

# PASSING AND PASSING ON IN THE DIGITAL WORLD

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## ABSTRACT

What happens to the great amount of information on social media and other Internet platforms after our death? Even while alive it is hardly possible for anyone to control the storage and dissemination of personal data on the Internet. How and for what reasons should we therefore try to make arrangements regarding what happens to this data when we pass away? Our next of kin do not usually know much about our various online activities, nor do they have access to the passwords necessary to deactivate profiles or delete or move information. At the same time, platform providers follow different practices and their terms and conditions vary considerably. This paper summarizes the results of an interdisciplinary research project<sup>1</sup> aimed at clarifying the many open questions that arise in connection with this topic and proposes an extended perspective on how the many facets of this subject matter might be approached.

## KEYWORDS

Digital Estate Planning, Digital Inheritance, Digital Legacy, Social Media, Right to Be Forgotten

## 1. INTRODUCTION

It may be considered slightly morbid to calculate the mortality rates of social network users, especially if this is done in the context of digital estate planning, a relatively new field of business. Drawing on this, Nathan Lustig, one of the founders of Entrusted<sup>2</sup>, a company offering digital estate planning services, has calculated that 1.5 million Facebook users died worldwide in 2010 (Lustig, 2010). His calculation is based on age-group mortality rates in the US, which he applied to Facebook user statistics. The results of this numbers game were reflected in the impressive headline: “Three Facebook Users Die Every Minute“, thus positioning the concept of “digital death” in countless blogs and articles and increasing the awareness that social media users are neither forever young, nor are they immortal. Those numbers were recently updated. As the headline “2.89 million Facebook Users Will Die in 2012“ indicates, the number of deceased Facebook users has almost doubled since 2010 (Lustig, 2012). We cannot know how many of these profiles have remained unchanged or how many have been transferred to “memorial” status. Facebook does not remove inactive profiles. It can therefore only be assumed that an unquantifiable portion of all profiles of deceased members continues to “exist”, not only in the membership statistics relevant to sales, but also in the form of bizarre birthday reminders, networking recommendations, etc. Facebook is only one of many platforms through which, over the course of a lifetime, large amounts of data are amassed. This paper illuminates the main issues related to a digital estate and evaluates approaches to digital estate management.

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<sup>2</sup> Entrusted (Madison, WI) was acquired by Swiss online data safe provider SecureSafe (DSwiss AG) in April 2011.

## 2. THE DIGITAL ESTATE: ITS RELEVANCE AND PROBLEMATIC NATURE

The main issue in dealing with a digital estate is not only its actual **content**. What is equally important are the **platforms** – increasingly Internet-based – where this content is stored and shared with others, the **accounts**, including personal profile data, to which it is linked, and, finally, the **traces** we leave behind, and which can be analyzed, as we move through the Internet. What are these digital assets and traces that are accumulated on the Internet over the course of a lifetime? Are they actual assets or do they have emotional value? Are they aspects of a “digital identity”, “digital belongings” - or mere “garbage data”? It is difficult to describe the content of a typical digital estate or make statements about its scope or relevance. The range of possibilities extends from data storage in the Cloud, to social media profiles and all the way to avatars which store personal characteristics such as voice, appearance, or preferences. The contents may be everything or nothing, valuable or meaningless, intimate or confidential, under copyright or actually illegal. The individual behavior patterns of the various Internet generations and individual users are too distinctive; the Internet business models are too dynamic, permanently introducing new offers, and opening up new possibilities for accumulating, disseminating, and evaluating data. As opposed to physical documents, folders, address books, or photo albums, digital assets are, by definition, intangible. During a user’s lifetime this is a normal feature of the increasing digitalization and virtualization of our daily lives. When a user dies, however, this immateriality presents problems which make it more complicated for the next of kin to deal with the digital estate of a deceased family member:

- **Knowledge**

Increasingly, an individual’s digital estate is not stored locally on the deceased’s end devices but has been dispersed over various Internet platforms. The dependents usually have no knowledge of the decedent’s Internet accounts or social media activities. An Internet reputation service can be useful but may not necessarily find all the traces, in particular if the deceased user has taken full advantage of the available privacy options. In addition, digital identity may not correspond with actual identity if the deceased adopted different online personas (avatars, nicknames, aliases, etc.). Whether these “digital identities” should continue to exist without the knowledge of that person’s next of kin is not only a question of piety. It can have serious financial consequences, for instance when a contract with a commercial website hosting provider is automatically renewed, or when a Paypal account still has a balance.

- **Access**

Unless the deceased deposited access information for online accounts, his or her dependents will have no easy way of accessing this data and will therefore have to rely on the practices and the general terms and conditions of the platform providers. There are only a few Internet services which have explicitly stated guidelines for dealing with data and accounts in the event of a user’s death (Chapter 4). Some Internet services will grant access to family members who submit a death certificate, regardless of the deceased account owner’s privacy rights. Others have very strict rules which prohibit access by third parties even in the event of a user’s death (e.g., Yahoo! Terms of service (Yahoo!, 2008) expressly state: *“No Right of Survivorship and Non-Transferability. You agree that your Yahoo! account is non-transferable and any rights to your Yahoo! ID or contents within your account terminate upon your death.”*).

- **Ownership and Control**

The issues of access and ownership are closely linked. Sole usership of internet content is in most cases waived by the users themselves – be it by accepting the provider’s general terms and conditions or by sharing data with other users. When the user dies, the heirs or other surviving dependents find it almost impossible to (re-)gain control over the digital estate, assert their claim to the deceased’s data, or succeed in having them deleted (Avok, 2012).

- **Data Worth Preserving and their Format**

Dying is closely linked to memory. How and with what would I like to be remembered? What might I leave behind that could tarnish people’s memories of me? If important things like photos, family recipes, or correspondence only exist in digital form, it makes sense to preserve at least part of this “digital estate” for posterity and to make it accessible in the long term.

- **Erasability and “Digital Forgetting”**

Even while a user is still alive, it is almost impossible to wipe out all traces of his or her Internet use. Technological advances such as the indexing and analysis of Internet content, multisite postings, or exchange

formats make it easier for users to search for and share information. At the same time, they also make it harder to enforce the “Right to Be Forgotten” on the Internet. A picture or a profile can be deleted from a platform, but it will continue to exist in the cache of the Internet search engines and web archives, and erasing these widely spread traces takes effort and persistence.

### 3. SCENARIOS FOR THE DIGITAL ESTATE

Do our online lives continue when we pass away? Not necessarily. What happens to Internet accounts, profiles, and data in general after a person’s death largely depends on the actors concerned:

- |   |  |
|---|--|
| <p><b>1. Myself -</b><br/>Self-determined user</p> <p><b>2. Surviving dependents, friends</b></p> <p><b>3. Platform provider</b></p> <p><b>4. Legislation, jurisdiction</b></p> | <p><b>Should I dispose of my digital estate?</b></p> <ul style="list-style-type: none"> <li>▪ By what means (conventional will, digital estate planning service, sharing access data)?</li> <li>▪ How should the accounts, profiles, and data be treated?</li> </ul> <p><b>Do/Should my family and friends have access to my digital estate?</b></p> <ul style="list-style-type: none"> <li>▪ Do they have enough Internet or social media know-how to carry out my wishes?</li> <li>▪ Do my wishes match those of my next of kin or friends and are they enforceable?</li> </ul> <p><b>How do platform providers treat the accounts and data of deceased users?</b></p> <ul style="list-style-type: none"> <li>▪ What terms of use/terms and conditions or other regulations apply?</li> </ul> <p><b>What legal provisions apply specifically to digital estate planning and the execution of a deceased’s will?</b></p> <ul style="list-style-type: none"> <li>▪ Are the digital assets relevant in terms of succession law or copyright law, or are they covered by an individual’s personal rights)?</li> <li>▪ Enforceability: What country has jurisdiction and what is the applicable law?</li> </ul> |
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Figure 1 provides an overview of the scenarios which can arise as a result of the fundamental decision for or against digital estate planning.

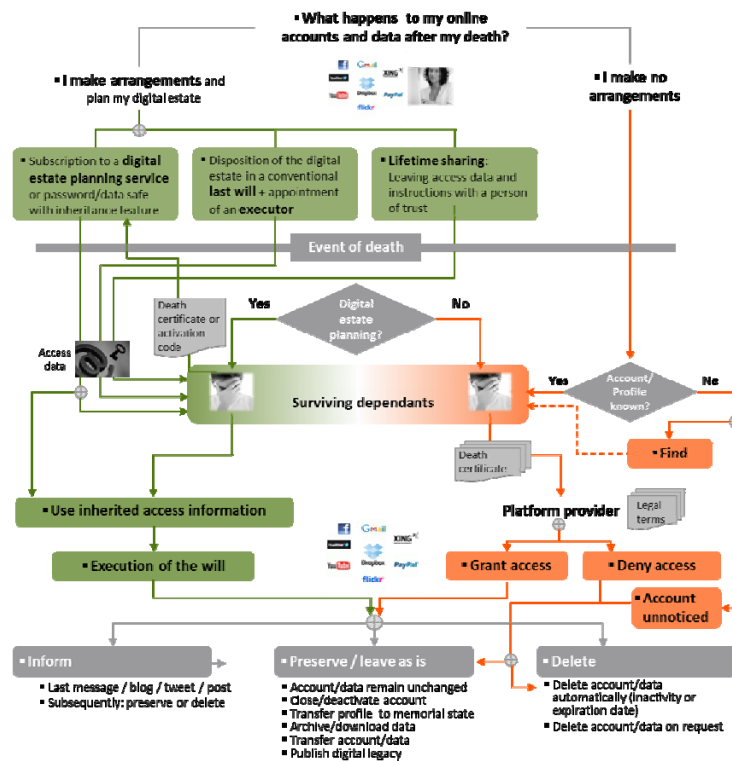


Figure 1. Scenarios for digital estate planning and execution of a will

The outcomes of the two scenarios clearly show:

- Various ways already exists for Internet users to dispose of their digital estate in a self-determined and proactive manner (Chapter 5).
- Internet users who dispose of their digital estate create transparency and prevent access problems from arising for their dependents after they pass away. Digital estate planning places the control and the power of disposition mainly in the hands of the dependents. They can use the access details that have been deposited to carry out the last will of their deceased relative.
- If Internet users do not dispose of their digital estate while they are still alive, the platform providers will dictate what happens when they pass away. The different practices of platform providers are discussed in the next chapter.

#### 4. PRACTICES OF ONLINE PLATFORM PROVIDERS

It is mainly the major international online platforms which have regulations relating to a user’s death, usually communicated through the terms of use or the online help feature. Some national or regional providers have regulations which are available from customer services.

	Options during lifetime or with inherited access data			Options enabled by platform providers in case of a deceased user						
	Close Account (profile and data remain undeleted)	Delete account and data	Download data (synchronize, archive)	Provider deletes inactive accounts automatically	Dependents may request:					
Access to the account					Closure of the account	Removal of the account (delete profile and data)	Copies of data	Memorial state		
										<b>Current practice to handle the case of a deceased account holder</b>
Facebook	+	+	+	-	-	-	+	-	+	<b>Option 1: Memorialize profile</b> (Facebook, n.d.): Facebook transfers profiles of deceased members to memorial status. A deceased member can be reported by family or friends (+obituary). Once memorialized, only confirmed friends can find, view and post on the deceased persons profile. The profile no longer appears as a suggestion. <b>Option 2: Delete profile:</b> Verified immediate family members can request the removal of the profile (+birth and death certificate of the deceased, proof of identity and kinship)
Xing	+	+	+	-	-	+ when reported	+ after 3 months	-	-	No published practice: Network contacts or dependents may report a deceased member to the Xing customer service (no death certificate or other proof required). Profiles of deceased users are closed (i.e. turned inactive) and deleted after 3 months to avoid deletions based on a false call or a mistaken identity.
Gmail (Google)	-	+	+	-	-	-	in rare cases	in rare cases	-	Practice published in the Gmail help (Google Inc., 2012): Google may provide access to the Gmail content (not the account) («in rare cases») to an «authorized representative of the deceased user». Dependents have to start a two stage process. In stage 1 the authorized representative has to furnish a notarized death certificate in English, proof of identity and a copy of an e-mail conversation with the deceased to Google Support (Mountain View, CA). Stage 2 may require an order from a U.S. court and/or submitting additional materials.
Flickr (Yahoo!)	-	+	+	(+) after 4 months	-	-	+	-	-	Yahoo! Terms of service (Yahoo!, 2008 : « Accounts are non-transferable and any rights to Yahoo! ID or contents terminate upon the users death ». Free and expired Pro accounts may be deleted after 4 months of inactivity based on the Yahoo! Terms of Service. However Flickr states in their support forum that they currently do not delete inactive accounts. Dependents can request the removal of a Flickr account (+death certificate).
Twitter	+	+	-	+ after 6 months	-	+	+	-	-	Practice published in the Twitter help center (Twitter, n.d.): An authorized dependent or representative may request the deactivation of the Twitter account (+death certificate, obituary, various documents proofing identity and authorization). Deactivated accounts are deleted after 30 days.
PayPal	+	-	-	+ after 3 years	-	+	-	Funds are payed out	-	No published practice: The dependent or executor may report the death of a user to the PayPal customer service (+notarized proofs of death and authorization). If approved, the account will be closed. If there are funds in the PayPal account, a cheque will be issued in the account holder's name.

Figure 2. Practices of platform providers to handle the case of a deceased account holder

The majority of online platform providers, however, do not seem to see any need for addressing the issue by publishing relevant regulations. Member mortality rates or the proportion of “dead” profiles are not analyzed, and only a few providers actually delete inactive accounts. One explanation for this is the declining cost of storage. At the same time, the general legal requirements do not really provide a stable basis for formulating uniform, legally enforceable provisions for the death of a user. Just how shaky the ground underneath the regulations of platform providers can be when there is a conflict, is illustrated by the case of Justin Ellsworth, a US soldier killed in action in Iraq. Ellsworth’s parents went to court to successfully fight for access to their son’s Yahoo! e-mail account after Yahoo! refused their request, citing their terms of service and the deceased’s right to privacy (BBC Online, 2005).

Thus, platform providers need to deal with the conflicting requirements of data protection provisions, dependents, and the personal rights of the deceased users. It is obvious that in times when platform providers are watched closely and have to continually update their terms of use and their data use policies for living users, such problems are not a top priority. Figure 2 provides an overview of practices currently in use by major international and European Internet platform providers. These practices cover a wide spectrum of applications and clearly show how different such practices can be and what a high level of Internet competence and persistence they sometimes require on the part of the user.

## 5. EXISTING SOLUTIONS FOR DEALING WITH DIGITAL ESTATES

There are already ways and means of dealing with the digital estate of a deceased Internet user (Table 1). Whether these measures are legally enforceable in cases of conflict (inheritance disputes, conflicts with platform providers, or conflicts of the law) and what obstacles must be overcome for the disposition of a legal estate to be legally binding, depends on the respective legal framework and is subject to legal analysis of the applicable law and jurisdiction.

Table 1. Options for digital estate planning and the execution of a will

Digital Estate Planning Options	Purpose and Benefits	Drawbacks
<b>Digital estate planning services</b> (e.g. SecureSafe, LegacyLocker)	<ul style="list-style-type: none"> <li>➊ Transparency and access: Enables user to store information on existing Internet accounts including access data and instructions in the event of his/her death.</li> <li>➋ Governance by depositing access data, i.e. less need to depend on platform provider.</li> <li>➌ Privacy : If the digital estate planning service acts as executor of the user’s will, data may be deleted without being passed on to dependents.</li> <li>➍ Expertise of the service in the areas of estate planning, execution of wills, and practices of platform providers.</li> </ul>	<ul style="list-style-type: none"> <li>➊ The digital estate planning service may no longer exist at the time of user’s death.</li> <li>➋ Accumulation of access data may constitute a security risk</li> <li>➌ A person appointed as the executor of the user’s will needs to be instructed.</li> <li>➍ Access information may become outdated or obsolete.</li> <li>➎ The dispositions and instructions regarding beneficiaries may not meet the formal requirements of a legal will (e.g., holographic will or public certification).</li> </ul>
<b>Disposing of the digital estate in a conventional will and appointing an executor</b>	<ul style="list-style-type: none"> <li>➊ Increases the probability of the will being executed.</li> <li>➋ Formal requirements are met.</li> <li>➌ Recommended, in particular in the case of content which is protected by copyright and thus of some relevance in terms of succession law.</li> <li>➍ May increase the enforceability of instructions</li> </ul>	<ul style="list-style-type: none"> <li>➊ Data covered by personal rights, which end with a person’s death, may be of no relevance in terms of succession law</li> <li>➋ Deposited access data can become outdated or obsolete.</li> <li>➌ Media-friendly wills in electronic format are generally not yet legally recognized.</li> </ul>

Digital Estate Planning Options	Purpose and Benefits	Drawbacks
<b>Leaving access data and instructions with a person of trust</b>	<ul style="list-style-type: none"> <li>➊ Simple</li> <li>➋ Relevant for users making provisions in situations involving a severe illness or the anticipated loss of mental capacity.</li> </ul>	<ul style="list-style-type: none"> <li>➊ Beneficiaries have access to the user's data while he/she is still alive.</li> <li>➋ Access data can become outdated or obsolete.</li> </ul>
<b>Password safes</b> (local software, browser, USB or on the Internet)	<ul style="list-style-type: none"> <li>➊ Access data remain up to date if the user is consistent in maintaining them in a password safe while he/she is alive.</li> </ul>	<ul style="list-style-type: none"> <li>➊ Does not address the problem of succession. Dependents must be given access to password safe/master password.</li> <li>➋ Accumulation of access data may constitute a security risk</li> <li>➌ Documents or instructions can usually not be left in an ordinary password safe.</li> </ul>
<b>Digital legacy services</b> (e.g., 1000memories, VirtualEternity)	<ul style="list-style-type: none"> <li>➊ Helps to preserve important memorabilia (e.g. photos, music, texts) by allowing the user to specifically select them while he/she is still alive and thus make them accessible to his/her dependents.</li> </ul>	<ul style="list-style-type: none"> <li>➊ Only relevant for a small portion of a user's digital estate. Does not address the problem of succession of/access to the major portion of the digital estate.</li> </ul>
<b>Farewell message/e-mail/tweet services</b>	<ul style="list-style-type: none"> <li>➊ Allows the user to leave a farewell message which is mailed out after his/her death.</li> </ul>	<ul style="list-style-type: none"> <li>➊ Does not address the problem of succession/access.</li> </ul>
<b>Archives/downloading Internet data</b> (e.g., SocialSafe, dataliberation.org)	<ul style="list-style-type: none"> <li>➊ Local backup or synchronization of Internet data (profiles, e-mails, contacts)</li> <li>➋ May allow dependents to access the data through the user's end device</li> </ul>	<ul style="list-style-type: none"> <li>➊ Data quickly become outdated or obsolete if they are not synchronized periodically.</li> <li>➋ Does not address the problem of access to or removal of Internet accounts</li> </ul>

## 5.1 Digital Estate Planning Services

A digital estate planning service ensures that a digital estate is transparent and accessible. By storing the following information deposited by the user while still alive, it supports the user's digital estate planning concept:

1. Access details (username and, usually, a password) for Internet accounts (Facebook, Gmail, etc.) as well as other password-protected online data;
2. Instructions or wishes indicating what is to happen to a specific account/profile/set of data in the event of the user's death;
3. Names of persons of trust who will notify the service of the user's death, be sent the access details, and carry out the wishes deposited by the user.

These basic sets of functions are shared by most existing digital estate planning services. However, there are variations in how they are implemented by the providers. These fall into one of the following categories:

### a. Type of data or information deposited:

Usually, the name and the URL as well as the user name and password of an account are encrypted and deposited. Certain services only allow users to deposit the user name or the e-mail address linked to the account in question. If a complete set of login data can be deposited, access for the beneficiaries in the event of a user's death is a straightforward matter, provided passwords are continuously kept up to date. However, the service's safeguards must be examined critically, since the storage of all passwords in one place presents a serious security risk.

In addition to the depositing of access details, some services (such as Swiss provider SecureSafe) also enable users to deposit data files. The focus is on providing a service for everyday use as a secure online storage facility for the safe exchange of critical documents, e.g., with banks and the authorities. A user can also nominate beneficiaries who will receive files and passwords in the event of an emergency or death. In this specific business model, data inheritance is not the value proposition of the service but an added benefit.

### b. Responsibility for the execution of the will

In the case of Dutch provider Ziggur.me, the "keep private" function enables customers to keep the existence of certain accounts from dependents in order to protect their privacy. If a customer wants to ensure

that such an account is deleted, the provider acts as the “digital executor” of his or her will. Providers like Legacy Locker or SecureSafe expressly state that they do not act as executors; the safety mechanisms on which their services are based prevent any access to the deposited access data. In such a case, the executors are the persons of trust whose names have been deposited and who must be advised of their role while the user is still alive. Beneficiaries do not have to be next of kin or friends. Other people entrusted with an estate, such as an attorney, can also be nominated and instructed to handle the digital execution of a will.

**c. Procedure following a user’s death**

In the event of a user’s death, the estate service has to be informed, following which it will grant the nominated beneficiaries access to the deposited access details and instructions to execute the will of the deceased. The currently available services use one of three forms of initiating the digital inheritance:

1. The person of trust reports the death to the digital estate planning service, e.g. by **submitting a death certificate** or another official document. Some digital estate planning services, e.g., Legacy Locker, require two persons of trust to confirm the user’s death independently.
2. The digital estate planning estate service has an **arrangement with an authority or a public registry**, which registers the existence of a digital estate plan and will notify the service when a customer dies. Swedish provider My Web Will, which is no longer active, had such a cooperation agreement with the Swedish citizens register.
3. A trusted person receives an **activation code** from the customer of the service (e.g., SecureSafe), as well as instructions on how to proceed in the event of his or her death. When the user dies, that person will log on to the service’s website, enter the code and thus set the wheels in motion.

**Usability** and **security** are key criteria for a digital estate planning service. The basic requirement, however, of such a service should be that it will still exist at the time of the customer’s death. If I entrust my digital estate planning to a startup company which folds after only a few years, my data will be destroyed or transferred to another company, at best. A service may also suddenly go offline and be no longer reachable. In such a case, the whereabouts of the data are uncertain, and the monthly, annual, or even lifelong fees will have been for nothing. The sustainability of the business model and the size of the company may be indicators of a service’s **reliability and chances of survival**.

“The Digital Beyond” portal provides a list, not intended to be exhaustive, of digital estate planning services, last e-mail services, and online memorial sites, that operate internationally in this relatively new business segment (The Digital Beyond, 2012). The 16 listed services which offer digital estate planning were mostly set up between 2008 and 2010. In 2011, only two new providers were added. Three of the providers listed have already discontinued their service, were acquired by another company, or are offline pending re-release. It appears that the first wave of startups is over and a certain disenchantment and consolidation has set in. If a digital estate planning service is not part of a larger range of services, which **adds value while the users are still alive**, or if there is no backing from an investor or a parent company, survival, especially in Europe and in domestic markets, seems to still be difficult.

## **6. CONCLUSION: AN INTEGRATED PERSPECTIVE ON DIGITAL ESTATE PLANNING AND PROTECTION**

The analyses of the existing options and legal requirements show that digital estate planning and will execution alone do not constitute a satisfactory solution. A more comprehensive perspective is required which needs to incorporate all aspects of a digital estate and provides effective solutions that are sustainable in the long term (Figure 3).

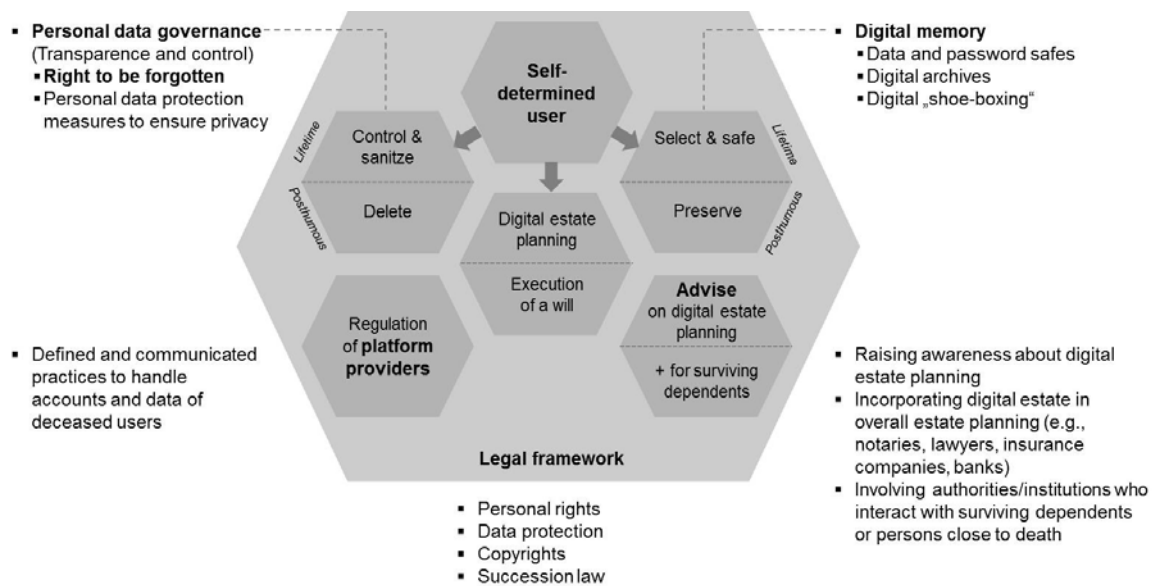


Figure 3. Extended solution space for the digital estate

#### ▪ Personal data governance

Loss of control over personal data already begins while we are still alive. Effective, practical solutions must therefore be implemented in the course of our “digital daily lives” to help us organize and control our personal data. Self-determined users make use of practical measures (such as browser settings based on P3P) to protect personal data and to avoid leaving a data trail on the Internet.

#### ▪ Digital legacy

In view of the mountains of data that are accumulated in the course of a lifetime, there is an increasing need for bookmarking important content or for keeping it in a special place. In addition to Internet safes for important documents and passwords, there are specialized digital legacy services that help document key events in a person’s life (e.g., 1000memories, VirtualEternity). Other solutions include download or synchronization options offered by platforms or specialized providers (e.g., SocialSafe). These enable users to backup Internet data or social media profiles.

#### ▪ The “Right to Be Forgotten”

The need to select, secure, and preserve data as “digital memories” beyond death may conflict with the demand for the “Right to Be Forgotten on the Internet”. Practical solutions to implement the “Right to Be Forgotten” in our daily Internet usage, such as expiration dates for Internet data (Mayer-Schönberger, 2011) or digital erasers like X-pire are still far from being commonly known or used. The lifespan and the protection of Internet data are not primarily technological issues. Technologies can however be a useful means of improving the enforceability of the “Right to Be Forgotten” on the Internet, provided they are practical in their implementation. This corresponds to the principle of “privacy by design” (Cavoukian, 2009), which is also postulated in the strategy paper “A Digital Agenda for Europe” (European Commission, 2010). It calls for the right to personal data protection and privacy to be embedded in the whole lifecycle of information technologies and information, from their creation to their elimination. Such a concept not only requires commitment and initiative on the part of Internet users and technology providers but also the examination and, if necessary, revision of legal provisions.

#### ▪ Responsibilities of platform providers

Even if the self-determination and individual responsibility of Internet users is at the heart of any workable solution, platform providers must still be held accountable to some degree. Guidelines on how to proceed in the event of the death of a subscriber must be put in place and communicated to users. At this stage, there is little motivation for platform providers to address this issue. Moreover, the existing legal framework does not really provide a sound foundation for uniform, binding regulations.

#### ▪ Raising awareness and offering support

Since digital estate planning is still in its infancy and the relevant regulations put in place by platform providers are diverse and often insufficient, there is a great need for advisory services, to provide information



on digital estate planning and to advise the surviving dependents after a death has occurred. Help can take the form of explanations/information provided by public authorities or private service providers (e.g., data protection authorities, insurance consultants, attorneys, notaries, etc.). It can also include assistance to the surviving dependents in identifying and handling a digital estate (as offered by German service provider Semno, which identifies digital estates by analyzing the personal computing devices of deceased persons.

▪ **Legal framework**

The question of how to treat a person's digital data after his or her death has various legal ramifications. For one, the problem must be examined from the perspective of succession law: Can data be inherited? Can data be disposed of in a will? Next, we need to consider an individual's personal rights: How can the rights of a person be protected beyond his or her death. What options do the next of kin have? Some protection is provided by personal data protection regulations. However, the question remains whether there should be rules that determine how the data of the deceased must be dealt with and if the "Right to Be Forgotten" on the Internet can be enforced.

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