



Digital Inclusion for a Dignified Retirement: Harmonising Service Ecosystems

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Contents

1. Executive summary	3
2. Human-centred research	4
Framing the brief.....	4
Research Goals.....	4
Activities.....	4
3. Systemic analysis	8
Rich Pictures.....	8
Affinity Mapping	9
Ability & Availability Model	10
Opportunities	11
4. Design intervention	12
Standardisation as a leverage point.....	12
Challenges in the Current Landscape.....	12
The Benefits and Limitations of Standardisation	14
5. Final proposal	16
Harmonisation toolkit.....	16
Values	19
The role of DVV	19
6. Conclusion	20
References.....	21
Appendix	
Interview Questions.....	22
Insights explanation.....	23

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1. Executive Summary

The Digital Population and Data Services (DVV, Digi- ja väestötietovirasto) and Ministry of Finance (VM, Valtiovarainministeriö) are collaborating to digitise public services adjacent to significant life events, such as retirement. The challenge addresses the ageing and diverse Finnish population's needs and using public funding more efficiently. The project brief, proposed in the Aalto University course "Design for Government", aims to gain insights into preparing for a dignified old age and adapting to digitalisation trends.

Our project examines issues caused by the apparent fragmentation of digital services for the aged Finnish population. From a systemic point of view, it attempts to overcome the identified obstacles and enhance the retirement experience through a design intervention with a human-centric approach. The project is undertaken by a team of multidisciplinary designers in collaboration with various stakeholders, including retirees, service providers, and governmental experts.

The main problem we identified is that each service provider tends to operate within its unique system, featuring distinct processes, requirements, and user interfaces. Moreover, inconsistent data formats, vocabularies, and working models can lead to inefficiencies and misunderstandings,

eventually causing disengagement among the users of the services.

Our ultimate goal is to enable a dignified life after retirement. With this, we mean allowing individuals to choose without being restricted by any condition. These conditions are determined by personal skills and limitations but also by contextual and environmental circumstances. During the project, we defined the personal skills and limitations as "Abilities of Individuals" and the contextual circumstances as "Availability of Services".

The team proposes a design intervention focusing on standardisation to solve the abovementioned issues. Standardisation is expected to improve both the availability of the services and the ability of individuals to access and use these services. The intervention is informed by principles of human-centred design and systems thinking.

The final proposal involves creating a comprehensive toolkit encompassing retirement-related service offerings, data sharing and language used, user experience design, and user interface design. With DVV's wide-ranging oversight and understanding, DVV is recommended as a potential entity to oversee the creation of standards for the services.

2. Human-centred Research

This chapter discusses the team's first steps to frame the brief and conduct human-centred research. It addresses only the research phase, leaving the analysis of the information gathered for the next section. In the first part of the project, we focused primarily on users' experiences and, in the latter part, on the nature of the service ecosystem from the service producer's side.

Framing the brief

The brief from VM and DVV concerned a project that aims to identify key life events of retirement from the current and future generations' perspective and inform the services, information and policy recommendations for a dignified old age. The challenge was met by 12 students divided into three subgroups. After studying the materials provided with the project brief, which introduced the Finnish context of life event-based digital services, we held a roundtable discussion with experts from DVV and VM to discuss the brief in depth. At the end of this meeting, it was clear that a research phase was needed. Our group wanted to focus on the user perspective of older people. This decision was made because of the social resources our Finnish teammate had. We adopted a human-centred approach to identify older people's

needs during the research stage. It means that we combined field research with desktop research to collect information and understand the point of view of Finnish seniors.

Research Goals

Before starting research, it was necessary to state our research goals and questions. Our group aimed to understand the lives and needs of retired people and the role of digitalisation in it.

We further proposed several questions to guide our discovery process.

- 1. What are the needs and aspirations of citizens for their retirement as a life event?**
- 2. How do citizens use and think about digital services for retirement?**
- 3. How do citizens define dignified old age?**

Activities

To answer the research questions, we used methods which combine the collection of qualitative data from primary sources like interviews and quantitative data from sec-



PICTURE 1. Chinese migrant community gathering.

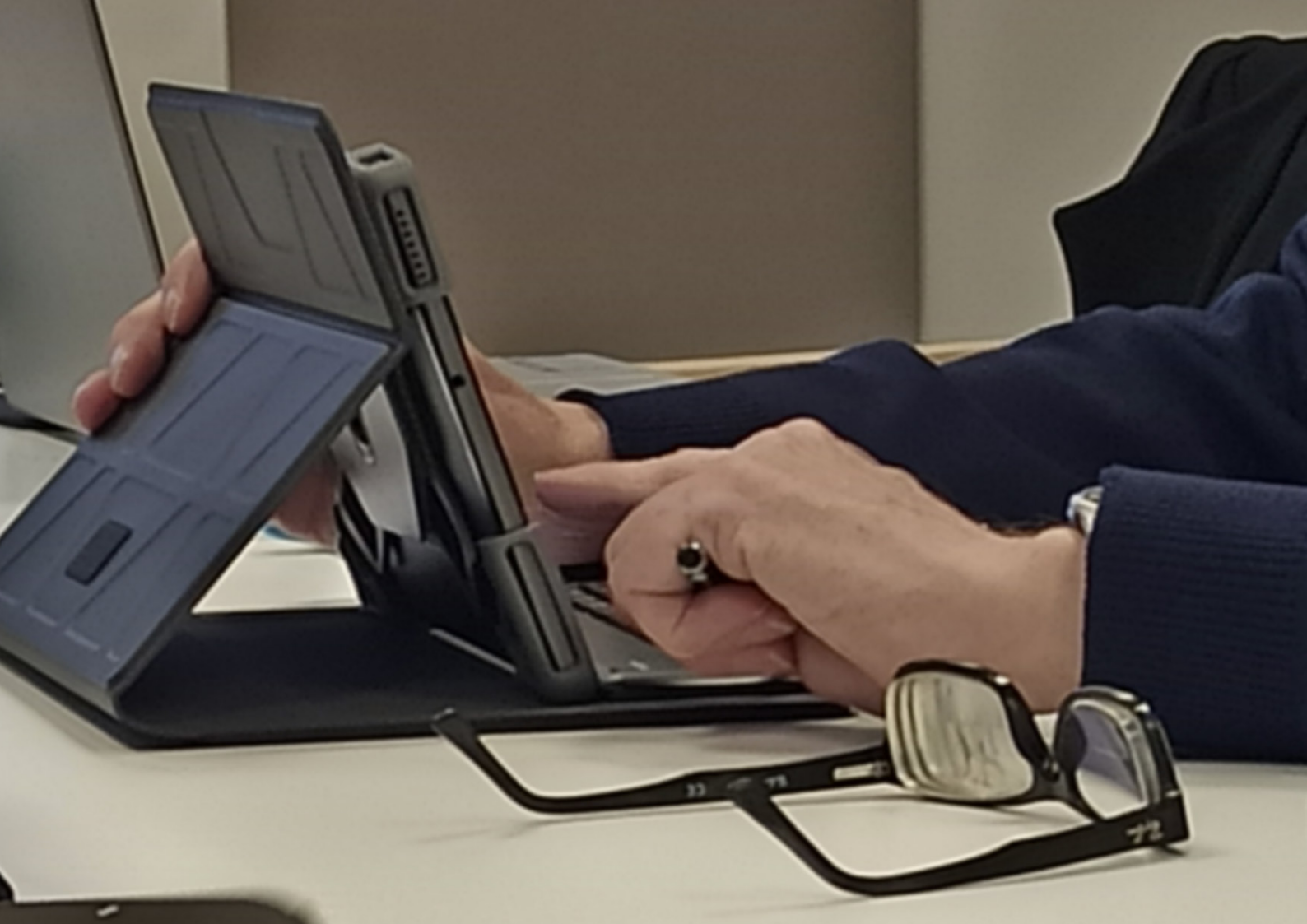
ondary sources such as Statistics Finland and public reports on the topic. Our overall activities in this phase were: 3 observations followed by 3 group interviews with senior citizens, 1 expert interview, and 25 academic articles read.

The first citizen group we met had 12 seniors from the Chinese migrant community. We wanted to conduct a group interview to understand their retirement expectations and observe how they interacted with digital products. The main findings were that older individuals often do not possess the same intuitive grasp of digital interfaces. It led to confusion, difficulty in navigation, and discouragement. Finally, their wishes were to live near friends from homo-cultural communities. It was essential to meet them to have the perspective of immigrant retirees.

The second group has three Finnish

retirees living together in a newly built co-housing unit. We also conducted a group interview and were given a guided tour of the building. It was informative to listen to their stories because we recognised they were “extreme users” because they were active, engaging in social volunteering activities, highly educated, with good digital literacy, healthy, and owners in a co-house. The main key points highlighted were the lack of digital literacy, how this reinforces a lack of distinguishing digital scams, and how hard it can be to retire if people are very committed to their work.

The last group we followed was in a Senior Centre. We observed the active seniors participating as volunteers and members of a digital club to overcome digital problems with their devices. We also visited the less active seniors that needed daily assistance. The main takeaways from



PICTURE 2. Interview and observation at Myllypuro Service Centre’s Digital Club.

this experience were to observe the other side of the medal, empathise with people who are no more self-sufficient and understand the type of digital needs they request from peers. The main topics treated were the lack of consistency between digital services.

We have also conducted an expert interview with the Ombudsman for Old Age, a renowned gerontology researcher Päivi Topo. She highlighted the importance of hearing the oldest and not generalising when talking about older people because everyone has unique needs.

We read 25 academic articles published by two leading journals in the gerontological field: “Gerontology” and “ROSEnet”. The main topics that emerged were:

the importance of not lumping all older people into one group and always thinking of them as a burden and not a resource. The second aspect is about the importance for older people to continue to have social connections and how family members can be a positive push to stay healthy and continue to learn, including digital skills.

PICTURE 3. Interview with Elina Savo, Sirpa Baer and Juha Nurmela, who are retired and live in a co-housing unit in Helsinki.

FIGURE 1. Quotes from research.

“Don’t talk about old people as a group, because the group is very heterogeneous”

– Expert of older people

“This means that, in addition to age, our identity and social status are simultaneously determined by, among other things, gender, social class, place of residence, state of health, cultural, religious and ethnic background, and sexual orientation.”

– Lumme-Sandt et al.

“There is no institution that listens or reports wishes or needs of elders older than 90 years.”

– Expert of older people

“The digital devices, and how services work, change all the time.”

– A participant in Myllypuro Service Center Digital Club

“There should be same routines for any services you use. And most of the digital services old people use are not designed with user’s point of view in mind.”

– Juha Nurmela
Co-housing resident

“People who are strongly committed to their work, might face challenges when they retire, if they don’t prepare for the changes.”

– Expert of older people

“I would like to be a volunteer in the Red Cross or senior centre when I am free.”

“We wish to live near with friends from the same cultural background in the future.”

– A person in Jade ry meeting of a Chinese community

“The idea of the circle of friends is social participation, strengthening the sense of competence of the elderly and taking control of their own lives with the help of peers”

– Jyväkorpi et al.



3. Systemic Analysis

Our research gave insight into the pain points of the elderly as users of digital services in Finland. In the following, we will describe our analysis process. We iteratively clarified our findings as the project proceeded and new information was acquired.

An essential framework for analysis was the service ability & availability model, which is described more in-depth later on.

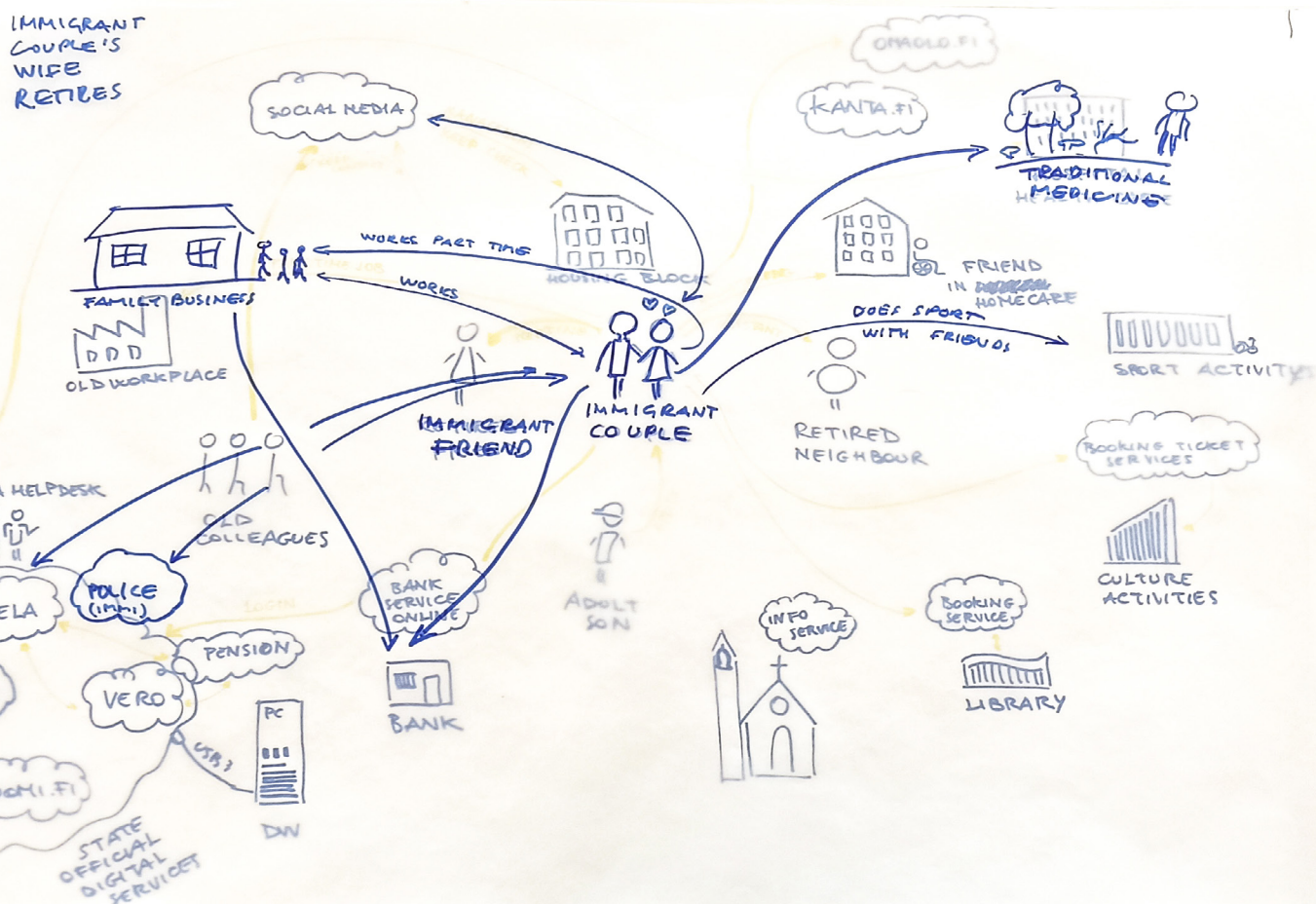
Rich Pictures

“Rich Pictures” (Barbrook-Johnson & Penn,

2022) was one of the first methods we used to synthesise the information gathered in the research. This method involves visualising information through a map of the actors involved in a life event and drawing connections between them. We created several Rich Pictures showing the relationships and interaction channels in different life events before, at and after retirement.

The visualisations have in their centre an end-user we derived as a synthesis of our observations. The connections between

PICTURE 4. Example of our rich picture.



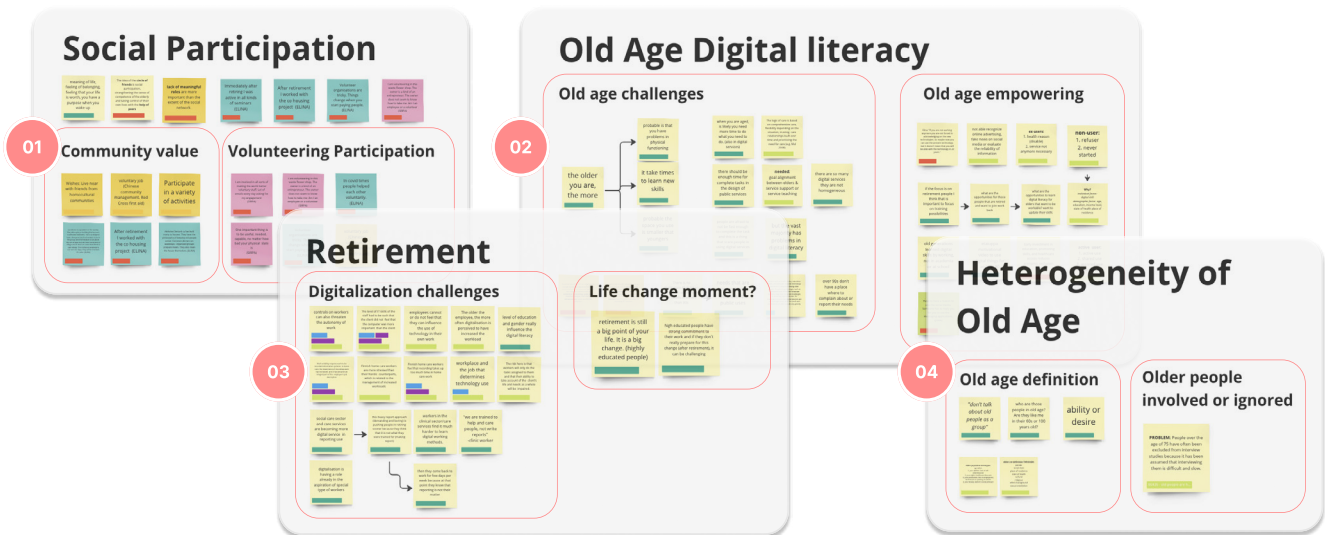


FIGURE 2. Affinity mapping.

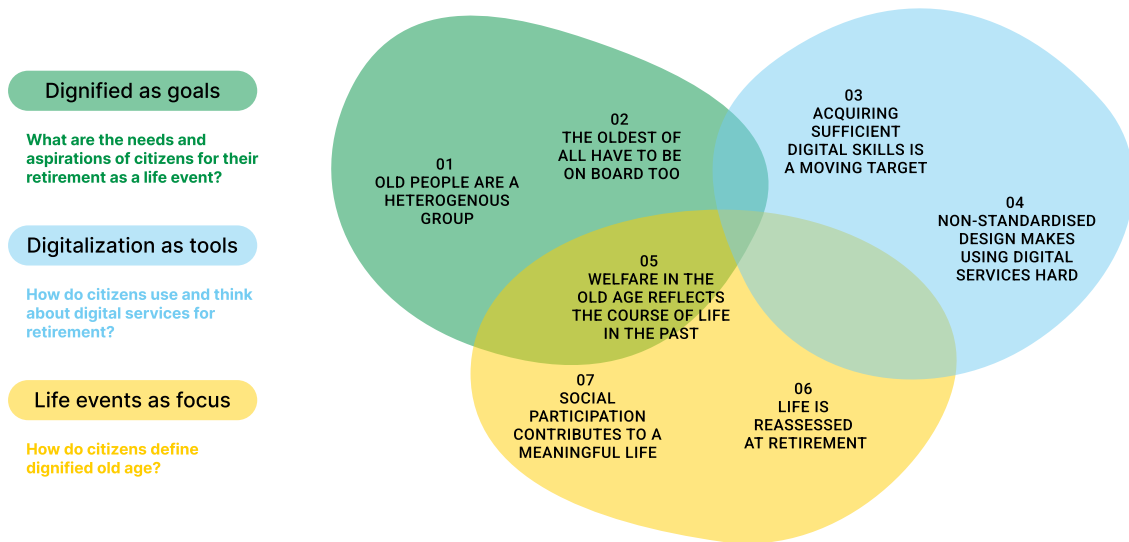


FIGURE 3. Insights grouped.

the various organisations and individuals synthesise the multiple experiences we have been told and how these can be visualised as minor life events within the macro group of retirement life events. This type of analysis was beneficial for us to start combining the perspective of older individuals with the view of the various organisations that provide the services and constitute the retirement ecosystem.

Affinity Mapping

Our primary method, “Affinity Mapping”

involved grouping all the information collected during the research phase. This information encompassed firsthand quotes from interviews and observations conducted with citizens, experts, and literature, notably the Finnish Gerontology magazine. Once we categorised the data into specific clusters, we reviewed and combined them to form major themes.

These major themes revolved around the social activities of older people, digital literacies and the use of digital services in old age, retirement as a significant life event,

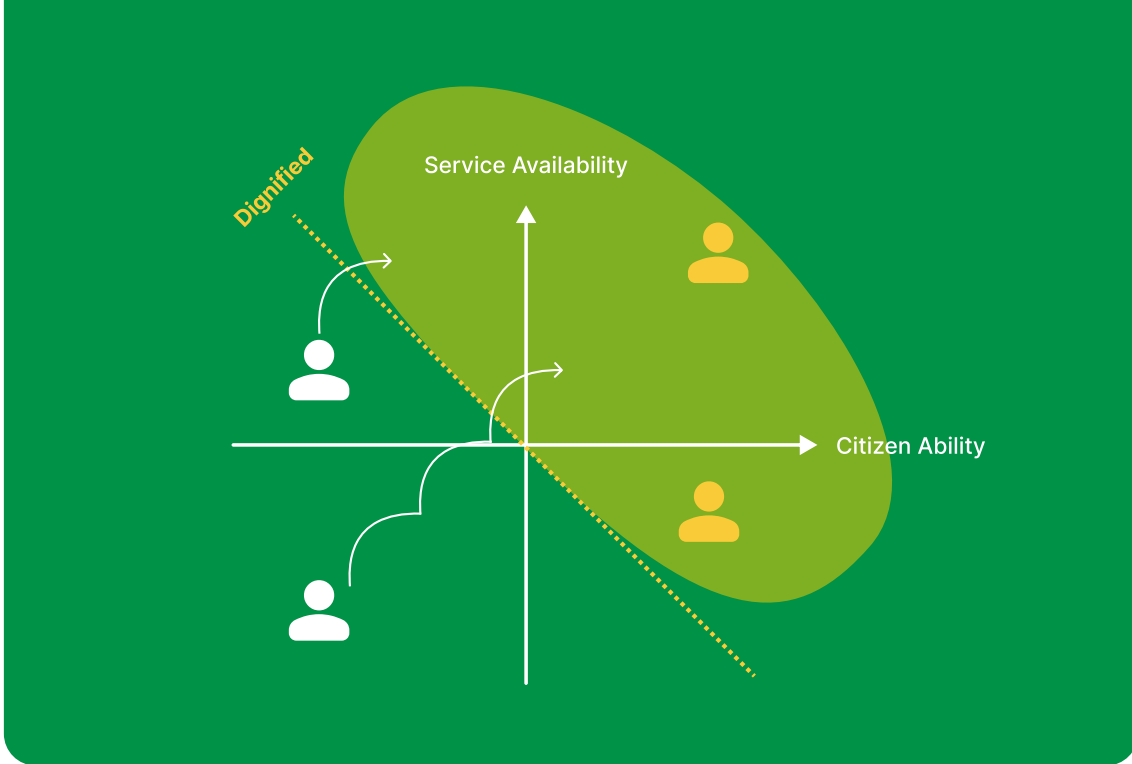


FIGURE 4. Ability & availability model.

and the diversity within the ageing population. With this comprehensive overview in mind, we addressed the research questions by identifying seven insights that provided answers. To learn more about specific insight, please look at our Appendix.

Ability & Availability Model

During the Affinity Model process, we started to give special attention to the word Dignity. Indeed, it was evident that for each person we met, it had a personal meaning. Once we looked at the overall picture of the information gathered, we realised how the meaning of dignity was always connected with the possibility of choice without being restricted by any condition. These conditions were determined by personal skills and limitations but also by contextual and environmental circumstances. In our analysis framework, we identified personal skills and limitations as the grade of individuals' abilities to access the possibility of choices. At the same time, the contextual and environmental circumstances were defined as the grade of services' availability.

These concepts, "Abilities of individuals" and "Availability of Services", are interconnected, so if you improve one of the two parameters, the other will also improve. Once the concept was solidified, we saw its potential to become the core of our project. So we looked at our insights through the lens of this model and developed five intervention opportunities to understand what could enhance the dignity of retirement.

Identifying opportunities

From the opportunities for change that we had found, "standards make services easier to use" was selected for further development based on feedback from our partners, the research's soundness, the project's brief objectives and the feasibility of change. "Standards make services easier to use" means that standardised digital service content and interfaces help to improve the availability of services to older people in general so that people are less likely to be unable to use services due to physical, financial, cultural, and other constraints.

FIGURE 5. Identified opportunities.

ASSISTED USE OF DIGITAL SERVICES NEEDS TO BE PLANNED

Providing personal assistance is crucial for digitally excluded groups to utilise digital services, whether their exclusion stems from health conditions or poor digital skills. A likely user scenario involves individuals using digital services with the help of an assistant, so the entire service ecosystem should be designed to accommodate and support assisted use.

The first opportunity suggests a way to enhance the availability of digital services, tackling the problems of the lack of digital literacy and the need for more participation in service development.

STANDARDISATION MAKES SERVICES EASIER TO USE

“Design for All” principles should be fundamental when creating public digital services. “Plain Finnish” (selkосуomi) is an example of an effective method for developing more accessible services. Standardising other aspects of user interfaces, such as visual layout and logic of use, would benefit all users.

The second possibility presents an avenue to improve the availability of digital services, addressing the issues of lack of standardisation through the ecosystem and disrespectful discrimination of older adults.

PROMOTING THE ADOPTION OF NEW OR UNFAMILIAR SERVICES

Regardless of their potential benefits, people do not automatically embrace new digital services. Social influence and perceived advantages play significant roles in successfully adopting unfamiliar services or technologies. Service Providers should consider leveraging these factors to promote a service to potential hesitant users. For

example, a strong interest in chatting with a family from a distance can motivate learning to use instant messenger applications. Integrating persuasive elements into new services can help increase their appeal.

The third option proposes a method to bolster the availability of digital services, addressing the issues of lack of digital literacy and the need for standardisation through the ecosystem.

SUPPORTING THE DEVELOPMENT OF CARE VILLAGES

Care villages, while not yet a widespread trend, are exceptional examples of close-knit communities where residents take care of one another. Establishing care villages involves a significant investment, including financial resources, implementation expertise, social capital, and strong bonds among residents. Supporting the creation of more such communities can promote a dignified and connected way of life.

The fourth opportunity suggests a way to enhance the abilities of individuals based on the insights that social participation contributes to a meaningful life, and life is reassessed at retirement.

SUPPORTING THE DEVELOPMENT OF EDUCATION

People’s education is an essential factor that influences life in several areas. Improving young and older people’s education is important to support a more dignified retirement. The last opportunity propose a field which bolsters the ability of individuals based on the insights that the welfare in old age reflects the course of the past life.

4. Design Intervention

This chapter focuses on our design interventions, spotlighting the potential of standardisation, an opportunity we uncovered during our systemic analysis.

Standardisation as a leverage point

To enhance the retirement experience, we have identified ways to augment the availability and accessibility of retirement services. Through extensive research, it has become evident that design standardisation is a cornerstone for more impactful interventions, tackling issues at a broader and more profound level. From the Policy Lab table (Cooper, 2020. Figure 5.), a tool made to understand which type of government intervention we could explore, we identified that the pivotal elements for an effective “Setting Standards” are a formal power that usually comes from governance and a good amount of engagements that comes from the actors involved in the process.

We borrow the concept of “leverage points” from systems thinking, which refers to areas in a system where minor adjustments can lead to significant changes (Meadows, 1999). In our context, standardisation is a potential leverage point that could significantly improve the retirement experience.

Challenges in the Current Landscape

Why does design standardisation hold the potential for profound change? Through a critical analysis of the current landscape, several elements emerged as problematic, primarily due to the lack of standardisation.

1) Inconsistent User Interfaces:

The digital landscape is fragmented, with individual service providers each offering unique user interfaces. While this can strengthen their brands, it can confuse users, especially retirees who need to navigate different systems and services. Retirees should continually adapt to different systems, learn new procedures, and navigate the intricacies of various interfaces to access the services (Coughlin, 2021).

“The digital devices and how services work change all the time.”

– An interviewee from Myllypuro Service Center Digital Club

Despite Suomi.fi offering numerous services in one system, it often redirects users to other websites, causing confusion and disengagement. For standardised UI, Gov.UK is a good example which uses the

	Influence	Engage	Design	Develop	Resource	Deliver	Control
‘Softer’ powers often shared with others	Advising Advising citizens and signposting options to help them find support.	Listening Creating platforms for citizens and stakeholders to protect vested rights and interests.	Connecting Encourage experts and citizens to co-create change.	Championing Building a case for change and retain alliances for action.	Charging Collecting charges for service for example prescriptions, passports or parking.	Nudging Applying behavioural science or encouraging voluntary codes.	Devolving Devolving decisions to frontline staff, other authorities or citizens.
	Lobbying Using existing networks and platforms to influence an issue or cause.	Informing Providing data, sharing knowledge. For example public information advice.	Engaging Engaging citizens, stakeholders and partners to deliberate on an issue of importance.	Agreeing Formal agreements e.g. Memoranda of Understanding (MOU).	Incentivising Promoting behaviour change through grants, subsidies or other incentives.	Educating Providing materials so citizens know what’s available to them.	Providing assurance Providing assurance / checks and balance on powers.
	Agenda setting Build awareness & confidence in new opportunities by providing thought leadership.	Consulting Consulting the public or stakeholders on an issue to understand needs and impact.	Analysing Analysing and interpreting data from local and international contexts.	Partnering Establishing formal partnerships on an issue of importance to parties.	Contracting Utilising public procurement to encourage supply chain innovation.	Building Making infrastructure investments & public commissions e.g. highways.	Licensing Providing licenses e.g. Taxis, bars & clubs, traders & markets, and health & safety.
Patterns of action across local, national and international contexts	Role modelling Role modelling culture or values through local, national or international presence.	Convening Drawing together expertise from across system.	Forecasting Foresight, horizon scanning and predictive analytics.	Planning Setting strategy and making plans e.g. Industrial Strategy.	Co-funding Co-funding activity and pooling budgets with domestic or international partners.	Providing Delivering services directly or indirectly through funding and target setting.	Regulating Ensuring regulation enables the intended policy outcomes. Also amending rules, statutory instruments and orders.
	Auditing Auditing and reviewing activities to inform action.	Collaborating Collaborating with different actors from across the system to deliver outcomes.	Modelling Modelling different scenarios, shaping and deciding on delivery models.	Commissioning Commissioning services and outsourcing contracts. Also decommissioning as needed.	Targeting Utilising initiatives to influence on a particular issue e.g. Cultural programmes	Reforming Harnessing political will for change to improve outcomes.	Intervening Making an intervention to correct or improve a market or social context e.g. correcting market failure.
	Governing Establishing governance and setting up formal structures such as boards.	Negotiating Early engagement on a shared interest or issue including diplomacy.	Testing Testing, prototyping and learning to establish efficacy of a proposed intervention.	Interpreting Translating policies across different places and jurisdictions.	Investing Investing in various forms including inward investment and foreign direct investment.	Safeguarding Oversees the welfare of vulnerable groups.	Enforcing Support enforcement and harmonise regulatory compliance environment.
	Publishing Publishing plans, priorities, guidance and reviews.	Running elections Running democratic services and elections.	Piloting Small scale trials to learn lessons and establish an evidence base for change.	Codifying Publishing proposals for consultation and pre-legislative scrutiny e.g. drafting white papers and bills.	Funding Direct finance to stimulate markets or deliver positive outcomes.	Preventing Intervening early or investing in preventative measures e.g. Public health.	Sanctioning Putting in place sanctions e.g. embargoes and political trade restrictions.
More ‘formal’ powers often associated with governments	Scrutinising Establishing scrutiny committees for example section 15 powers.	Setting standards Harmonising and setting standards for different stakeholders.	Evaluating Evaluating efficacy of activities or interventions to establish value for money and impact.	Legislating (Primary and Secondary) Supporting a bill through parliament and enacting legislation.	Recovering Recovering debt and other actions to address fraud and error.	Protecting Protecting consumer rights and supply chain. Upholding of standards.	Prosecuting Powers to investigate and prosecute criminal offences e.g. Local Gov Act 1972.

FIGURE 6. Policy Lab’s “Government as a system” cross-cutting styles of action.

same design language and interface across its public services. However, Implementing a similar visual identity for the service ecosystem requires providers to share information to understand user needs and determine necessary changes.

2) Lack of Data and Terminology Sharing: Another area of concern is the inadequate sharing of data and language among organisations. Despite the existence of a standard government glossary, it often proves to be a daunting challenge for users and service providers alike.

“There’s a lot of data, basic data and different registers. But the data means different things, or they are named differently.”

– Jani Ruuskanen, DVV
(quoted with verbal consent)

Organisations often use varying data formats, vocabularies, and data models, which can hinder the efficient sharing and interpretation of information. This inconsistency in data can lead to misunderstandings, errors, and a less efficient system, as service providers find it challenging to work together seamlessly.

3) Lack of consistency in User Experience: We have identified that each service follows a different operational path, forcing users to adapt to various user experiences (UX), leading to unnecessary confusion. Providing a consistent user experience across different services can reduce the learning curve for retirees and make it easier for them to navigate the service landscape (Clarke & Craft, 2019).

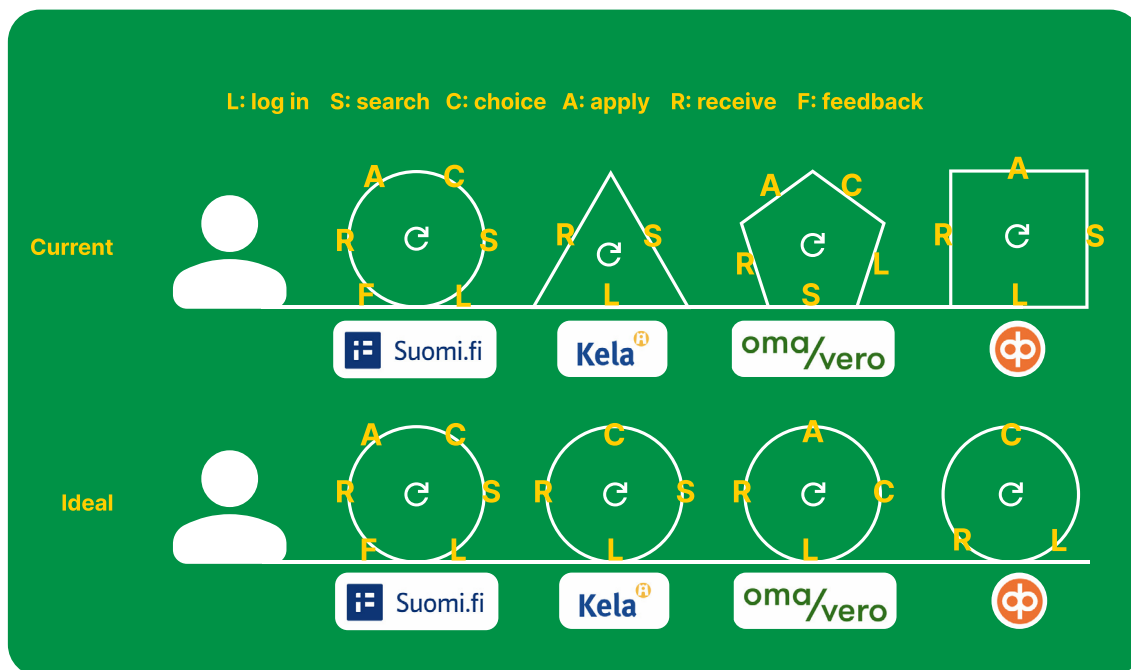


FIGURE 7. Illustration representing current and ideal user Interface and user journey.

“Every service should have consistent and familiar routines.”

– Juha, Interviewee from co-housing

4) Varied Service Offerings: The final area of concern relates to service development and delivery. The inconsistent approach to service offerings often leaves retirees uncertain about the availability of services. We have identified that services rarely approach seniors over 90 years old, and also, for rural areas, there are significantly fewer services available and noticeable.

“There is no institution that listens or reports willingness or needs of elders over 90s.”

– Päivi Topo, Ombudsman for Old Age (Interview 24/03)

The Benefits and Limitations of Standardisation

We interviewed stakeholders at DVV and VM to validate these critical standardisation points and explored the possibility of achieving a dignified retirement through standardisation. DVV responded positively, noting the interconnectedness of availability and ability: enhancement in one area



PICTURE 5. Meeting with Eetu Jokela and Joonas Aitonurmi from DVV.

will likely affect the other.

In conclusion, standardisation can significantly enhance the accessibility and usability of retirement services. However, implementing it comes with certain limitations. First, from our extensive research and interactions with our partners, it has become apparent that a comprehensive, in-depth knowledge of the whole service system is necessary to craft an adequate standard that can be implemented across different organisations.

Second, the diversity of stakeholders involved in the retirement ecosystem, including retirees, service providers, and government agencies, creates challenges.

As each of these stakeholders has unique needs, preferences, and constraints, it makes it difficult to establish a common standard.

Nevertheless, this diversity also presents an opportunity for co-creation, a process that involves stakeholders in the design and development of solutions (Sanders & Stappers, 2008). By involving all stakeholders in the standardisation process, we can ensure that the resulting standards are inclusive, relevant, and effective.

5. Final Proposal

In this section, we will discuss the final project proposal. The proposal aims to solve the problems highlighted in the previous sections by building a practical model to establish the standards with the stakeholders in the retirement ecosystem.

Harmonisation toolkit

We have concluded that the most promising concept involves a process aimed at enhancing the availability of services across the entire ecosystem in a cross-organizational manner. Furthermore, this approach will assist service providers in maintaining a strong awareness of the end-users' requirements throughout the whole digital

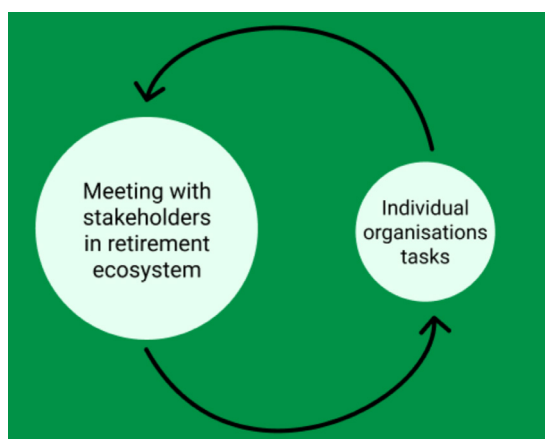
service creation, development, and modelling lifecycle.

The process involves an iterative model in which cross-organisational meetings alternate with individual tasks assigned to singular organisations inside the ecosystem. The purpose is to interact, decide, and develop the decisions individually while respecting the agreements made previously in the intergroup meeting.

To delve deeper into the two major components of the model, the first one entails a meeting where diverse stakeholders who impact the retirement services ecosystem gather. The primary objective of this meeting is to initiate the harmonisation process within the ecosystem. In this context, harmonisation refers to aligning the practices and methodologies currently utilised by organisations designing and delivering services. For this purpose, we created three guides sequentially to foster conversation and guide decision-making moments.

The first guide, titled “Sharing Knowledge,” aims to promote discussion and prioritise the exchange of information, particularly regarding the operational approaches employed by diverse organisations. By facilitating the sharing of methodologies utilised by individual service

FIGURE 8. Iterative working process.



providers, this guide aims to shed light on methodological discrepancies and shared practices within the ecosystem.

Furthermore, it is noteworthy that the discussion encompasses specific subjects. To this end, we have compiled questions addressing pressing issues identified during the research process. These questions pertain to crucial aspects such as involving highly engaged or critical users in service development, fostering collaboration among multiple organisations with complementary services, and identifying common challenges and barriers.

In addition to the questions, we have categorised the critical topics within the system into four areas that require immediate attention and improvement. These four issues encapsulate the problems identified during the research and analysis phase.

In summary, these four categories highlight the critical areas for improvement within the system: service development,

UX and UI standardisation, language and terminology clarity, and harmonised service delivery practices.

When we mention service development, we encompass all aspects of advancing new and existing digital services and exploring ways to enhance the involvement of previously overlooked user groups. Regarding UX (User Experience) and UI (User Interface), we aim to achieve standardisation in the experiences and journeys of digital services. This standardisation ensures uniformity, making the services more user-friendly and easier to navigate. Language and terminology pertaining to the clarity and coherence of the language used within the services. It refers to how easily users can understand the information and instructions provided and the consistency of terminology across the entire ecosystem.

The final point focuses on harmonising service delivery. This entails establishing practices that effectively reach users

FIGURE 9. Table from the toolkit for sharing knowledge between stakeholders.

Sharing knowledge	Service development	User Interface User Experience	Language and Terminology	Service Delivery
How have you considered elderly people in...?	e.g. Participation for mapping needs	e.g. Evaluate and test the efficacy	e.g. Evaluate and test the efficacy	e.g. Feedback from current services and platforms
How have you considered new technology to improve...?	e.g. New type of engagement with citizens through new media	e.g. New way of evaluate and test efficacy	e.g. Sharing data	e.g. New way of evaluate satisfaction
What good practices that satisfy user have you identified for...?	e.g. Participation for creating new services	e.g. Utilizing Senior UI guidelines for web services	e.g. Use selkosuomi	e.g. Engaging caregivers for encountering elders
How have you collaborated with stakeholders in the ecosystem for...?	e.g. Interoperability of new services	e.g. Collaboration with DVV for Suomi.fi	e.g. Utilizing Finnish government glossary created by DVV	e.g. Requesting Kela for redirection to other service providers
Which are the limitations and barriers in terms of...?	e.g. Legislation issues	e.g. Lacking information of standard UI and UX design	e.g. Each organization utilizing different words in same terminology	e.g. Digital literacy among elders

Harmonise Practices	Service development		User Interface User Experience		Language and Terminology		Service Delivery	
How should we consider elderly people in... from now on?	e.g. Participation for mapping needs	How is this enhancing Availability of services and Ability of people?	e.g. Evaluate and test the efficacy	How is this enhancing Availability of services and Ability of people?	e.g. Evaluate and test the efficacy	How is this enhancing Availability of services and Ability of people?	e.g. Feedback from current services and platforms	How is this enhancing Availability of services and Ability of people?
How should we consider new technology to improve... from now on?	e.g. New type of engagement with citizens through new media	How is this enhancing Availability of services and Ability of people?	e.g. New way of evaluate and test efficacy	How is this enhancing Availability of services and Ability of people?	e.g. Sharing data	How is this enhancing Availability of services and Ability of people?	e.g. New way of evaluate satisfaction	How is this enhancing Availability of services and Ability of people?
What good practices that satisfy user should we use for... from now on?	e.g. Participation for creating new services	How is this enhancing Availability of services and Ability of people?	e.g. Utilizing Senior UI guidelines for web services	How is this enhancing Availability of services and Ability of people?	e.g. Use selkosuomi	How is this enhancing Availability of services and Ability of people?	e.g. Engaging caregivers for encountering elders	How is this enhancing Availability of services and Ability of people?
How should we collaborate with stakeholders in the ecosystem for...?	e.g. Interoperability of new services	How is this enhancing Availability of services and Ability of people?	e.g. Collaboration with DVV for Suomi.fi	How is this enhancing Availability of services and Ability of people?	e.g. Utilizing Finnish government glossary created by DVV	How is this enhancing Availability of services and Ability of people?	e.g. Requesting Kela for redirection to other service providers	How is this enhancing Availability of services and Ability of people?
Which are the prior limitations to address in terms of...?	e.g. Legislation issues	How is this enhancing Availability of services and Ability of people?	e.g. Lacking information of standard UI and UX design	How is this enhancing Availability of services and Ability of people?	e.g. Each organization utilizing different words in same terminology	How is this enhancing Availability of services and Ability of people?	e.g. Digital literacy among elders	How is this enhancing Availability of services and Ability of people?

FIGURE 10. Table from the toolkit for harmonising practices between stakeholders.

and consistently seeking feedback and evaluations of the services. The objective is to improve the services based on user insights and feedback continuously.

In summary, the overarching goal of the “Sharing Knowledge” guide is to encourage meaningful dialogue, emphasise the importance of information exchange, and tackle pertinent topics that can enhance development and collaboration within the ecosystem.

The second guide, “Harmonising Practices,” facilitates decision-making and establishes common ground within the ecosystem. The guide fosters stakeholder collaboration, ensuring discussions are centred around future-oriented perspectives rather than dwelling on past circumstances. This shift in focus is reflected in the distinct nature of the questions posed, which seek input on progressing and anticipating future challenges.

An additional modification made was the introduction of the blue columns,

which serve as a visual aid. Each decision made within the ecosystem must be justified by considering how it contributes to improving the two fundamental principles upon which our system is built: the availability of services and the ability of people to utilise them effectively.

The “Harmonising Practices” guide promotes collaborative decision-making and finds common ground among stakeholders. It adopts a forward-thinking approach, with questions focused on shaping the future. Additionally, the introduction of the blue columns serves as a means to align decisions with the overarching goals of enhancing service availability and empowering individuals to utilise these services fully.

The last guide is to remember to decide what needs to be done to improve the ecosystem, make it more harmonious, and clarify who should develop these activities in depth. Then it will be essential to assign roles within the ecosystem to have refer-

Stakeholder Title	Action Decided	Role in the Ecosystem
Who are they?	What are they going to do?	What will they be responsible for?
Who are they?	What are they going to do?	What will they be responsible for?
Who are they?	What are they going to do?	What will they be responsible for?
Who are they?	What are they going to do?	What will they be responsible for?
Who are they?	What are they going to do?	What will they be responsible for?

FIGURE 11. Table from toolkit for making decisions between stakeholders.

ence points and engage with stakeholders who will see themselves as active participants in the change and not have requests raining down from the sky that does not align with the values and obstacles that individual organisations have.

Values

This type of iterative and collaborative approach to achieving a common goal of harmonising an ecosystem brings benefits on many levels. First, there is an optimisation of services that are not only optimised for service providers but are also better for users because they have been able to participate in the design. Secondly, the concept of collaboration allows agreement between different heterogeneous parties without these targets being imposed without prior consultation.

Therefore, it is a moment when organisations can make their judgements and influence the outcome. More specifically, the guidelines are an excellent tool to sum-

marise the critical points of the system that we have identified in the research. Considering them in a structured way during a meeting with the major stakeholders in the ecosystem is a great way to understand how to address them in a shared way.

The Role of DVV

As seen, setting standards is a challenging process, as it necessitates familiarity with the intricacies of each service, comprehension of the unique attributes of every service provider, and an understanding of how they interact within the larger service ecosystem. Nevertheless, our investigation suggests that the Digital and Population Data Services Agency (DVV) could ideally be suited to this role.

Given their pivotal position and broad oversight within the service ecosystem, the DVV is equipped with the requisite knowledge and perspective to facilitate the creation of a standard through co-creation with stakeholders.

As DVV's collaborative and facilitation abilities in designing digital services have already have proven through "the death of the loved one", we propose that DVV facilitates and guides this process and become the owner of the toolkit. DVV can establish their role as creating guidelines and standards for the digital service ecosystem.

5. Conclusion

This project seeks to mitigate the fragmentation in digital services available to retirees, enhancing their overall experience by introducing a co-creation toolkit that facilitates standardization among service providers. By improving both service availability and individual abilities to access and utilize these services, we strive to contribute to a more dignified retirement experience.

An integral part of this initiative lies in effectively engaging public service providers. As this change demands significant commitment at the inter-organizational level, we underscore the need for process owners to interact strategically with stakeholders, ensuring sustained interest and active participation in the transformation.

While our research provides crucial insights, it is inherently partial. Thus we have refrained from prescribing methods for stakeholder engagement. We believe that our partners, especially DVV, with their extensive understanding of the ecosystem and previous collaborative experiences, are better equipped to develop suitable strategies for stakeholder involvement.

The toolkit we've created is intended as a preliminary tool to catalyze the first meeting. The outcomes of this initial gathering will inform subsequent actions.

However, it will be up to the model owner to create and guide the ecosystem with new tools, adapting to evolving challenges and system changes.

While the ultimate implementation is contingent upon DVV's decisions and actions, we have received encouraging feedback from DVV about our proposal. They see potential in the toolkit as is, and it has already sparked discussion about the need to harmonize not just practices but also the end-goal vision, acknowledging that different actors might have varied perceptions of what harmonization and standardization should look like.

One aspect they suggested for further development relates to the technical issues of data flow between different actors in an ecosystem, a vital consideration in any life-event-centred project. While this goes beyond our current assignment and beyond the typical role of service designers, the integration of this dimension in the toolkit could potentially be beneficial for future enhancements.

In sum, this project opens a pathway towards a more unified, effective, and dignified experience for retirees interacting with digital services, with room for continuous learning and refinement as we move forward.

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APPENDIX 1.

Interview Questions

Practicalities:

We speak Finnish during the interview unless the interviewees opt English
Let's present the project and ourselves briefly

Due diligence:

Consent to participate > to sign
Is it ok to do an audio recording, take photos or video?

Over the course of the conversation – we're really interested about "life events" – there are many possible life events also at old age. It would be great if you can write those down right when you remember those, on the post it notes.

1. Your general feelings about retiring?
What's on the top of your mind when you think about it?
What is the biggest change?
What is better?
What is worse?
Did you prepare for it?
Biggest worries?
2. How would you define good life?
And good life at old age?
Is dignified a good word to describe how a good life at old age should be?
Are there other words?
3. Introduce the Having - Loving - Being -model
Do you think this model describes well what constitutes a good life?
We could add some remarks within the model about where different things in your life could sit inside this model?
4. Social networks
Physical
Digital
5. Public and private services
Physical
Digital
6. Life events at old age
Types of them
Services that relate to those

APPENDIX 2.

Insights Explanations

The findings were synthesised to relevant textual insight and opportunity statements.

1. Old people are a heterogenous group

“old age” covers a substantial span of 40 years or more, resulting in a highly heterogeneous group. The grouping of such a large number of years under the same term is an action that is only done in the case of “old age”. Although chronological age has statistical significance, it does not offer a comprehensive insight into a person’s capabilities or experiences. Generalised definitions of old age can inadvertently perpetuate discrimination in how people are perceived and treated.

2. The oldest of all have to be on board too:

The oldest’s experiences and views are likely not to be considered in policy-making, decision-making, planning or development processes. For instance, people over 75 might be excluded as research subjects because they are assumed to be difficult and slow to survey. The viewpoints of the oldest ones should nevertheless be included when making decisions that affect them, and they should be seen as a valuable part of society as the younger age groups.

3. Acquiring sufficient digital skills is a moving target:

Digital literacy heavily influences the digital abilities of older adults throughout their lives. Key factors affecting this

literacy include their level of education and the nature of their work. The digital landscape is in a state of constant evolution, necessitating regular updates to stay current. However, without strong enough motivation, people may not update their digital skills, irrespective of their educational background. Hence, institutions must remember that although individuals may have received digital training before retirement, they might still struggle using the last updated digital platforms.

4. Non-standardised design makes using digital services hard:

Individuals who struggle with digital services encounter additional obstacles when dealing with poorly designed or inconsistent user interfaces across various platforms. These usability issues further hinder their ability to use digital services effectively.

5. Welfare in the old age reflects the course of life in the past:

The course of life in the past is known to determine to a great extent, what is likely to be a person’s situation in old age. The most significant factor that predicts personal welfare is the person’s education, which is also closely linked to their overall activity, social capital and digital skills. In Finland, the most excluded group are men with low education.

6. Life is reassessed at retirement:

The event of retirement can mean a significant change in a person's life, both economically and socially. There are ample opportunities at that life stage for creating a new, purposeful life with elements of deeper social meaning and fulfilment, but this does not happen automatically. It is important for those approaching retirement to reassess their lives, particularly regarding finances and social connections. The sooner a person begins preparing for retirement, and the more time they invest in planning, the better the outcome will be. For instance, a person who has been very committed to their work may find it hard to settle for life as a pensioner.

7. Social participation contributes to a meaningful life:

Participating in social activities, such as interacting with neighbours, joining hobby groups, or volunteering for organisations, can foster a sense of belonging, fulfilment, self-worth, and connection with others. For immigrants, engaging in activities with people from one's cultural background is important.

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