

# **SAfety of elderly people and Vicinity Ensuring – SAVE**



## **Technology Validation Actions – D2.4**



**AAL-CP-2018-5-149-SAVE**

**AAL Programme**  
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**"SAVE"**

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*Tacit knowledge sharing*

*Training & Learning by  
doing*

Services  
Utilisation

### **1. Technological Club definition and design**

Our concept of Technological Club resembles with Ba in terms of the platform for the resource concentration, collecting knowledge from the participants and integrates it for knowledge creation. If Ba is more specific towards creating new value and leveraging the knowledge work especially in the business field, Technological Club aims to develop a physical platform where to gather elders, caregivers and/or volunteers, and/or different new speakers on different domains and to support the following processes:

- **Socialisation** is about sharing tacit knowledge between elders, through physical proximity, in terms of their daily activities, pure experiences, emotions, their own understandings about different aspects of life and society etc., by spending time together;
- **Internalisation**: is related to the knowledge provided by caregivers/volunteers/speakers about the technology to be used, benefits and training approaches for the accepted proposed Services. Hence, the knowledge provided by the moderators is explicit knowledge and needs to be put in practice and action with the devices/equipments in order to be internalised by the elders, namely to be learned.
- **Self-assessment**: the process where elders, practically used the services and devices, within the Technological Club Platform. In this regard, they could use for example:
  - the Choice Reaction Time device and epidermal stress ring to evaluate their reaction time with numerous implications useful for caregivers;
  - eHealth device for measuring biometric parameters in terms of blood pressure, temperature, heart rate, oxygen concentration etc.
  - etc.

### Design of Technological Club:

- i. Shall utilise knowledge, not data or info.
- ii. Even if each participant is unaware, they have their own style to share knowledge. To create Technological Club, it shall be selected domains where the participants' interest interchanges.
- iii. The design of Ba shall create knowledge dynamics, therefore it is necessary to have a moderator or knowledge promoter, as a caregiver or volunteer to interview participants, to visualise their work and living style and conduct Ba design for stimulating knowledge sharing, knowledge internalization and self-assessment processes.
- iv. The baseline of Technological Club is creation of socialisation in order to provide with a relaxing atmosphere where elders will be comfortable to share knowledge and be attentive.
- v. The involvement of moderators (e.g., speakers, volunteers, caregivers) on different fields and services to be embraced will provide with explicit knowledge and internalised (put in practice) by elders when tackling the physical devices.
- vi. The possibility to let elders to self-assess while dealing physically on their own with the devices and equipment's (e.g., eHealth, Choice Reaction Time etc.)
- vii. The 3 main processes (knowledge sharing, knowledge internalisation and self-assessment processes) could take place as follows: successive; simultaneously the first two processes, and afterwards the third process; continuously the first process, while the second and the third successively)

Is Friday, 9:00 AM and Michael, Armand and Beatrice arrived at their weekly meeting at the Technological Club (TC). According to today schedule, the first part of the meeting involves **socialisation**. Beatrice shares with the others how happy she was yesterday, when she turned 68, and received an unexpected visit from her grandchildren who gave her a basket with 69 roses. Michael expresses his concern about the pandemic situation caused by the SARS cov-19 virus, and due to the fact that it has not yet been decided whether to be vaccinated, he would like to receive more information from caregivers in order to help him to make a decision. Armand, who was an epidemiologist, now retired, explains to Michael what the risks are if he is not vaccinated and what are the properly majeures to protect himself from a possible infection with this virus.

The second part of the meeting involves **internalisation**. Clara, a professional caregiver, tells to the elders that today she will present them a device that measures the biometric parameters in terms of blood pressure, temperature, heart rate, oxygen concentration. First, she projects on the TV screen a short film or suggestive animated images showing the easy to use the eHealth device and its components and then shows them the physical device. She explains to the elders, step-by-step, how to use the eHealth device according to the instructions received from the developer and what are the benefits of using it. After, Maria, a volunteer psychologist, presents to the elders a Choice Reaction Time (CRT) device capable to evaluate their reaction time and a smart ring that is able to monitor their stress level. Maria had the wonderful idea to explain to the elderly how to use the CRT device in the form of a game, which can relax them while using it.

The third part of the meeting involves **self-assessment**. Beatrice is eager to use the CRT device, so she asks Maria to assist her. She is amazed of how easy it is to use the device and fun in the same time and, after a few tries she managed to use it without Maria's assistance. Armand and Michael start "playing" with the eHealth device and its components assisted by Clara. The two become familiar with the handling of the device and test its functionality by applying the sensors in order to monitor their biometric parameters.

Beatrice is very happy since she was involved in the Technology Club Community because she is not that lonely as before. The three of them are happy due to the fact that their health is monitored at the Technology Club and her doctor can analyse a detailed evolution of her biometric parameters. Also, Armand, Beatrice and Mihai appreciate that social exclusion was diminished.

## 2. Technology Acceptance Model

### 2.1 Well-being – Technology Acceptance Questionnaire

Senior end-user /Caregiver

**Age:**

**Gendre:**

**Profession:**

The purpose of this study is to design a quantitative approach based on the technology acceptance model questionnaire as its primary research methodology. It utilized quantitative approach based on Technology Acceptance Model (TAM) to evaluate the system of well-being. The related constructs for evaluation are: Perceived of Usefulness, Perceived Ease of Use, Attitude, Intention to use.

Measurement Five-points Likert Scale targets: Strongly disagree 1, Disagree 2, Neuter 3, Agree 4, Strongly agree 5.

<b>Construct</b>	<b>Indicator</b>	<b>Description</b>	<b>Measurement</b>
Perceived Usefulness (PU)	PU1	I consider that the functions of WELLBEING (reaction time measurement) is useful for me.	1 2 3 4 5
	PU2	I consider that the functions of WELLBEING (stress measurement) is useful for me.	1 2 3 4 5
	PU3	Using WELLBEING it is useful for taking me out of the routine.	1 2 3 4 5
	PU4	My interaction with WELLBEING is entertaining.	1 2 3 4 5
	PU5	My interaction with WELLBEING is bringing me more thinking control.	1 2 3 4 5
	PU6	My interaction with WELL-BEING is bringing me more physical control.	1 2 3 4 5

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	PU7	My interaction with WELLBEING is useful in discussing with friends.	1 2 3 4 5
	PU8	Overall, the WELLBEING is useful.	1 2 3 4 5
Perceived Ease of Use (PEU)	PEU1	Using WELLBEING is easy for me.	1 2 3 4 5
	PEU2	WELLBEING device is easy to be carried.	1 2 3 4 5
	PEU3	WELLBEING device has easy to use buttons.	1 2 3 4 5
	PEU4	WELLBEING has visible LEDs.	1 2 3 4 5
	PEU5	WELLBEING has understandable acoustic.	1 2 3 4 5
	PEU6	It is easy to remember how to use WELLBEING.	1 2 3 4 5
	PEU7	My interaction with WELLBEING is clear and understandable.	1 2 3 4 5
	PEU8	Everyone can easily use WELLBEING.	1 2 3 4 5
	PEU9	Overall, I think that WELLBEING is easy to use.	1 2 3 4 5
Attitude (A)	A1	Using WELLBEING is a good idea.	1 2 3 4 5
	A2	It is fun to use WELLBEING.	1 2 3 4 5
	A3	It is great to connect to WELLBEING.	1 2 3 4 5
	A4	Using WELLBEING seems to me a positive idea.	1 2 3 4 5
Intention to use (IU)	IU1	It is true that I will share or continue sharing information on WELLBEING.	1 2 3 4 5
	IU2	I intend to begin or continue using WELLBEING.	1 2 3 4 5
	IU3	I will recommend others to use WELLBEING.	1 2 3 4 5



## 2.2 eHealth – Technology Acceptance Questionnaire

Senior end-user /Caregiver

**Age:**

**Genre:**

**Profession:**

The purpose of this study is to design a quantitative approach based on the technology acceptance model questionnaire as its primary research methodology. It utilized quantitative approach based on Technology Acceptance Model (TAM) to evaluate the system of eHealth. The related constructs for evaluation are: Perceived of Usefulness, Perceived Ease of Use, Attitude, Intention to use.

Measurement Five-points Likert Scale targets: Strongly disagree 1, Disagree 2, Neuter 3, Agree 4, Strongly agree 5.

Construct	Indicator	Description	Measurement
Perceived Usefulness (PU)	PU1	I consider that the functions of eHealth (oxygen saturation) is useful for me.	1 2 3 4 5
	PU2	I consider that the functions of eHealth (body temperature) is useful for me.	1 2 3 4 5
	PU3	I consider that the functions of eHealth (blood pressure) are useful for me.	1 2 3 4 5
	PU4	I consider that the functions of eHealth (pulse rate) are useful for me.	1 2 3 4 5
	PU5	I consider that functions of eHealth (spirometry) are useful for me.	1 2 3 4 5
	PU6	Using eHealth, it is useful with respect to the fact that these measurements reach my caregiver.	1 2 3 4 5
	PU7	My interaction with eHealth is entertaining.	1 2 3 4 5
	PU8	My interaction with eHealth is useful in discussing with friends.	1 2 3 4 5
	PU9	Overall, the eHealth is useful.	1 2 3 4 5

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Perceived Ease of Use (PEU)	PEU1	Using eHealth is easy for me.	1	2	3	4	5
	PEU2	My interaction with eHealth is natural.	1	2	3	4	5
	PEU3	eHealth device is easy to be moved inside the room.	1	2	3	4	5
	PEU4	eHealth device has easy to use buttons.	1	2	3	4	5
	PEU5	eHealth has easy to access compartments.	1	2	3	4	5
	PEU6	It is easy to remember how to use eHealth.	1	2	3	4	5
	PEU7	My interaction with eHealth is clear and understandable.	1	2	3	4	5
	PEU8	Everyone can easily use eHealth.	1	2	3	4	5
	PEU9	Overall, I think that eHealth is easy to use.	1	2	3	4	5
Attitude (A)	A1	Using eHealth is a good idea.	1	2	3	4	5
	A2	It is fun to use eHealth.	1	2	3	4	5
	A3	It is great to connect to eHealth.	1	2	3	4	5
	A4	Using eHealth seems to me a positive idea.	1	2	3	4	5
Intention to use (IU)	IU1	It is true that I will share or continue sharing information on eHealth.	1	2	3	4	5
	IU2	I intend to begin or continue using eHealth.	1	2	3	4	5
	IU3	I will recommend others to use eHealth.	1	2	3	4	5