional” factor in terms of time and effort invested in the creation of a document. Memories and the history surrounding the creation of a document also define the value of the document. The informational content of these documents does not seem to be treated as an important element in the decision about what is to be kept for a longer term. For example, one of their research participants continues to keep old notes in WordPerfect file format, which has become obsolete and makes the files no longer readable.

Kirk and Sellen (2008) explore the material culture of the home and current home archiving practices with “sentimental” artifacts. In their research, “sentimental” artifacts are defined as physical objects and digital materials that people “feel in some way attached to” (p. 1). According to the authors, they are the opposite of “functional” objects, whose existence is rather temporary and dependent on the manner of use. The authors conduct guided home tours and in-depth interviews with 11 families focusing on what people archive and why, for whom, and how they are doing it. They conclude that research participants keep sentimental items to facilitate memories and evoke feelings. They report the following four core values of artifacts that belong to the home archives of the participating families: 1) value in constructing one’s persona and reinforcing the self by connecting people to their personal histories, 2) value in sharing their past with people whom they know, 3) value in preserving a family or personal

legacy for unknown others in the future, and 4) value in honoring the past.

Each study was conducted with different kinds of informants in different environments – a work environment and a home environment. It is arguable that functions and meanings of work-related documents are different from others – non-work-related documents. Moreover, the distinction between work-related and non-work-related documents is a matter of individual judgment depending on what people do for living and how they perceive work and non-work domains of their lives. The point to notice, however, is that each study took a naturalistic approach that involves observation in a real life setting and interviews with people. As a whole, findings from each study help us to gain a broad picture of meanings of personally preserved documents in people's lives and thus why people retain them regardless of genres, types, and subjects of documents.

It is of particular interest that similar themes repeatedly emerged across the reviewed literature. These overlaps confirm or echo findings and discussions of other studies. Based on these themes, this study proposes the following six types of values that can be attached to personal documents as continuing values:

1. Emotional/sentimental value: Significance of documents based on their emotional bond with a person; for evoking and preserving one's emotions and memories (e.g., pride, happiness, feeling of accomplishment, and indescribable feeling); relates to the process of creation or acquisition of documents.
2. Evidential value: the usefulness of documents for providing evidence about the origin and social activities of a person.
3. Historical value: Usefulness of documents for understanding one's past and family history.
4. Identity (formation and expression) value: Significance of documents in constructing, maintaining, and expressing one's identity and personality.
5. Personal legacy value: Significance of documents in exploring one's professional or career trajectory and building a legacy of oneself.

6. Sharing value: Usefulness of documents for sharing personal life stories, memories, and family histories with others.

These findings are strongly supported by experiences in the archives profession. Archives and cultural institutions have a long tradition of acquiring and preserving personal papers (i.e., non-organizational records, manuscripts that belonged to individuals) as well as institutional (i.e., government, corporate) records. Although many archival theories and practices have been built around organizational and administrative records, thus marginalizing personal papers within archival discourse, the value of personal papers has been appreciated as constituting collective memory in archival institutions (McDonald, 1994; Hobbs, 2001; Pollard, 2001; Williams, 2008). Although archives mostly collect personal papers of famous people or public figures rather than ordinary individuals, archivists who work with personal collections are responsible for communicating with donors, serving different types of users, and collecting, appraising, and preserving personal collections of all kinds. The role of archivists, as managers of personal records, allows them to consider the meaning, function, and use of personal records in individuals' lives as well as in society.

American archival studies educator, Richard Cox (2006a, 2006b, 2006c, and 2008) is one who actively discusses functions of personal documents, based on his experiences as an archivist and a researcher in archival science. Through a series of articles and his recent book, *Personal Archives and a New Archival Calling*, he emphasizes that personal or family archives are preserved for emotional and sentimental reasons as well as legal and regulatory reasons. Records in personal archives are a trail of evidence, sometimes showing individuals' behavioral patterns, e.g., personal spending habits implicitly documented in checkbooks. They connect individuals to their pasts, and so provide "comfort, security, and testimony to our lives" (2008, xiii). According

to Cox, people have a romanticized feeling toward old archived records and assign values to records that do not have any practical use. People enjoy pulling stories out of those records and desire to share with others their stories, personal legacy, and memories embedded in records.

Responding to the growing interest in family history in health care and as a result the increasing use of archives by care professionals, e.g., psychologists, therapists, and social workers, and family history researchers, British archivist Judith Etherton (2006) investigates the role of personal records in the process of building family history and the individual's identity. Based on her interviews with care professionals and archives professionals, she argues that family history provides individuals with a sense of belonging and a sense of place, which are important components of a person's mental health. Family history also works as a therapeutic exercise, helping patients to see themselves in a different perspective. It relieves the individual's anxiety and past trauma. Etherton stresses that personal records, including public records that contain personal information, can play a vital part in identity formation and mental health improvement. For example, in cases of children in the care system (e.g., adoption, foster care), social workers and medical professionals use documents about a child's birth families as evidence of family to promote the child's understanding of her identity and sense of belonging.

Overall, insight from archival researchers such as Richard J. Cox, Judith Etherton, Catherine Hobbs, and Sue McKemmish suggests that the value of records in personal archives derives not only from their significance for collective identity or social memory, but also, or more importantly, from their usefulness to individuals themselves. Evidence, information, emotions, and memories contained in records in personal archives help the owners of personal archives to construct their own histories and understand who they are, whether the collections are under the custody of archival institutions or remain in home archives.

2. Self-reflective value of personal documents

The proposed study seeks the value of documents that people personally preserve while reviewing findings from previous research that investigate everyday personal information keeping activities in real life settings and essays from the archival profession that discuss the function of personal documents in individuals' lives. As a result, this study identifies six types of values mentioned above.

As a whole, these values suggest that personally preserved documents play a vital role in assisting people to reflectively review their past experiences, share memories with others, understand who they are and where they come from, and form their identities throughout their lives. From this perspective, these six types of values can be summed up in the concept of “self-reflective value”: significance or usefulness of documents in constructing self.

The self-reflective value of personal documents is especially obvious when people reach their late adulthood. Hobbs (2001) points out that many donors of personal papers in archives have a deep emotional tie with their records and experience the donation as a highly personal and emotional transaction. The emotional bonds would be formed between the owner and her documents not because the documents still have their primary usefulness to the person, but because they are meaningful to the person, telling who she is.

IV. Conceptual grounds for the proposed study

Looking at archiving practices closely reveals that it is more than putting documents in folders – either physical or virtual folders – and wishing that they will be safe and accessible later. Personal archiving is a complex activity often carried out as a taken-for-granted practice in everyday life. Regardless of individual differences, when archiving is performed in the context

of everyday recordkeeping, people may engage in a series of decisions. With or without explicit awareness, people encounter many questions: which documents need to be kept, why, and for what purposes; which documents need be destroyed; for whom the documents are being kept; where the documents will be stored, in which order or categories, and for how long; and who will have access to particular documents, how, and for how long. Moreover, it is likely that people modify previous decisions and choices made in the archiving process over time corresponding with inner and outer changes in their lives. Thus, personal archiving involves psychological and social processes.

Based on the self-reflective value of documents as an important factor in forming personal archives, the proposed study assumes that the self-reflectivity is embedded in the way that people make decisions in an archiving practice. Past experiences, social status, cultural background, relationships with others, and how a person understands and feels about her life and self at a given moment likely have significant influence on personal archiving. Hence, personal archives are the product of the life-long work of a person in context assigning meanings and values to documentary objects in conjunction with the understanding and re-making of a self.

How self-reflectivity plays a part in the process of formation of personal archives is worth investigating as a framework for understanding personal archiving practices. The goal of this section of the proposed study is to identify and explore concepts and theories that discuss the self and thus offer perspectives for examining and interpreting individual personal digital archiving activities relative to the construction of self – the proposed study understands “self” as a unified being or an agent that perceives and identifies who she is and “identity” as a mental projection of an individual about how she sees and claims herself using the categorization in a particular community or a title of a social role that she takes in her life setting. This study looks

particularly into the concept of a narrative as a way of organizing life in narrative psychology, the idea of socially constructed self in social psychology, and Goffman's impression management.

1. Narrative as a metaphor for personal archives

Narrative psychology focuses on the narrative as an account of human actions. Sarbin introduced the term "narrative psychology" in 1986. He proposes to employ narrative as a "root metaphor" for examining and interpreting human actions, departing from the mechanistic framework in psychology that aims to uncover "context-free" or trans-historical laws of behavior (Sarbin, 1986, p. 7). From a perspective of narrative psychology, individuals organize what happens in their everyday lives and understand themselves in a narrative form: by constructing stories, telling stories to themselves and to others, and listening to the stories of others. The interest of narrative psychology is in how narrative operates as "an instrument of mind in the construction of reality" (Bruner, 1991, pp. 5-6).

1.1. Narrative as an organizing principle for life

Many key researchers in narrative psychology such as Theodore R. Sarbin, Jerome S. Bruner, Kenneth Gergen, Donald K. Polkinghorne, and Dan P. McAdams stress narrative as an organizing principle for our lives: "The narrative is a way of organizing episodes, actions, and accounts of actions" (Sarbin, 1986, p. 9). "Way of organizing" means locating individual events in a particular spot in the process of constructing a temporal sequence of what happened. This unique sequence is the principal property of narrative (Bruner, 1990). Constructing a sequence is a purposeful activity through which a narrator attempts to make sense of her actions,

experiences, and memories. In this sense-making process, a narrator assigns the significance of events, the role of individual events, and the relationship among events. A narrator's mental status, moral choices, beliefs, desires, and imagination, as well as cultural and social context, play roles in this process. As a whole, narrative and narrative construction are forms of meaning-making (Bruner, 1990; Polkinghorne, 1988; Clossely; 2000a and 2000b). As an organizing principle, narrative is distinguished from a mere chronological order of what happens. In the formation of narrative, people select and emphasize particular events while they eliminate or diminish others, based on the meaningfulness of the event. The meaningfulness of events may vary depending on where, when, for whom, and how the narrative is constructed and told.

Self-narrative or personal narrative is a type of narrative whose theme is about the self and identity. Gergen and Gergen (1988) define self-narrative as "the individual's account of the relationship among self-relevant events across time" (p. 19). McAdams (1997a) treats personal narrative as "a special kind of story that each of us naturally constructs to bring together different parts of our selves into a purposeful and convincing whole" (p. 12). Both definitions indicate that self-narrative is a process and a product of establishing coherent connections among elements in life. Each individual is the author (the I) of her self-narrative and is the actor (the me) in self-narrative (Sarbin, 1986; McAdams, 1997b). Gergen and Gergen (1988) assert that one's present identity is a "sensible result of a life story" (self-narrative) (p. 19).

The notion of using narrative as a root metaphor for social psychology requires understanding a life and a self as historical and cohesive units, within which the relationship among fragmented elements and multiple selves are (re)constructed. Although this notion as formed may be valid only in a certain culture, such as the modern Western culture, this view is particularly valuable for the proposed study. If narrative is one of the main forms through which

we organize our experiences, make sense of our lives, and construct our selves across time, narrative form would be a sustainable frame for understanding the formation of personal digital archives in relation to the construction of self. Moreover, in “Evidence of Me,” McKemmish (1996) finds the fundamental function of recordkeeping as an act of witnessing, – “a way of evidencing and memorializing our existence, experiences, and identities” (p. 28) – in the concept of Anthony Giddens’s “narrative of the self.” According to Giddens (1991), narratives provide models for individuals to integrate their various social roles and personae, personalities, interactions with others, memories, and day-to-day events. Thus, the narrative of the self allows individuals to maintain their continuing senses of self (Upward & McKemmish, 2001). McKemmish identifies recordkeeping as one way of “keeping a particular narrative going” (1996, p. 31.).

The proposed study assumes that narrative form would explain how individuals organize and sort out personal documents. When personal archiving is interpreted in terms of constructing personal/self narrative, then the keeping of personal digital archives is about preserving the self of a record creator/owner of life memories, stories, and legacy, not a miscellaneous group of digital materials. The historical aspect of narrative also emphasizes personal digital archiving as an on-going project of preservation of “me” against individuals’ passive attitudes about long-term care of personal documents, e.g., benign neglect, keep-everything. Individuals (re)construct and revise their self-narratives over time in the course of their lives, influenced by changes of the outer environment and in their perceptions of self. Thus, construction of personal digital archives is not likely to be a single event that happens in one’s late adulthood, but would be practiced throughout one’s life. Viewing digital archiving as an act of preserving one’s life and self allows us to distinguish the body of preserved personal materials from data accumulated as a result of

benign neglect or keep-everything. It suggests that looking into the way that people archive their digital materials will possibly reveal the individuals' intentionality in long-term recordkeeping beyond the purpose of increasing the efficiency of personal information management.

1.2. Narrative construction and exploring the self

Dan P. McAdams is a researcher in the areas of personality and life-span developmental psychology, who has published many works related to narrative approaches to studying human lives. In his book, *The Stories We Live By*, McAdams (1997a) proposes the life-story interview as a (practical) method that individuals can use to identify their personal narratives and thus enhance self-understanding. While conducting numerous life-story type interviews for his own research, McAdams noticed that interview participants experienced the interview itself as an enlightening process. He saw that the life-story interview would help people realize "the importance of interpersonal dialogue in exploring the self" (p. 254). He outlines the life-story interview as a semi-structured, almost self-help interview, telling one's life story to a listener. A listener can be anyone, even oneself. The life-story interview needs to be a continuing project rather than a single interview. Each interview should lead a narrator to further explorations about her life and self. Assuming that individuals can develop their own interview questions, McAdams suggests the following life-story interview protocol as one tool to which individuals can refer:

- Section 1. Thinking about one's life as if it were an unfinished and open-ended book, where each part of the life can compose a "life-chapter" (p. 257).
- Section 2. Detailed storytelling about the most wonderful and the worst moment in one's life; turning points in one's life; the earliest memory one has; important childhood, adolescent, and adult memories that stand out at the moment; and other particular past events that stand out.

- Section 3. Talking about the most important people in one's life story, including the relationship with each person and each person's impact on one's life story.
- Section 4. Talking about the overall plan, outline, or dream for the narrator's own future.
- Section 5. Storytelling about problems, stresses, or challenges in one's life, including the nature and source of the concern, and a brief history of problems.
- Section 6. Talking about personal philosophy such as fundamental beliefs, religious beliefs, and political orientation.
- Section 7. Talking about the recognized major theme of one's life while quickly looking back over one's life story as a book.

McAdams stresses that each section helps a narrator to articulate and express personality, identity, aspects of identity formation, and one's perspective about one's life.

McAdams's life-story interview method does not seem strikingly new. Similar interview questions have been asked in life history or oral history interviews, performed in many disciplines. Although the focus of his life-story interview is not gathering data for research, qualitative researchers who have a working experience as an interviewer of life history, however, would agree with the positive – enlightening, therapeutic – impact of the life-story interview on a narrator's mental status. The goal of the life-story interview method is promoting understanding the self of a narrator by making “conscious and explicit that which already exists implicitly, generally outside of your everyday awareness” (McAdams, 1997a, p. 264). Through the life-story interview, a narrator has an opportunity to allocate meanings and values to past events in her life and also to think of these events in relation to her general life goals and ideology rather than merely recollect what happened in the past.

The experience of navigating the self that the life-story interview method represents has an implication for the proposed study. If personal archiving is a psychological process that can be interpreted in relation to narrative construction, then the process of forming personal digital archives, which contain elements memorializing life experiences, can provide a less direct but

similar experience of exploring the self. The proposed study considers the activities of personal digital archives construction and maintenance as the moments when individuals consciously think about and review their selves.

2. Socially constructed self and personal archives

In the preceding section, the proposed study juxtaposed personal archives and archiving practices with the narrative construction in which understanding of self and making meanings of one's life take place. As many researchers in sociology and social psychology have discussed, however, formation of self and everyday lives are performed in the midst of social interaction and result in private and public acts situated in social settings. The idea of a socially constructed self leads the proposed study to consider the social aspect of personal archiving.

2.1. Togetherness

In sociology and social psychology, the role of others in construction of the self has been studied extensively. Bruner (1997) argues that “what we observe in others” and “statements that other people make” (p. 147) are resources for our knowledge about ourselves. That is, knowing how others see “me” and who others think “I” am (and vice versa) and seeing how others perceive themselves are essential parts of understanding one's self and how mutual construction of meaning occurs in concert with others. In the discussion of self narrative, Gergen and Gergen (1988) mention that “although the object of the self-narrative is the single self, it would be a mistake to view such constructions as the product or possession of single selves” (p. 37). Their observation indicates that self-narrative is a form in which an individual internally organizes and makes sense of her life, but the way that self-narrative is constructed is social or environmental –

self-narrative is an outcome of interaction with the external environment.

These notions suggest that a construction of personal digital archives is also a social process, which inherently involves interactions with others. This interaction will have an influence on how the person assigns meaning and value to each document, constructs relationships among documents, and shapes the meaning of her personal archives as a whole. Personal document collections in one's childhood provide a useful example. Those who collect and keep childhood documents are most likely parents. As a result, these personal documents have meanings to at least two/three different individuals: a mother, a father, and a child. When the child grows up and reaches adulthood, these personal documents will be an important part of her life and her personal documents collection. These documents, indeed, are evidence and memories about her early life, which she may or may not remember very well. Parents may diligently collect and keep documents of their child in anticipation they will be useful to the child in the future. These documents, however, also hold many meanings for the parents. They evoke memories, stories about a certain period of the parents' lives, and their identities as parents. In addition, sharing the value of one's childhood documents among the child and her parents has an impact on the formation of personal archives. Seeing which documents her parent(s) keep and treat as important is likely to affect a child's assessment of the meaning of documents and herself and cause her to re-interpret her own memories, her past, and her relationship with her parent(s). Through this sharing of personal archives, the meaning of a document, the meaning of a past event, the meaning of a relationship, and the perception of self are mutually constructed. Similar "togetherness" would take place among siblings and extended family members, including different generations in the family, partners, and friends.

2.2. Presentation of self: Impression management

Based on her work with the literary manuscript collections acquired from individuals, such as poets, novelists, and playwrights at the National Library in Canada, Hobbs (2001) discusses the character of personal archives. Hobbs sees personal papers as an expression of “the inner soul” (p. 126) of record creators and their personalities as well. The fact that her insight stems from personal papers intentionally transferred to institutions like national libraries raises the question of donors’ stories about how they decided to make personal documents public. There might be many interesting factors influencing such decisions, e.g., significance of the individual in a given field or community, or the desire or willingness to contribute to enriching societal cultural heritage. At a very personal level, the donors may have certain intentions or wishes regarding how their lives and personalities are portrayed through the body of their personal papers. When a person retains and/or leaves behind her personal papers in consideration of a potential audience, the intentionality of the person can be reflected in personal papers not only preserved in cultural institutions, but in homegrown personal or family archives as well.

Erving Goffman’s idea of impression management offers a ground to explore and interpret how a person projects her public self-image in her personal archives concerning her known and/or unknown audience: the social aspect of personal archiving. Often categorized as a symbolic interactionist, Erving Goffman took an “interaction order” as his unit of analysis (Fine and Manning, 2003). In *The Presentation of Self in Everyday Life*, Goffman (1959) discusses everyday social life focusing on the performative aspects of self-presentation. He uses a metaphor of theater where individuals on stage perform for audiences. He suggests impression management as a framework to study interpersonal social interaction.

Goffman argues that, in the presence of others, an individual – a performer – creates and

makes a particular impression on others and attempts to control how others experience her fostered impression, such as an impression that the performer presents with “ideal motives for acquiring the role which they are performing” (p. 46). Although the target of Goffman’s microanalysis of everyday life is face-to-face interaction, the proposed study assumes that, if fostering and creating an impression is an essential element of everyday social life, regardless of individual differences, an individual’s impression management strategy would also be implemented in personal archiving practices. Once a person considers leaving her personal document collection for others to interact with in the future, she may have her own idea of how future generations will regard and remember her – her public image. This desired image is likely to be embedded in her personal archives as a representation/portrait of herself.

In the domain of face-to-face interaction from which Goffman derives his theory, the others participate in the self-presentation performance “by virtue of their response to the individual and by virtue of any lines of action they initiate to him” (p. 9). Unlike face-to-face interaction, the owners of personal digital archives cannot directly observe and react to how a future audience will receive, accept, and respond to the fostered impression reflected in their personal archives. The virtual presence of others still plays an important role in one’s impression management in personal archiving. First, consideration of a potential audience – who they are/will be – influences how the individual formulates a desired public image. Second, Goffman argues that information control, especially hiding from the audience any information which can weaken the fostered image, is a basic problem with many performances and impression management. Individuals highlight some matters and conceal others to manipulate and maintain a desired public image of themselves in a given situation (p. 65). In a similar way, the individual’s archival decision-making – about choosing which documents to keep and which to

destroy, about the degree and level of access to her personal documents, and about how to display personal documents – will change depending on who the designated audience is. For example, if a mother considers her children and future generations of her family as the audience of her personal documents, records that tell about her as a mother and a family member and the memory, tradition, and history of her family will likely be the main body of her personal archives. In contrast, if a college professor wants to donate her personal documents to her university archives, she may choose to leave documents that represent her legacy and contribution as a researcher and an educator at the university. These two examples offer a simplified process of the series of decisions involved in archiving, which is more multi-dimensional and complicated than described here. The point being illustrated is that the designated audience of one's personal archives is a participant in how the individual projects and fosters her public self-image, how she reflects her desired image in her personal archives, and how she constructs her personal archives.

Another implication of Goffman's impression management for the proposed study is his idea of a private and public self. Goffman divided the individual into two parts: as a performer (private self) and as a performed character (public identity) in a specific social setting. For Goffman, a performer is a "harried fabricator of impressions involved in the all-too-human task of staging performances" while a character is "a figure whose spirits, strength, and other sterling qualities the performances were designed to evoke" (p. 252). Although culture, social norms, standards, the tradition of a group, and expected social roles around the individual are concerned when a performed self is constructed in a particular scene of social interaction, the public identity of an individual is not defined/determined by these social standards only. Goffman emphasizes the capacity of self as a performer whose interest is "engineering a convincing impression that

these standards are being realized” (p. 251). In Goffman’s impression management theory, the individual is “the creative and reflective agent who decides on how to carry out such roles as well as the staging of role performances” (Elliott, 2008, p. 38). Personal archiving as a social process can be viewed using Goffman’s concept of self as a performer and as a performed character. The groups of selected and archived personal documents and their informational contents would represent the public images/identities as the performed characters of an individual. The individual who is in the process of constructing her personal archives is a performer in Goffman’s sense - “the creative and reflective agent” who controls both front stage and backstage. Assigning meanings and values to each document, selecting and destroying a specific document, and organizing, categorizing, and displaying the archived documents can be viewed as her ways of “engineering a convincing impression” (Goffman, 1959, p. 251) about her public identities. For example, a collection of syllabi of a college professor included in her personal archives would not only represent her public role as an educator but reflect her decision as a performer to put the accent on that particular public identity as well.

In spite of his inspirational analysis of everyday social life, one of the main criticisms of Goffman is that the emotional or psychological dynamics of the self and social relationships are vague in his research (Elliott, 2008). Goffman’s impression management theory suggests that individuals are unemotional social beings whose interest focuses on manipulating and maintaining impressions. As reviewed in previous sections of this paper, however, an individual’s emotional attachment to her personal documents is one of the key elements and motivations for the construction and preservation of her personal archives for herself and for future generations. Goffman’s impression management theory, however, provides one framework to understand personal archiving as a social process where private self (a performer)

constructs and presents its public self (a performed character) in consideration of the anticipated perception by others (known and unknown future audience) of one's public self. From this perspective, impression management may promote the public nature of personal digital archives.

V. Research question and goal

The proposed study starts with the question of how ordinary individuals form their archives of digital documents – personal digital archives –throughout their lives. While exploring the topic and related literature, however, this study recognizes a connection between personal archiving and self-reflectivity. With this recognition, it seeks to identify conceptual frameworks for investigating further the link between personal (digital) archiving and self-reflectivity.

The idea of a narrative as an organizing principle of our lives suggests that people make sense of their lives and understand their selves through narrative construction. Based on this idea, McAdams discusses a life-story interview as a method/technique for individuals to explore their selves. The proposed study is interested in examining how personal digital archiving practice relates to the way that people create and modify their life narratives.

The notion of socially constructed self brings out the social aspect of personal archiving. The interaction between private self (I) and public self (me) and between oneself and others is a vital part of the construction of self. Thus, it is likely that mutual interactions with others have an influence on shaping the meaning of one's documents and personal archives as a whole.

Goffman's impression management theory introduces the possibility that the multi-dimensional dialogue among selves and others can be reflected in the presentational aspect of personal digital archives.

Building on the above concepts, the proposed study views personal digital archiving as

part of the construction of self and as one way to preserve one's self. Therefore, this study takes "the construction of self" – a fundamental part of our being – as a key phrase that defines the scope of its inquiry. As an overarching research question, the proposed study will focus on investigating how personal archiving of digital objects is performed by individuals and how personal digital archives are created throughout one's lifetime in conjunction with the construction of self.

The goal of the proposed study is to generate interpretive narratives of individuals' personal digital archiving experiences, including their methods to preserve archival digital documents and their own thoughts and feelings about digital documents and the preservation practices for their digital documents, and how personal digital archiving practice is related to understanding and presenting the self. The findings of the proposed study will be developed eventually as a theory or a model of personal digital archiving practices and the self.

VI. Research method

The proposed study takes a qualitative approach to explore the practice of personal digital archiving of ordinary individuals using in-depth case studies as a primary research method.

1. Methodological stance of the proposed study

In general, qualitative research methods 1) are concerned with "complexity and entirety" of the topic under investigation, 2) focus on understanding research participants' experiences, which are diverse and individualized, while rejecting assumptions of an objective world of social phenomena, 3) tend to use induction, 4) aim to achieve credibility through checking descriptions and interpretations with members or informants, 5) test the transferability of research, and 6)

embrace reflexivity of the researcher and inter-activeness in research (Flick, 2002; Delamont and Atkinson, 2004).

Since the proposed study takes the “live experience” of an individual as its unit of analysis, a qualitative research method is appropriate for this study to obtain a descriptive picture of the experience of each research participant. Qualitative methods are also suitable to capture each research participant’s perspective regarding her experience, including her thoughts, emotions, attitudes, and motivations, thus to bring out individual difference as well as commonalities among research participants.

In order to specify its methodological stance, the proposed study mostly refers to characteristics of qualitative research discussed in interpretative phenomenological analysis (IPA). As an experiential, qualitative, psychological research method, IPA focuses on studying the phenomena under investigation through the micro-level, descriptive analysis of individuals’ personalized experiences and their interpretations of the experiences. Rooted in the tradition of phenomenological psychology, IPA has developed by the work of Jonathan A. Smith and colleagues since the mid-1990’s, primarily for inquiries in the fields of health psychology and applied psychology. Increased awareness of the importance of understanding patients’ own experiences related to their illnesses and treatments drives the growing adoption of IPA in health psychology (Brocki & Wearden, 2006). Although the proposed study is not designed as typical IPA research, IPA offers useful concepts to work with individual cases.

The proposed study develops its research method based on the following methodological position: respect for individuality of each participant, the role of the researcher in interpreting data, and a gradual approach toward generating theories and models.

Individuality of each case

The proposed study attempts to understand how “this” particular individual makes sense of her experiences in her own life setting, which does not mean to consider each participant as a socially isolated entity. Methodologically, the proposed study aims to treat each case on its own terms by bracketing the ideas from the analysis of the first case while analyzing the second as far as possible until the researcher completes each individual case analysis. Comparison across cases and integration of findings from each case will take place in the later stages of the proposed study. Although the researcher will be influenced by what has already been found in the process of research, respecting the individuality of each case (i.e., each research participant) will allow diverse themes to emerge with each case and will allow the researcher to recognize divergence as well as convergence of these emerging themes (Smith et al., 2009, p. 100; Brocki & Wearden, 2006, p. 95).

Dual interpretation process in research

The concept of a “dual interpretation process” discussed in IPA (Smith and Eatough, 2006, p. 324) emphasizes the active and engaged role of the researcher in interpreting the phenomenon under study, not only the research participants’ interpretations of their experiences. Dual interpretation assumes that 1) research is a dynamic process between research participants and a researcher (Smith, 1996, p. 264), 2) by its nature, “understanding” is the process of interpretation, and 3) it is impossible for researchers to gain direct access to a research participant’s experience (Smith et al., 2009). A researcher relies on what the research participant says about her experience. Thus, the researcher needs to make sense out of what she hears from the participant to understand the participant’s experience. Research findings are always based on

the researcher's interpretation of the participant's account of her experience (Willig, 2001, p. 53). For the proposed study, as someone who lives with digital documents every day, the researcher's own record-keeping and digital archiving experience will help the proposed study to reach a deeper understanding of participants' digital archiving experience.

Long-term generalization as part of building theories

Research findings of the proposed study will be generalized as a way of building theories rather than verifying a hypothesis based on the representativeness of a sample. With the emphasis on case-by-case analysis and generating rich and detailed descriptions of the phenomenon, however, the proposed study takes cautious and gradual steps toward generalizations through a steady accumulation of similar cases (Smith and Eatough, 2006), likely to continue beyond this study. Generalized findings will remain open and flexible for modification and refinement through further examination and/or constant comparison with other cases and other conceptual claims (Smith and Eatough, 2006). Moreover, the openness of research findings also allows readers to understand the findings of this study reflectively in the context of their own experiences or transfer them to other social contexts (Smith et al., 2009; Delamont and Atkinson, 2004).

The proposed study views personal archiving practice as a life-long project that by its nature is likely influenced by different stages of life, changes in social status and roles, and changes in the inner and outer environments of each person. Studying personal digital archiving experiences requires a longitudinal investigation of which the proposed study will be the first step. Thus, the gradual attitude toward generalization and a continual accumulation of cases is an important condition for and outcome of this study.

2. Research design

The proposed study will conduct in-depth case studies with a small number of individuals (10-15). It aims to accomplish the following research steps:

- Step 1. The researcher will build a thorough understanding of each research participant's personal digital archiving experience based on close reading of each participant's narrative account collected primarily through semi-structured interviews and observation of each research participant's current digital document collection. The goal is to "get as 'close' to the participant's view as is possible" (Larkin et al., 2006, p. 104).
- Step 2. By the comparison of the individual cases, the researcher will seek connections and relationships between the "themes" (i.e., patterns, categories) that emerge from an analysis of each case.
- Step 3. The researcher will generate a master list of themes regarding personal digital archiving experiences that will be gradually developed as a theory or a model of personal digital archiving relative to the reflective construction of social and private selves.

2.1. Research participant: Rich response sampling

In order to obtain a detailed analysis of small numbers of cases (10-15 individuals), the proposed study will use rich response sampling. The purpose of this sampling method is to look for cases that can "provide the richest or more explanatory data sources" (Henwood & Pidgeon, 2006, p. 351). It does not mean that participants must be experts on the research topic. Rather, the depth of data is likely to come from the richness of the research participants' experience of the phenomena under investigation (Smith, 2004).

Morse (1991) outlined that, for qualitative research, a participant needs to be someone who "has undergone or is undergoing the experience" and is "able to reflect and provide detailed experiential information about the phenomenon," and "willing to share the experience with" the researcher (p. 132). Thus, the following conditions will need to be satisfied in the sampling of

the proposed study:

1. Individuals who have used digital documentation technology on an everyday basis for more than 5 years;
2. Individuals who are currently holding/keeping personal digital documents; and
3. Individuals who are willing to share detailed information about their experiences and the characteristics of their personal digital document collections.

The first two conditions are minimal criteria to make sure that research participants have enough experience with digital documentation and have engaged in personal digital archiving to some degree. The commitment of participants to share their experience, addressed in the third condition, is necessary since the data collection process may include requests for sensitive information. The researcher will contact potential participants through primary selection among people with whom “the researcher has a relationship” (Morse, 1991, p. 136), peer referral, snowballing, and self-selection (Smith et al., 2009). Research participants’ identities will remain confidential in this study.

The proposed study begins with the idea that participants represent individual perspectives on the phenomena rather than a population (Smith et al., 2009). The proposed study will not apply any particular characteristics of gender, nationality, or socio-economic status when recruiting participants. Age criteria, however, will be taken into account in sampling.

Considering the timeline of digital technology use in daily life, individuals over 35 years old may have experienced the transition from paper-based to digital-based documentation more acutely than individuals who have started using digital technology relatively early in their lives. The difference in experience with digital documents may or may not have an influence on participants’ personal digital archiving practices, understandings of digital documents, and feelings toward digital technology, which the proposed study is interested in investigating. Moreover, the goal of the proposed study is to explore personal digital archiving in relation to

the construction of self. Since the construction of self is a life-long project, it is likely that people have different perceptions of self depending on their stage of life (McAdams, 1997a). In the proposed study, at least one or two research participants will be sought in each of the following life stages: young adulthood (18 to 34), middle adulthood (35 to 64), and late adulthood (65 and older). The proposed study will exclude individuals under 20 years old since the recordkeeping of documents that children create and collect is very likely to be conducted by parents or with parents. However, how “digital natives”— who grow up with digital technology, “surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age” (Prenski, 2001, p. 1) – manage their digital documents and how their ways of preserving personal digital documents can be related to their development of self remains an important topic for future research.

Finally, taking advantage of the researcher’s ability to communicate in Korean, the proposed study will include several native-Korean-speaking participants (3-5 individuals) for the purpose of a cross-cultural comparison. In these cases, research participants will choose the language for the interview.

2.2. Data collection

Narrative data

Personal narrative accounts about how research participants perform digital archiving in their everyday lives and how they describe the characteristics of their own personal digital collections and archives, as a whole, will constitute the primary data for analysis in the proposed study. The researcher will collect narrative data through semi-structured interviews. A semi-structured interview will allow the interviews to “be participant-led in the fullest sense, yet

guided by the researcher” (Smith & Eatough, 2006, p. 330). Open-ended interview questions will focus on the followings:

1. The method that a research participant employs to manage her digital documents in terms of long-term preservation and how this personalized method has been constructed in the context of her life.
2. A research participant’s thoughts, feelings, emotions, and attitudes about her archiving practice for digital documents.

(See also Appendix A.)

Interviews will take place at the convenience of the research participants, and each interview will take one to two hours. The researcher, however, will adjust the length of the interview based on a participant’s comfort, attention span, and time constraint. The researcher will arrange a second (and third, if necessary) interview depending on a participant’s willingness to talk more about her experiences and topics and questions emerged during the first interview that stimulate further conversation. The researcher will also conduct follow-up interviews multiple times (2-3 times) as initial interview data analysis moves along. Depending on participants’ geographical location, follow-up interviews will take place face-to-face or in a virtual environment using video conferencing.

The researcher will audio-record and then transcribe each interview fully. A professional transcriber may help the researcher to transcribe interviews.

Interview observation notes

The researcher will create observation notes during the interviews. The scope of observation notes will include descriptions of a research participant’s digital living environment (e.g., quantity and quality of digital devices in use including personal computers, software and hardware condition, types of web applications and services in use), demonstrations of research

participant's archiving or records management methods (e.g., directory structure in digital storage device and computers, digital file and folder names), and gestures and facial expressions of research participants during interviews. Sharing the researcher's observation on a research participant's digital living environment with the research participant is likely to be helpful in aiding the research participant to recall and demonstrate her digital archiving practice during the interview.

Visual documentation data

With the permission of research participants during interviews, the researcher will collect visual documentation data, such as photographs of the research participants' offices and/or homes, screenshots of research participants' personal computers and snapshots of Web materials that belong to research participants (e.g., personal Web sites, blogs, online storage, and pages on social networking sites). The researcher will use visual documentation data as supplementary data for each narrative account.

Information about technical properties and the context of personal digital collections

With the participant's permission the proposed study will gather information about technical properties and the context of personal digital materials (e.g., digital files and folders) that the research participant possesses at the time of the interview. It will include information about the participant's organizational structures for storing digital materials (e.g., folder/subfolder directory trees), individual folders and file names assigned by a creator, file types (e.g., doc, jpeg, pdf, etc.), sizes of folders and files (e.g., in KB, MB or GB), number of files in a given collection or folder, and creation date. The researcher will use automatic

metadata extraction tools such as File Information Tool Set (FITS), the New Zealand Metadata extraction tool, Digital Record Object Identification (DROID), and a file cataloging tool to collect this type of data. The researcher will exclude file content from this data collection process mainly to protect the privacy of participants.

Digital collection observation notes

Based on information about technical properties and the context of personal digital collection, the researcher will create observation notes about a research participant's current personal digital document collection. The scope of observation notes will include but not be limited to quantity, types (e.g., correspondent, photo, audio, paper), and ages of the digital materials in the collection, the file/folder naming convention used by the research participants, the organizational structure of the collection, and the relationship among sub-collections. The researcher will use a condition report form to produce digital collection observation notes, which she has used for her previous preservation needs assessment projects for digital collections.

2.3. Data analysis

Narrative data analysis

The proposed study will apply the following strategies to analyze the narrative data collected. The researcher will:

1. Closely read and annotate the transcription of each case;
2. Analyze and articulate initial notes/comments as “themes” i.e., patterns, categories, for each case;
3. Search for connections and interrelationships between emerged themes within each case and identify more overarching themes or patterns – called “super-ordinate themes” in IPA or master themes– based on what the sub-themes have in common;

4. Compare themes and patterns across cases and identify convergence and divergence of themes; and
5. Generate a list of master themes.

After test use, the researcher may use the Coding Analysis Toolkit (CAT) developed by the University Center for Social and Urban Research at the University of Pittsburgh or QDAP-UMass created by the College of Social and Behavioral Sciences at the University of Massachusetts Amherst or Atlas.ti as a data coding tool (CAT <http://cat.ucsur.pitt.edu/>; Atlas.ti <http://www.atlasti.com/>).

Personal digital collection visualization analysis

The proposed study will experiment with visualization of personal digital collections using an electronic records visualization tool developed by Maria Esteva and Weijia Xu in the Texas Advanced Computing Center (TACC) at the University of Texas at Austin. Funded by the National Archives and Records Administration (NARA), this data visualization tool aims to enhance understanding of characteristics of electronic record collections and thus support decisions made for their appraisal, access, and preservation, especially in archives. This tool visualizes a given collection using file properties extracted from the collection. Through the visualization process, this tool represents the overall organization of the collection and the relationship among record groups and entities that create and manage the records in a form of a treemap (Esteva et al., 2009).

The proposed study will use information about technical properties and context about individual personal document collections gathered from research participants for visualization. If possible, the researcher will share with a research participant the visualization result of her personal digital collection during follow-up interviews. The visualization of a personal

documentation collection will likely provide the researcher (and the research participant) with an opportunity to see the body of personally preserved documents from different perspectives. In the current computing environment, individuals are forced to use a hierarchical directory tree structure to organize and store digital materials. In general, the treemap displays these hierarchical data as a set of horizontally nested rectangles of different sizes (Johnson, 1992). The proposed study expects that the treemap presentation will make it easier to achieve a holistic view as well as details of personal digital document collections. The researcher will observe the main characteristics of the visualized personal digital collection of each participant and use such observation notes as supplementary data for narrative data analysis.

Member checking

Each research participant will review his/her transcribed interview text(s) and themes that emerge from each narrative account for the purpose of confirming findings, to the extent possible.

VI. Conclusion

The personal

The proposed study is rooted in the desire to understand digital documents as a personal cultural heritage that serves as a vital resource for people to construct their identities and selves. This desire or view explains why this study investigates archives and archiving practices as a “personalized” activity, distinguished from archiving tasks that have been undertaken by and for organizations.

The personal is social

The proposed study also concerns the potential of ordinary individuals' personal digital documents as a part of the societal cultural heritage that we must preserve for ourselves and for future generations. Many people do not think that their personal documents will be valuable or interesting to others unless people make a "major" achievement in their lives. It is a commonly accepted idea that (traditional) archives are mostly interested in collecting personal papers of famous individuals or major public figures (Arthur, 2009). Considering the quality and quantity of digital documents that ordinary individuals are producing and accumulating, however, a new perception of archives is necessary.

With the assistance of digital technology and the Web, contemporary individuals are highly networked and capable of building their own communities beyond geographical limitations, to act as information consumers and producers, to educate themselves and blur the line between professionals and amateurs, and to decide the boundaries between what they consider as private and public lives. People have more opportunities and choices to virtually explore and interact with different groups of people, cultures, and societies and to form multiple identities in digital environments. With cautious optimism, the researcher of the proposed study believes that we are heading toward an increasingly individually-focused culture where each individual becomes a central unit of social action. Although individually-focused culture may sound like a breakdown of community that builds its bond based on face-to-face interaction, it also means the lively emergence and expression of an individual's thoughts, feelings, ideas, and opinions about the world around her more than ever before. Therefore, as many archivists have argued, personal digital documents of ordinary individuals are important bits and bytes that will allow the more diverse voices of people – especially socially marginalized or suppressed voices

– to be reflected in the constitution of our collective memory and history (Beagrie, 2005; Cox, 2008; Flinn, 2008). The cultural value of digital documents of ordinary individuals will become more apparent, especially as the appreciation of “history from the bottom up” grows. Beyond the boundaries of private lives, personal archiving needs to be considered as a process that involves the transformation of individual archives “from ‘evidence of me’ into ‘evidence of us’ – components of our collective memory” (McKemmish, 2005, p.13).

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Sample Semi-Structured Interview Questions

Personal Digital Archiving Experiences

The researcher will use the following interview questions as starting points that help a participant to describe her digital archiving experience. The researcher expects that more personally-oriented questions and responses will emerge during each interview depending on the participant's willingness to share her private life stories with the researcher. The researcher will also share her own stories with a participant in order to clarify interview questions and/or in effort to build trust between the researcher and a participant.

Each interview will take one to two hours. The researcher, however, will adjust the length of the interview based on a participant's comfort, attention span, and time constraint. The researcher will arrange a second interview depending on the participant's willingness to talk more about her experiences and topics and questions emerged during the first interview that stimulate further exploration. The researcher will also conduct follow-up interviews multiple times (2-3 times) as initial interview data analysis moves along.

Brief personal background and demographic information:

- Profession(s)
- Hobby or leisure activities
- Roles in communities
- Brief family structure
- Gender
- Age group (e.g. 20-25; 26-35; 36-45; 46-55; 56-65; 66-75; 76 and older)

Life with digital technology:

- When and how did you start using computers and the Internet?
- Can you describe your early computing environment (e.g., models of previous computers, operating systems used, frequently used application and for what purposes, history of Internet use, etc.)?
- How have your computing activities changed and how do you feel about those changes?
- What kinds of digital technology (e.g., digital devices, online services, Web applications, etc.) do you use daily and for what purposes (e.g., creating files, collecting files, e-mail, chatting, blogging, social networking, etc.)?
- How do you feel about your knowledge and skills in the use of digital technology (e.g., a mere user; self-problem solving; tech savvy; etc.)?
- What do you most like about digital technology that you are using?

- What do you most dislike about digital technology that you are using?

Characteristics of personal digital collection:

- Can you describe the types of digital documents you have and approximately how many?
- What are the oldest digital document/items that you have kept and why?
- How often did you open or use the oldest digital document/items that you have kept?
- What are the most important or meaningful documents/items to you personally among the digital documents/items you have kept?
- What kinds of meanings do the documents/items have for you?
- What are the least important documents/items to you personally among the digital documents/items that you have kept?

Everyday management of personal digital collection:

- Can you describe how you organize your digital documents?
- How do you name your digital documents?
- Where and how do you keep your digital documents (e.g., personal computer, web space, external hard drive, diskettes, CD/DVDs)?
- What are the important goals of your everyday document management?
- How do you feel about digital documents that you are creating and storing in a cloud-computing environment?
- Can you describe how you developed a process for organizing digital documents?
- How do you feel about your process for managing your digital documents?

Long-term preservation of personal digital collection:

- How long do you keep your digital documents and for what reasons?
- How long do you want to keep your digital documents and for what reasons?
- How often do you re-use kept documents?
- What do you expect to happen to your personal digital documents after your lifetime?
- What kinds of concern do you have about the long-term survival of your digital documents?

Private vs. public:

- What do you consider as private documents and public documents among your digital documents?

Digital archiving:

- What does digital “archiving” mean to you?