D2.1 Report on user needs, existing solutions & concepts

Project Number	2018-5-46-CP
WP Number	2
WP Title	End-user involvement, Software concept & Interaction design
Type	Report
Dissemination Level	Public
Version	3.0
Delivery Date	4. November 2019
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Internal Reviewer	Michael Matzner, Youtoo

Version History

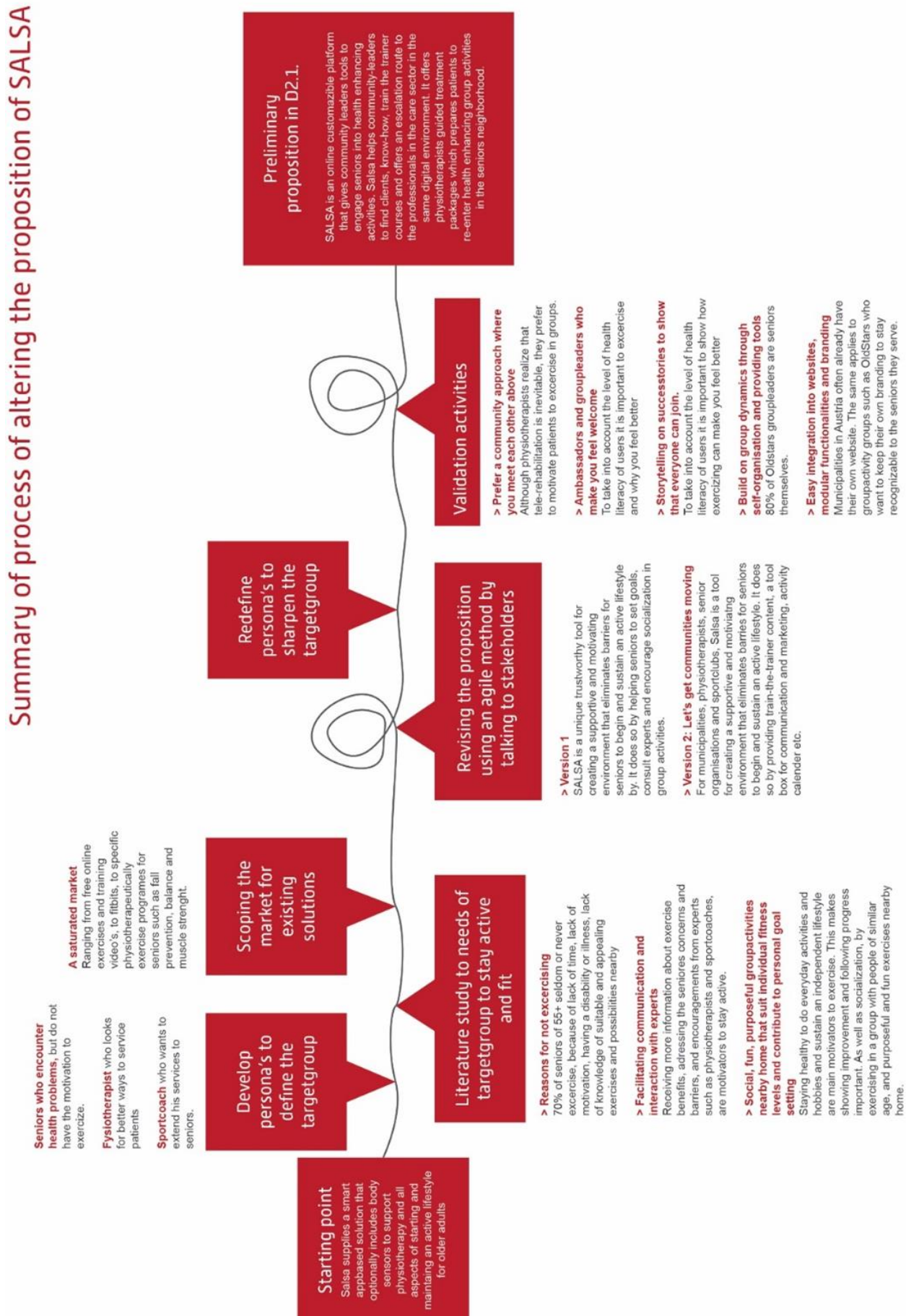| Version	Date	Author	Partner	Description
v0.1	03-02-2019	Nina van der Vaart	NFE	First structure
v0.2	04-03-2019	All	All	Input section 2 and 3
v0.3	11-03-2019	Nina van der Vaart	NFE	Integration
v0.4	11-09-2019	Cheyenne Schuit	NFE	Integration, new set up
v1.0	30-09-2019	Nina van der Vaart	NFE	Final for internal review
v1.1	07-10-2019	Michael Matzner	Youtoo	Review
v2.0	28-10-2019	Nina van der Vaart	NFE	Release
v3.0	04-11-2019	Stefan Schürz	LIFEtool	Adaptions, ready for external release

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1   Summary

As stated in the Description of Work, task 2.1 aims to make use of existing literature and project outcomes to inform the technological set up and specification of the project implementation on the user requirements to stay active and fit. The analysis of existing solutions and concepts includes a literature research and testing of market leading fitness and trainings apps to inspire SALSA software concepts.

This deliverable first provides the personas that were created during the kick off meeting in an interactive workshop with the partners. After this, task 2.1 started scoping and collecting the research projects in the area of supporting an active lifestyle for seniors, deriving the main lessons learned and focus areas for each of the personas in this document. The results of this work can be found in section 3. After that the partners started scoping the market for fitness and training apps in section 4. However soon it became evident that the amount of solutions on the market was almost too much to report on, posing some important questions on the SALSA concept and focus. The partners decided to first start refine the SALSA concept, reinforcing the proposition towards its target groups, obtaining a stronger value proposition for the market. This process and the final results are described in this deliverable, preparing the ground for the further development of the project and informing the reviewers and project officers on the activities done during the initial phase of the project. In section 4 the process of redefinition is described, starting with a brainstorm session between all the partners using an online collaboration tool. Based on the findings and insights from the user needs overview and the brainstorm a new SALSA concept was defined. In an interactive workshop session the Austrian partners made a description of this SALSA concept after which each partner validated the concept in a quick and informal validation process. Based on this validation process the partners held another plenary project meeting where the final value proposition was agreed on.

Although slightly out of line with the task description of T2.1 in the DoW, the partners believe that these activities have finally reinforced the overall project objectives, focusing better on the market and the business potential of the project results and therefore are well justified. By using an agile and fast process, the partners were able to come to a better and more concrete proposition, with already some clear indications towards the business model and finally the market. Fig 1.1. summarizes the main findings of each step to explain how the value proposition changed during the project.

Figure 1 Overview of process of refining the value proposition of SALSA

Summary of process of altering the proposition of SALSA

Starting point
Salsa supplies a smart app-based solution that optionally includes body sensors to support physiotherapy and all aspects of starting and maintaing an active lifestyle for older adults

Develop persona's to define the targetgroup

Seniors who encounter health problems, but do not have the motivation to exercize.

Fysiotherapist who looks for better ways to service patients

Sportcoach who wants to extend his services to seniors.

Literature study to needs of targetgroup to stay active and fit

> **Reasons for not excercising**
70% of seniors of 55+ seldom or never excercise, because of lack of time, lack of motivation, having a disability or illness, lack of knowledge of suitable and appealing exercises and possibilities nearby

> **Facilitating communication and interaction with experts**
Receiving more information about exercise benefits, adressing the seniors concerns and barriers, and encouragements from experts such as physiotherapists and sportcoaches, are motivators to stay active.

> **Social, fun, purposeful groupactivities nearby home that suit individual fitness levels and contribute to personal goal setting**
Staying healthy to do everyday activities and hobbies and sustain an independent lifestyle are main motivators to exercise. This makes showing improvement and following progress important. As well as socialization, by exercising in a group with people of similar age, and purposeful and fun exercises nearby home.

Scoping the market for existing solutions

A saturated market
Ranging from free online exercises and training video's, to fitbits, to specific physiotherapeutically exercise programes for seniors such as fall prevention, balance and muscle strenght.

Redefine persona's to sharpen the targetgroup

Revising the proposition using an agile method by talking to stakeholders

> **Version 1**
SALSA is a unique trustworthy tool for creating a supportive and motivating environment that eliminates barriers for seniors to begin and sustain an active lifestyle by. It does so by helping seniors to set goals, consult experts and encourage socialization in group activities.

> **Version 2: Let's get communities moving**
For municipalities, physiotherapists, senior organisations and sportclubs, Salsa is a tool for creating a supportive and motiviatng environment that eliminates barries for seniors to begin and sustain an active lifestyle. It does so by providing train-the-trainer content, a tool box for communication and marketing, activity calender etc.

Validation activities

> **Prefer a community approach where you meet each other above**
Although physiotherapists realize that tele-rehabilitation is inevitable, they prefer to motivate patients to excercise in groups.

> **Ambassadors and groupleaders who make you feel welcome**
To take into account the level of health literacy of users it is important to excercise and why you feel better

> **Storytelling on successtories to show that everyone can join.**
To take into account the level of health literacy of users it is important to show how exercizing can make you feel better

> **Build on group dynamics through self-organisation and providing tools**
80% of Oldstars groupleaders are seniors themselves.

> **Easy integration into websites, modular functionalities and branding**
Municipalities in Austria often already have their own website. The same applies to groupactivity groups such as OldStars who want to keep their own branding to stay recognizable to the seniors they serve.

Preliminary proposition in D2.1.

SALSA is an online customazible platform that gives community leaders tools to engage seniors into health enhancing activities. Salsa helps community-leaders to find clients, know-how, train the trainer courses and offers an escalation route to the professionals in the care sector in the same digital environment. It offers physiotherapists guided treatment packages which prepares patients to re-enter health enhancing group activities in the seniors neighborhood

2   Target group

During the kick off of the project (February 2019), the partners organized a workshop to define the target group and personas of SALSA. The following personas are the results of this session. A set of personas was prepared, in which some personas from previous research of partners prior to this workshop were integrated as well. These were discussed and adjusted according to the SALSA targets. The personas are adapted throughout the project, according to new insights together with the overall concept of SALSA in a lean design process. The final personas are presented in D2.2.

2.1   Primary target group

Older adults

SALSA focusses on older people that encounter health problems, but want to stay socially involved and want to prolong their time of living independently at home. These older adults may encounter barriers to become more active, such as being less mobile, lower health literacy/lack of knowledge on health and lack of ICT skills. They are not used to exercising and feel less motivated to do so, but others (partner, GP, physiotherapist, sport club) can influence or trigger them with the right message.

Jenny	Behaviours
	▶ Keeps her family together
	▶ Takes care of house and garden
	▶ Likes to bake cakes and pastries
	▶ Rewards herself with sweets and TV series
	▶ Calls her kids regularly
Demographics	**Needs and Goals**
▶ Retired teacher (elementary school)	▶ Problems with back and hips
▶ 72 years old	▶ Needs physiotherapy
▶ Married to Robert, 2 kids	▶ To become more sportive
▶ Lives in a small village in the countryside	▶ To enjoy her "remaining days" in her house
▶ Low ICT skills	▶ Adopt a healthier lifestyle

Marcus	**Behaviours**
	▶ Does not like to exercise
	▶ Spends his days watching TV, soccer fan
	▶ Smoker, suffering from COPD
	▶ "Doctors and therapists are a waste of money"
	▶ "Nobody tells me how to live!"
Demographics	**Needs and Goals**
▶ Retired steel worker	▶ Feels physically limited and ashamed
▶ 75 years old	▶ Wants to meet his grandchildren more often
▶ Divorced, 1 son	▶ Social contacts
▶ Lives in a small village in the countryside	▶ Wants to stay independent
▶ Low ICT and health skills	

2.2   Secondary Target Group

Physiotherapists

A physiotherapist who is open towards trying out new technology and looks for ways to better service his/her patients.

Wendy	**Behaviours**
	▶ Emphatical and motivating
	▶ Sporty and busy
	▶ Likes travelling and dancing
	▶ Loves her job
	▶ Open to new ideas
Demographics	**Needs and Goals**
▶ Physiotherapist	▶ Needs challenges, in private and as therapist
▶ 28 years old	▶ Wants to improve quality of therapy
▶ Single	▶ ICT solutions to improve workflow
▶ Lives and works in the city (own practice)	▶ Tool to improve motivation and compliance for her patients
▶ Good ICT skills	

Trainer or coach

A trainer or coach from a sports club or gym that wants to extend its services to older people, wants to become more age friendly or reinforce their current services for older people.

Fred	Behaviours
	▶ Sporty and ambitious (runs Marathons)
	▶ Politically engaged (local level)
	▶ Proud of his healthy lifestyle (Vegetarian)
Demographics	**Needs and Goals**
▶ Coach in a sports club	▶ Wants to improve and install new services for seniors
▶ 50 years old	▶ Seeks competitive advantage
▶ Married, 1 kid	▶ Tools to improve motivation and support training sessions
▶ Lives and works in the city	
▶ Medium ICT skills	

3   User requirements analysis based on literature & research projects

Based on literature and research projects this deliverable analyses what are the requirements and needs of the different target groups related to the different SALSA concepts. What are the users' preferences, wishes and attitudes related to the use of digital tools to promote physical exercise? In order to answer this question a literature and project study is made in this report. First the study focuses on research around motivation for physical exercise that can provide insights for SALSA. Based on this overview the study goes into the needs and wishes related to digital tools for physical exercise and how they can reinforce the motivations of older people. After this the study goes into different motivational aspects and the wishes and needs of older people related to digital tools that support these motivational aspects, highlighting the needs around (exer)games, social/community services and professional services.

3.1   Older people

3.1.1   Motivation to do physical exercise

A healthy lifestyle improves the level of personal satisfaction and contributes to the development of social relationships and psychological well-being [WHO]. It improves the physical condition: it prevents and relieves many chronic pathologies. Altogether, a healthy lifestyle based on an appropriate program of regular physical activity is the most effective and inexpensive way to reduce the number of older adults who need medical care, impacting positively on public health expenditure and the welfare community [WHO].

Although the benefits of exercising for older adults are clear, the amount of regular physical or sport activities conducted, tends to decrease with age, notably 71% of women and 70% of men in Europe in the 55+ age groups never or seldom exercise or play sports. Even despite a broad variety of available sport programs focusing on older generations, the numbers are far lagging behind compared to younger age groups. The main reasons mentioned by older individuals for not practicing sports are a lack of time, a lack of motivation or interest and having a disability or illness [Eurobarometer, 2015]. Other causes for inactivity that are mentioned are little experience and a lack of knowledge on forms of exercise as well as suitable and appealing exercise possibilities nearby, little support from the social environments and a low socio-economic status with little money to spend [Gruiter, Hermens, 2013].

An important question now is how to effectively motivate older adults to change their behaviors and stay active as they age. Especially those (growing) target groups of older people that are even harder to include (older people from a migrant background, older people with a low social economic status, isolated inactive older people, older people with health problems and those who have never participated in sports and physical activities before). The following presents the needs and motivators for seniors.

Experts

Research indicates that a greater involvement from health professionals such as physiotherapists motivates older adults to attend exercise groups [Lindgren de Groot, 2011]. Receiving more information on exercise benefits and physician or physiotherapist recommendations can definitely be a motivator to exercise [Cohen Mansfield, Marx, Guralnik, 2003]. Healthcare providers or experts are not only important when it comes to explaining the exercise importance towards health implications, and an accompanied instruction. Also recommendations on facilities and gyms and encouragement

from experts are seen as important to stay motivated. Experts can explain why certain exercises are important, and address concerns or barriers elderly experience towards exercise [Philips, Scheider, Mercer, 2004].

Become Healthy

Being able to live at home for a longer period of time is mentioned as an important motivator. The Austrian AAL project Train and Win [http://fitdaheim.com/] affirms this by showing that staying healthy to do everyday activities and hobbies, and sustaining an independent lifestyle are main motivators. This is reinforced by outcomes of the FP7 PERSSILAA project [https://perssilaa.com/], stating that an important motivation for exercising is to stay active to live independently at home. The Philips et all [Philips et all, 2004] states that participants mentioned that they walk every day to be able to play and keep up with grandchildren. In addition, Menec and Chipperfield reinforce the fact that seniors should have an important say in the planning, selection and evaluation of the exercise program, giving seniors a sense of control and autonomy. It is mentioned that this can give elderly a say and can improve their life satisfaction and perceptions of their health [Menec, Chipperfield, 1997].

Social support

Other research has found that older adults are more likely to stick to exercising when they can do this together with people of a similar age. If the environment is set up so participants feel a sense of connection or belonging with other people, they are more likely to stick with it. Researchers indicate that these strategies would also be easy to implement in physical activity centres such as community centres, fitness clubs or retirements communities to help encourage adherence to exercise [Beauchamp, Ruissen, Dunlop, 2018]. This is also confirmed by research from SALSA partner NFE among its senior panel (=2700). Among the respondents 30% thinks social contacts are an important motivation to engage in physical activity and 55% of the respondents think their contacts in sports activities are important social contacts for them (NFE, 2017). Also the European research project PERSSILAA [https://perssilaa.com/] concluded that social aspects in exercising are important for older adults. Stimulating each other during exercise and physical activity helps people to exercise longer. However, doing sports together can also be a barrier for people to engage in sports when there is no one they know they can do this with [Tiessen, van den Dool, 2014]. Also older adults who are new to exercising can often feel intimidated by fitness facilities and group exercise settings [Costello, Kafchinski, Vrazel, 2011]. The Oldstars project therefore reinforces the importance of providing a warm welcome by coaches by imbedding this in the initiatives structure. Research confirms this, as participants also mention that the staff are important motivators as well. Staff could establish personal encouragement, education and knowledge. [Costello, Kafchinski, Vrazel, 2011]. The role of a trainer is thus very important, providing safety and security and reacting to specific needs of older adults [Gruijter, 2013].

Programming and location

Programming must be varied, fun and social. Both active and inactive persons share motivators such as maintaining health and socialization. However, inactive persons also mention that physical activity should be purposeful and fun [Costello, Kafchinski, Vrazel, 2011]. In addition, accessibility plays an important role. Older people prefer physical exercise close to their home. With a variety of choice in days and times to be active. The location should provide enough space and tranquillity (Gruijter, 2013). The possibility to train at home with no need for travelling is especially a good solution to stay active for less mobile seniors [http://fitdaheim.com/].

3.1.2   Needs and wishes on digital tools to support physical exercise

What do older people expect from digital tools for physical exercise? What are their needs and wishes? Do they expect to receive instructions and trainings? Feedback and data or more motivational support and options to play together?

When we look at the needs and wishes for technology we see a wide variety of different needs, we will highlight some of the main findings from research projects here.

Communication, information and scheduling

In the first place, according to the Rehab@Home [link] and PERSSILAA project [https://perssilaa.com/], needs of older people around physical exercise and digital tools focus around functionalities that facilitate communication and interaction with experts (mostly physiotherapists), sharing results, receiving information, instructions and schedules for exercises and the impact on their health.

Besides this it is important to receive online instructions and guidance, but also to be able to skip instructions when a user is confident and doesn't want to be bothered with large introductions [http://fitdaheim.com/]. When using health records to assign exercises the privacy concerns are of course important to address [https://www.patientslikeme.com/].

Goal setting, progress and feedback

Many projects focus on providing online exercises and training. A variety of these projects indicate the importance of goal setting or a challenge to provide a sense of achievement in exercising [http://www.entertrain-project.eu/]. Linked to this is also the importance to show improvement and follow progress through digital tools every time a person exercises [http://www.aal-europe.eu/projects/join-in/]. Many project outcomes also reinforce the importance for older people to link these challenges, progress and feedback to real life to make it more motivating (e.g. grocery shopping, walking stairs, cycling) [http://www.entertrain-project.eu/]. Thus the digital training should go beyond a disease oriented perspective and focus on maintaining an independent lifestyle [https://perssilaa.com/]. Exercises should be adapted to the level of the user and personalised training programmes are required [https://perssilaa.com/ http://www.entertrain-project.eu/ http://fitdaheim.com/]).

Social and fun

About the social element in digital solutions, the project research is not conclusive. From Entertrain research it was concluded that for many people the social element is very motivating, however others prefer to keep their own pace and exercise when it suits them best [http://www.entertrain-project.eu/]. The Join-In project focuses very much on the social element as a motivator for exercises [http://www.aal-europe.eu/projects/join-in/]. The 'Train and WIN' project states that a comparison or challenge with other users is not so important, however it does not say anything about exercising together http://fitdaheim.com/. Rehab@Home states that online social networks can play and important role in social pressure to increase motivation and provide encouragements from peers, especially if they are people with the same health issues, providing also a chance to exchange experiences between each other and to meet their specific needs. This is confirmed by other research, stating that exercising with peers with a similar condition can contribute to feeling of reciprocal connections with others [Prevc and Topic, 2009].

Examples mentioned are the PatientsLikeMe and Daily strength social networks, which are websites where members with specific diseases can exchange experiences with treatments.

However, for others that are more reluctant towards social media it might be a barrier.

All projects are conclusive on the importance to have a technological solution that is fun and avoids boring repetitious exercises. A variation of online exercises is important which also provide clear instructions and some vocal motivation [Fasola, Mataric, 2012].

Gaming functions

The PERSSILAA project states that not all older adults are intrinsically motivated to play games. The project highlights the importance to connect the training and games. Besides this it should always be evident for the user what they are training for [https://perssilaa.com/]. Also 'Train and Win' mentions that explaining the benefit of exercising is more important than the game during the training [http://fitdaheim.com/]. Entertrain seems to confirm this aspect, stating that the group of 65+ didn't perceive themselves directly as the target group of the Entertrain exergame. The project results indicate that games should not be childish or too simple and that participating seniors especially appreciated games that are linked to real life (walking, riding bicycle, painting or cooking) [http://www.entertrain-project.eu/]. The Safe Move project indicates that a mixture between physical and mental exercise provides a fun challenge for seniors [http://www.aal-europe.eu/projects/safemove/]. This was also confirmed in the Entertrain project, where mental skill training was considered as interesting by the target group when testing the exergame [http://www.entertrain-project.eu/]. In the Oldstars Starting Course this is part of the information that OldStars trainers receive. During this course OldStars trainers also get inspiration of how you can integrate the frequent repetition of names in the exercises like throwing a ball and naming the person you are throwing it to as a mental exercise.

3.2   Physiotherapists

Compared to the vast amount of research done on the needs of older people, relatively little has been found on the needs of physiotherapists related to online exercise programmes in prior research projects. The REHAB@HOME project states that according to physiotherapists the main challenge of a digital solution is to retain satisfied customers over time. Therefore, it is very important that exercise programmes are designed specifically for a specific disability or disease, making it more interesting and directly related to the needs of a person. The PERSSILAA project states that according to physiotherapists the system should not solemnly depend on the involvement of a health profession to increase self-management and to reduce healthcare costs. Instead the system should require less hours of a professions. Professional support should then be provided as a backup [https://perssilaa.com/].

Other research concluded that physiotherapists often see exergames and digital exercises as an additional tool that will not replace or change any traditional exercise methods [Tobaigy, 2018]. Physiotherapists rarely felt that a gym or a special rehab clinic was a good setting for an exergame. They felt it was more suitable for the hospital and community [Tobaigy, 2018].

'Home' was chosen as the second most suitable setting for exergames. Agmon et al. conducted a study on six older people using exergames at home. They explained that older people felt happy to play with their grandchildren and the authors concluded that "Use of Wii Fit for limited supervised balance training in the home was safe and feasible for a selected sample of older adults" [Agmon et all, 2011]. In addition, van Diest et al. agreed that training older people with exergames at home is

feasible, but these participants would not benefit from the program equally. Most physiotherapists found that balance and weight shifting is the primary exercise type that could be provided by exergames (van Diest et al, 2016]. A device like a Nintendo Wii has a unique tool to assess the balance and weight shifting of the participants, called the WBB. In addition, many studies have shown that participants improve their balance after using exergames. For examples, in post-stroke patients [Lez et all, 2016, Mouawad et all, 2011]] and community-dwelling older people as well as Parkinson's disease patients.

3.3   Trainer

When it comes to the needs and wishes of trainers, very little scientific resources are available. However, NFE as an end user organisation has experience in working with peer to peer (older) volunteer trainers in its Oldstars Walking sports programme [https://oldstars.nl/]. These are most often older volunteer trainers. In the Oldstars Walking Sports programme the trainers play an essential role in making the participants feel welcome. During the starting course specialized trainers give them tips on how to make participants feel welcome and how to make sure that every individual feels challenged. They get tips on special forms of exercising for remembering names and to meet others by for example throwing a ball where you say your own name when you catch it. After a while, everyone remembers each other's name. An expert interview with a professor on adult education of the University Brussel confirms it is extremely important that volunteers and professionals speak the same language as the target group. Seniors therefore often work with seniors. 80% of the OldStars trainers are seniors themselves who started the walking sports club as a civilian, without a sports background. The importance of peer-to-peer is also highlighted by the senior who wrote the blog by stating that senior media, daily newspaper, radio or television and family members do not manage well to activate seniors, but neighbors, acquaintances and friends are more likely to persuade seniors into becoming active. This was affirmed with an interview with a senior for SALSA who explained he joined a bridge club and golf club, because friends asked him to join.

In addition to better understand the perspectives of seniors on this subject, a blog of a senior was read to learn more about the experiences of seniors (https://www.seniorenfreundlich.de/geragogik.html). Although this is not based on scientific research the SALSA partners found his conclusions back in their experience with existing group activities on becoming and staying active.
In his blog the senior mentions that old single people are often asked to join a group, but rarely come. The obstacles to entering a new environment are too big. He therefore suggests to pick them up from home, bring them to the group (club, gym, etc.) and introduce them there. In American churches there is a position of its own for this, the usher, a connoisseur of human nature, who appeals to new people and leads them to a suitable place. Each of our groups, that wants to integrate singles, needs such an "usher", who can also explain the rules of the game and ensure a positive reception (e.g. family members, volunteers, peers, etc.). Because of these barriers it is important for singles that the group does everything to facilitate them to join the group: the "seniors' you", omission of titles, exchange of addresses, wearing of name tags, frequent naming of names, announcement of special activities that everyone can join, they all help to form a group in which people can communicate more freely.

This shows that the pressure of the peer group can be helpful. The senior of the blog writes the following about it: 'If, for example, three friends go to senior gymnastics together, then the chances increase that they will go regularly. Several aspects are effective. So it's fun to meet and talk with your friends and that might outweigh the torture you have with some exercises. Secondly, you feel more committed to going there, even if you don't feel like it. You know from experience that gymnastics really makes sense and that you feel much better afterwards than before. So the peer group helps to

defeat one's weaker self. Carpooling with the group also makes driving back and forth easier. It is much harder to say "no" when your friend is waiting in front of the house with his car.'

4   Refining the SALSA concept

After obtaining an overview of the existing research on needs of older people, physiotherapists and trainers the project partners set forth to scope the current digital solutions that support an active lifestyle for seniors.

There is a very wide variety of solutions on the market, ranging from free online exercises and trainings videos for a wider target group (Fitness Blender, Sweaty Betty, Eldergym) to specific physiotherapeutically exercise programs for older people focusing on fall prevention, balance, muscle strength.

In the area of digital tools for exercise tracking, solutions range from a wide variety of important and world known manufacturers such as (fitbit, Xiaomi, Apple Watch, Samsung watch) etc. When it comes to apps the options are also numerous with most often big companies behind the solutions, such as Nudge, Nike training club, Coach.me, Strava, etc. In the area of games to promote balance and physical exercise you have the Nintendo Wii, but also exergames for physical therapy. Some are (Silverfit, MIRA). One of the main competitors with regards to the idea of supporting traditional physical therapy with sensors is Sword health (https://swordhealth.com/). Please see figure 2 for some example competitors.

After looking more in depth to these solutions and the overall market and its players, it became clear to the partners that the SALSA concept needed further refining. The market is very big, with many important players and the concept of SALSA was not focused enough to define a competitive advantage. Therefore, the partners provided more focus to the project and a stronger proposition to stand out between all these solutions. This section will provide insights in the process and final results of this refined SALSA concept. The report first provides an overview of the different sessions that were organized. Then it provides the new concept that was derived from the brainstorm. Finally, it describes the validation of this concept with some of the main stakeholders in a quick and agile set up of the project with a main focus on the market. The more validated research will be performed in task 2.4 as part of the service model design.
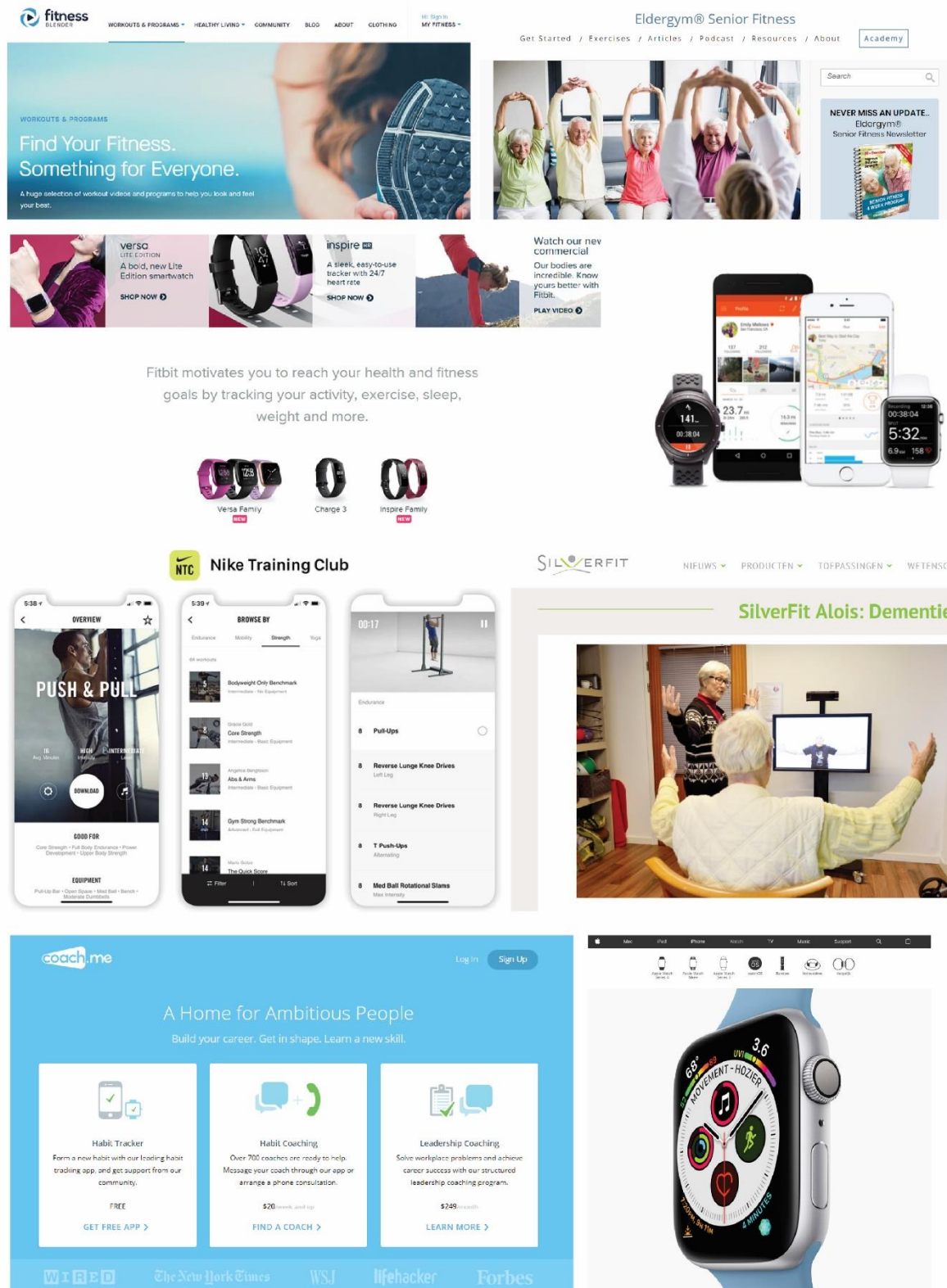
Figure 2 - Examples of competitors

4.1   Brainstorming user needs

Based on the analysis of user needs from the literature a very first brainstorm was organized with the partners using the Miro tool (https://miro.com/app/dashboard/). An online tool to create, collaborate and centralize communication. The main user needs were derived, placed on post its and grouped in three themes, *connection with the real world, social* and *feedback from experts (*4.2*)*. With each of these themes, functionalities and photos were collected by the partners, providing visual and textual ideas and inspirations.
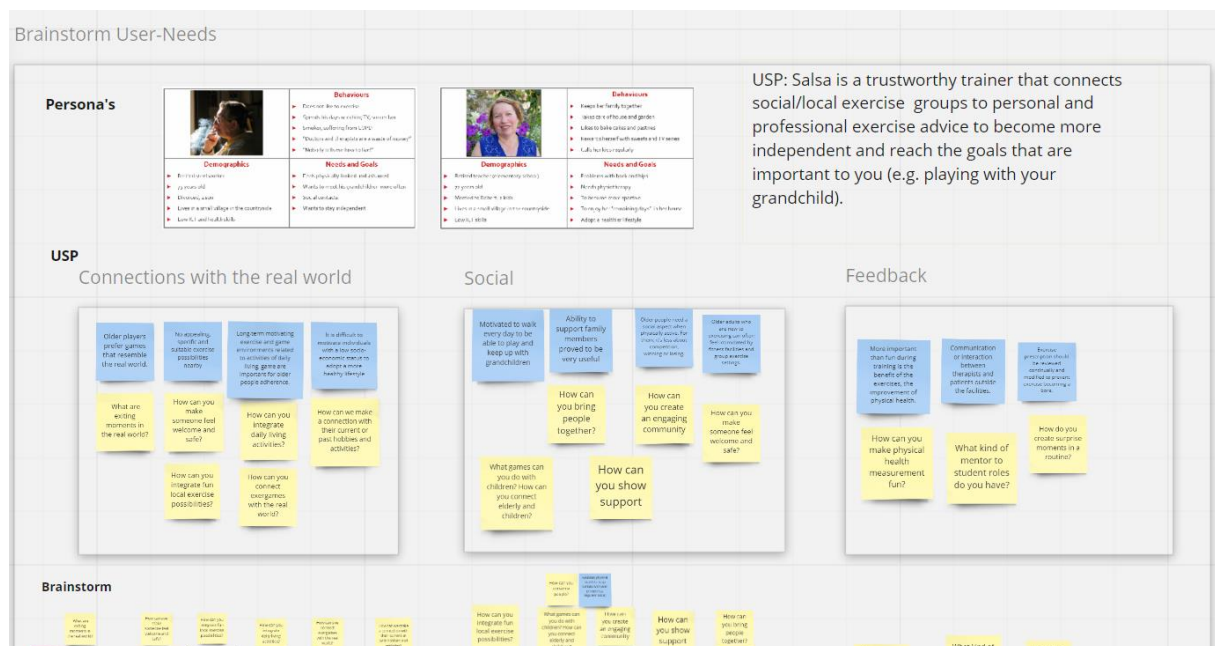

Figure 3 - Brainstorm canvas

As the photos used for this brainstorm were taken from the internet without consent we do not provide them here. Based on this first brainstorm, each partner developed a power point presentation with a proposition from their perspective. The presentations can be found in Annex 1 as well.

4.2   Proposition

Based on this brainstorm and the propositions from each partner, a new online session was planned between all partners to come to a common understanding of SALSA focus. The partners came to the following proposition in this phase:

> ***SALSA is a unique, trustworthy tool for creating a supportive and motivating environment that eliminates barriers for seniors to begin and sustain an active lifestyle.***
>
> This is achieved by addressing barriers, that hinder elderly to exercise: health problems & literacy, fear, weather, time, access, childhood behaviors. Making use of: motivation theory, including experts, fostering socialization & group activities.
>
> The partners reached this USP based on the following insights from the user needs.
>
> - setting goals (I have meaningful goals connected to my real life)
> - consult & involve experts (therapist prescribes exercises, so I do it)
> - encourage socialization (I prefer doing activities in groups)
> - self-determination (I can live the life I want)
> - self-efficacy (I know I can do it)

This proposition is reflected in the following visual (4). This visual demonstrates the main objectives of older people and barriers to an active lifestyle. Influencing factors are demonstrated by three hubs in the circle. The confidence hub, supported by family and friends. The competence hub, supported by an expert or therapist and the social hub, supported by organizations and clubs. The concept is further described in D2.2.

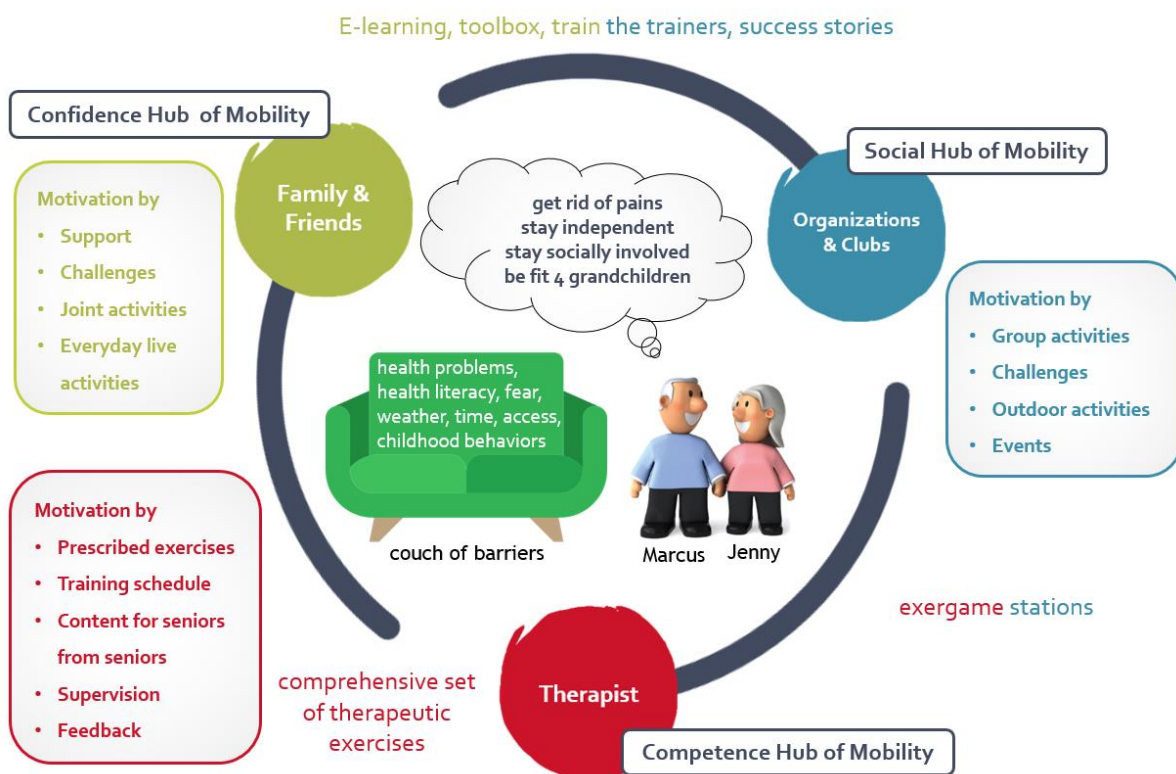*Figure 4 - USP SALSA v0.2 march 2019*

4.3   Product vision board

Based on these insights, the partners came to a new and more refined product vision board, helping to concretise the overall concept towards the market as reflected in figure 5.
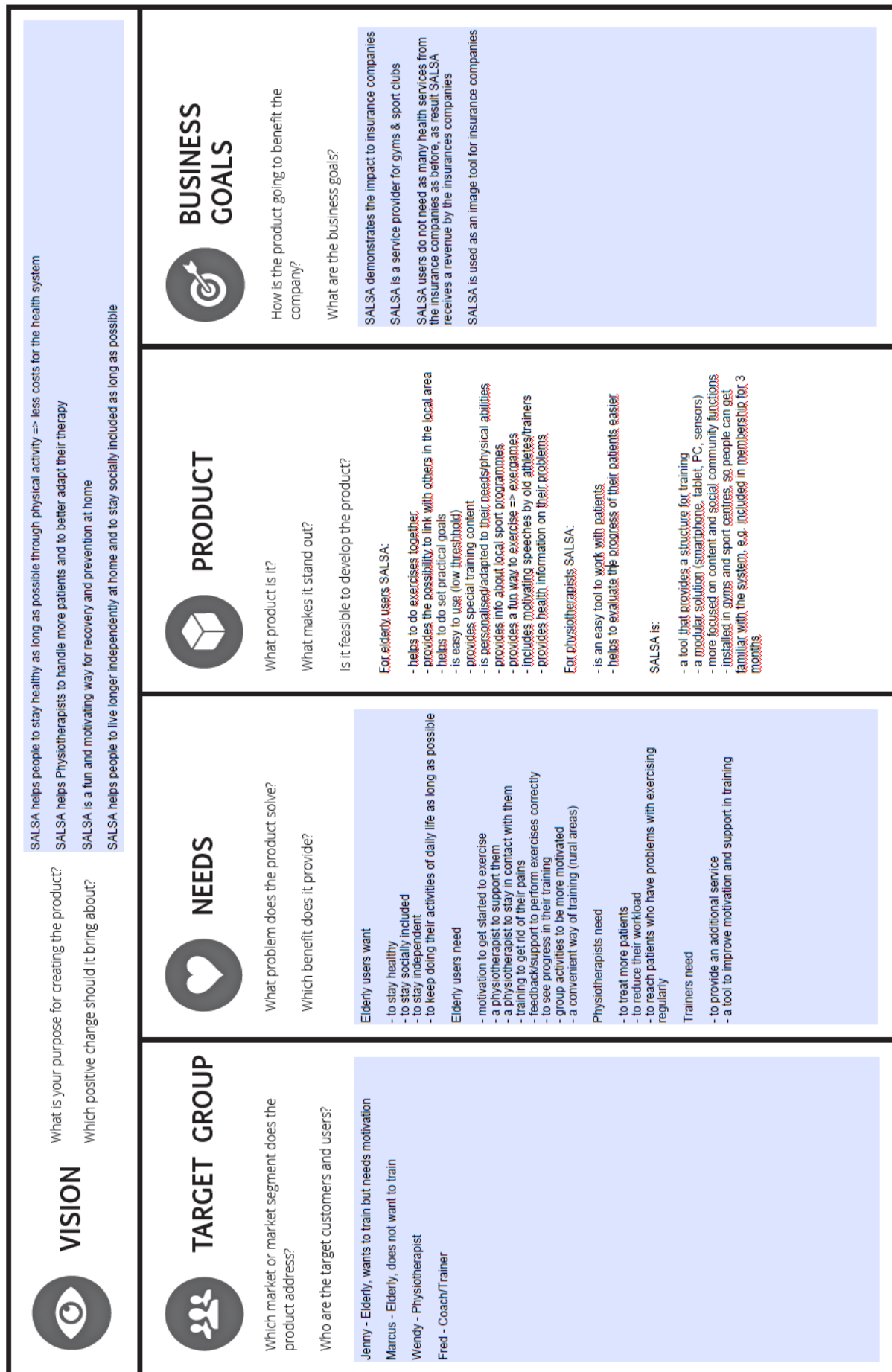
VISION

What is your purpose for creating the product?

Which positive change should it bring about?

SALSA helps people to stay healthy as long as possible through physical activity => less costs for the health system

SALSA helps Physiotherapists to handle more patients and to better adapt their therapy

SALSA is a fun and motivating way for recovery and prevention at home

SALSA helps people to live longer independently at home and to stay socially included as long as possible

TARGET GROUP

Which market or market segment does the product address?

Who are the target customers and users?

Jenny - Elderly, wants to train but needs motivation

Marcus - Elderly, does not want to train

Wendy - Physiotherapist

Fred - Coach/Trainer

NEEDS

What problem does the product solve?

Which benefit does it provide?

Elderly users want

- to stay healthy
- to stay socially included
- to stay independent
- to keep doing their activities of daily life as long as possible

Elderly users need

- motivation to get started to exercise
- a physiotherapist to support them
- a physiotherapist to stay in contact with them
- training to get rid of their pains
- feedback/support to perform exercises correctly
- to see progress in their training
- group activities to be more motivated
- a convenient way of training (rural areas)

Physiotherapists need

- to treat more patients
- to reduce their workload
- to reach patients who have problems with exercising regularly

Trainers need

- to provide an additional service
- a tool to improve motivation and support in training

PRODUCT

What product is it?

What makes it stand out?

Is it feasible to develop the product?

For elderly users SALSA:

- helps to do exercises together
- provides the possibility to link with others in the local area
- helps to do set practical goals
- is easy to use (low threshold)
- provides special training content
- is personalised/adapted to their needs/physical abilities
- provides info about local sport programmes
- provides a fun way to exercise => exergames
- includes motivating speeches by old athletes/trainers
- provides health information on their problems

For physiotherapists SALSA:

- is an easy tool to work with patients
- helps to evaluate the progress of their patients easier

SALSA is:

- a tool that provides a structure for training
- a modular solution (smartphone, tablet, PC, sensors)
- more focused on content and social community functions
- installed in gyms and sport centres, so people can get familiar with the system, e.g. included in membership for 3 months

BUSINESS GOALS

How is the product going to benefit the company?

What are the business goals?

SALSA demonstrates the impact to insurance companies

SALSA is a service provider for gyms & sport clubs

SALSA users do not need as many health services from the insurance companies as before, as result SALSA receives a revenue by the insurances companies

SALSA is used as an image tool for insurance companies

Figure 5 - Product vision board

4.4   Product pitch

Based on these new insights and the previous work and proposition, a smaller group of (Austrian) partners set to work to make a next step in concretising the proposition of SALSA. The partners came to the conclusion that in order to respond to the user needs, the societal challenges around becoming active in later life and the current market, the focus point should be on communities, reflected by the slogan: *Let's get Communities Moving.*

- **What is SALSA?** SALSA is a tool for creating a supportive and motivating environment that eliminates barriers for seniors to begin and sustain an active lifestyle
- **Who is SALSA for?** Municipalities, Senior organisations, Clubs and Physiotherapists who work for older adults 55+.

SALSA foresees two types of paying customers. The first is the therapist that can obtain new revenue streams, find new fields of business, improve his/her workflow with innovative tools and win new patients and publicity through SALSA. The second are those organizations that have to organize sports and exercise programmes for older people as part of their work (the municipality, senior organisations, sport clubs). They can improve their services and connect activity offers for older adults, obtain happier and healthier inhabitants/clients and improve social cohesion in their community.

SALSA will offer community functionalities, including a shop and configurator to set up an own health enhancing community. Functionalities are modular and would include a micro-payment system, paid activity offers, optional tools, sensors and exergames with supporting instructions to set up SALSA. The business model would be based on a community licence price model.

The basis of SALSA will be the Community web, an online website with a public area, a member area, a management area and an expert area.
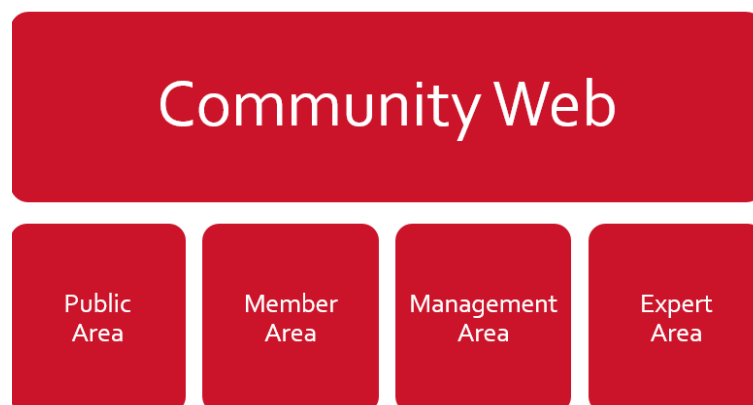

Figure 6 - Concept visualisation of components

5   Validation of the concept

5.1   Introduction

After the redefinition of the SALSA concept, making it more concrete and unique in the market, the partners set forth to validate this concept. A variety of stakeholders was questioned through informal interviews in Austria, Switzerland and the Netherlands, validating and improving the concept further.

5.2   Austria

Stakeholders

In Austria interviews were maintained with the major of a small municipality, a former head of a social insurance association, a physiotherapist, a representative from a volunteer organization, two heads of Physio Austria (the national head organization of physiotherapy) and a professor for sports sciences with research activities in the field of exercise for older adults.

Mayor of municipality

Municipalities normally have their own website for all relevant information, and they are not keen on maintaining another website in terms of content as this brings staff hours and costs. Especially in small municipalities there is no staff available to maintain such a platform. Therefore, SALSA would need to facilitate an easy integration into existing municipality websites. In terms of content it would be mainly a good tool for the local clubs, who would also be responsible for maintaining the content of the website.

SALSA could be a tool to organize the existing "Gesunde Gemeinde' activities in Austria, which is a nation-wide initiative to promote a healthier lifestyle through municipalities. The price of the platform would need to be adapted to inhabitant numbers of municipalities, as smaller municipalities often have little resources. It would also be very important to focus SALSA on volunteers, most often young seniors at clubs. They are often the key to get an initiative running locally, to reach older old seniors and to motivate them to become active.

Former head of a social insurance association

He indicates that in order to reach those people that are normally more difficult to include in sports it is important to take into account the level of health literacy of the users. Story-telling based on individual success stories is an essential part of this, showing why it is important to exercise and why you feel better. In addition, it is important to build on group dynamics, with group leaders and clubs. The best results of health programmes have normally been achieved locally, with initiatives that are backed by majors, local GPs, clubs and volunteers, using a community driven approach. In this sense SALSA could be a very useful tool to bring these stakeholders together and give them the tools they need.

It is also better to work with incentives than with punishments and it is important to not make the programme to specifically for seniors. Nobody wants to be old.

Physiotherapist

When asked about the use of digital tools for physiotherapy she indicates that she prefers a community approach rather than a tele-rehabilitation solution. In Austria tele-rehabilitation is only starting and not all therapists see this as a positive development. However, it will come anyway and physiotherapists should be open and be part of this development. Personally she does not want to supervise her patients and track their performance. She thinks it is ok to use basic exercises at home without consulting the therapist, such as strength, balance and so on. But in case of physical problems it must not replace a proper diagnosis. She would prefer to motivate her patients to do their exercises through groups and would personally be interested to play such a community role as proposed by SALSA.

Representative from a volunteer organisation ULF

She likes the concept of SALSA very much, especially the role of the volunteers and the focus on self-organization. She appreciates and confirms that SALSA should be free for its primary users (older adults) and she would be interested to test SALSA in their initiative project 'Spaller Michl'. She would definitely include senior volunteers as ambassadors for others as they have the best ways to reach their peers and know how to motivate them. She emphasises the connection with events and activities in the real world, so not online.

Professor for sports sciences, University of Vienna

The professor very much emphasized the importance of the community aspect and suggested to build on the findings of the PASEO project (PASEO, 2009 -2011). The task of the PASEO project was to identify existing capacities in 15 EU member states for the promotion of health-oriented physical activities for inactive older people and to identify improvement potentials or to initiate the development of necessary capacities. He also drew our attention to dedicated health sport groups, that are very successful in Germany. These groups are led by experts, like physiotherapists, and target elderly people with health problems after rehabilitation. There are already some similar groups in Austria too, but not nationwide and comparably established. And thirdly he awakened our interest in Gateball (https://bit.ly/2mYWAD6), a very popular croquet-like sport from Asia, which he thinks is perfect for elderly people and has much potential.

Heads of Physio Austria

Immediately after the presentation, both – president and managing director – expressed the wish to have a part in the project. They see their roles as advisors for legal aspects, the development of trainings for elderly volunteers and physiotherapists, who want to lead health sport groups.

5.3   Switzerland

Stakeholders

In Switzerland informal interviews were maintained with several older persons and informal caregivers, one non-profit organisation for older people and one physiotherapist. The idea of SALSA was discussed with help of the pitch presentation delivered by the Austrian partner LIFEtool.

Older people and caregivers

The participants indicated that they like doing exercises outside in the free air. They do not want playing together via an application but coming together with others to exercise and discover an application together. They want to keep their mobility and are very focused on exercises that can be done to keep living independently. Especially exercises that can be combined with their daily routine are suggested to be interesting. Routine and a continuous rhythm within the exercises are considered important. When it comes to gamification mechanism none of them regard this as a useful function. Especially women do not like this mechanism of motivation.

Physiotherapist

The physiotherapist that was interviewed for the SALSA project was quite interested in the programme. She could imagine to use the system during her sessions or recommend it to her patients. Nevertheless, it was mentioned, that monitoring the patients on an app could be very time-consuming. She mentioned that it is very important to go with the time and create an application that can support the users in their daily life but also be aware of too heavy exercises.

5.4   The Netherlands

Stakeholders

In the Netherlands the SALSA concept was validated and discussed with colleagues from the Sportsprogramme Oldstars (https://www.oldstars.nl/). It was presented and discussed with 6 individual older persons. It was discussed with a group of 7 seniors from the Oldstars sports programme, a group of (senior) trainers from local sports clubs and a Dutch cycling initiative.

Sportprogramme Oldstars

The SALSA concept is very much in line with the direction of the sports programme and the further development of the website https://www.oldstars.nl/. Oldstars is a national exercise programme for seniors that is implemented at local level at sports clubs. They indicate that key actors are the local (senior) trainers and coordinators at the clubs. They are the ones that set up the activities and motivate and involve the older people. SALSA should facilitate these local trainers/coordinators and support them in the organisation of the activities, using a community driven approach.

For Oldstars its brand is very important, so for them it is indeed very important that the website has their own look and feel. The modular aspect is very interesting, as this provides the option to add new functionalities as the need arises. Also in the Oldstars programme physiotherapists are important stakeholders. They are often located at the sports club themselves and in some cases also set up a local Oldstars initiative. For them it is a way to promote themselves, find new potential clients and get people motivated to exercise.

Interviews with 6 older persons

The interviewed participants were in general already quite active and participated in sport group activities, such as playing tennis, cycling and rowing. Only one person did not like to exercise, but instead would walk a lot to stay healthy. For the participants, the main motivation to exercise was the social aspect. They want to meet other people and therefore sign up for activities. The second motivation is health and staying healthy. One person got referred from his GP to a physiotherapist

who then also referred to the sports club. Most of the interviewed seniors didn't see the added value of an application or online support to exercise. They felt they could already do what they wanted. Only one person was very interested in receiving online support to do therapeutical exercises. She found the physiotherapist too expensive and was already doing exercises through an online website.

Focus group with 7 persons from the sportsprogramme

The focus group focused on the barriers to start doing exercise, then on ways on how to overcome these barriers and the role that SALSA could play in this. As potential barriers to start doing exercise and sign up for the sports programme the participants mentioned the fear of failing and not wanting to be stigmatised as an old person. They also mentioned that some people might be afraid to sign up by themselves and that many people do not know about the available offer.

In order to overcome these barriers, the participants suggested to have live demonstrations at events and to organize information evenings. They also felt that an ambassador could help, someone who knows how to motivate people to become active. They mentioned that as soon as a person comes by to try, they are usually hooked. Therefore, it is important to invite people to participate to make them feel what it means to be in a sport group. A warm welcome is crucial when new participants come to visit.

As positive aspects from SALSA they thought that SALSA could play a role in discovering which persons from your past are also participating in an activity. This could give people a bit more security when they sign up. Also it would be helpful to get more information on how to stretch properly and check the training with a physiotherapist at the club to avoid injuries. They also felt that SALSA could play a role in providing success stories (e.g. Ajax in Champions League was mentioned as a very motivating example to start playing football yourself again). Finally, they mentioned that it is important to receive information on how to listen to your body, to avoid injuries. They mentioned the importance of mental health in order to stay healthy.

As negative aspects of the SALSA concept they felt that there are already similar application on the market. One user showed his Strava application and his fitbit. They also said that it is important that it stays casual and that sport activities for seniors should not be too heavy or serious with too much training. They stressed that for them it is also about the social concept and not so much about the physical part. Too much information on injuries can also scare people of. There needs to be a balance. They indicated that an application cannot provide the feeling of being part of a team. To accomplish this, you need to meet people in real life.

Two representatives from the exercise programme Fietsmaatjes

We talked with two representatives from a cycling initiative that works across the Netherlands to help older people cycle (https://fietsmaatjes.nl/). They have local volunteer groups working across the country organizing cycling activities with older people on special Duo bicycles. The groups are often linked to a care centre. They are very interested in the SALSA concept and reinforced some of the main aspects. Each local group should have their own environment where the local coordinator (volunteer) can organize the activities (e.g. a planning schedule with who is using which bicycle and with which client) and can promote the group locally. Also online trainings and webinars were seen as very important tools for them (a local coordinator also receives a live training). The local coordinator (very often retired) is really seen as the main user. The other volunteers (mostly seniors) might use

SALSA to see the schedule, make a bike reservation or receive some notifications or e-mails about activities, but there is no interest related to sensors, measurements or challenges. They said that the volunteers are mainly interested in helping the clients. They indicated that the older people (clients, more frail older people) will most definitely not use the platform, maybe in some cases look up some information but that's basically it. They also reinforced the key role of physiotherapists to start up a group and bring people together. In this case they would often work in a care home and promote physical exercise for their clients in the care home.

Trainers sports clubs

On 26 June 2019 a train-the-trainers event for Oldstars Walking Sports was organized by NFE in Eibergen the Netherlands, which was attended by 21 OldStars trainers. A researcher from SALSA joined the session to obtain insights on needs and wishes related to SALSA and to validate the concept. Almost 80% of the trainers were seniors themselves. Some of the issues they are struggling with are related to setting up a new health enhancing training. What are preconditions to turn it into a success, what are good locations. Another aspect was very much about reaching the target group of older people, getting to know the network of local stakeholders and using their own network to find participants and inform them through flyers, local newspapers and live demonstrations. Another important aspect was the communication and organization around a group of people. Scheduling days for trainings, setting up whatsapp groups, organizing small competitions. One of the main worries of the trainers was how to cope with the different medical conditions of the participants and how to arrange issues around insurance and what happens if someone is injured. Another worry was how to keep people interested and motivated to participate on different levels. These are all important issues where SALSA could play a role.

5.5   Conclusion

In general, the validation interviews on the SALSA concept confirm the community driven approach as a main means to motivate older persons in starting health enhancing activities. Also, the role of (senior) trainers or local coordinators was reinforced as a key person and user of the SALSA platform. They are the ones that need tools, training and information to start organizing a local group activity for older people. They are the ones that have the best ways to reach local stakeholders and older persons. On the other hand, the role of physiotherapists was also continuously confirmed as a key expert, as they function as a person with authority who can support, involve and motivate older persons to participate in SALSA.

6   Final concept

6.1   Meeting on value proposition

Based on all the new insights and knowledge from the previously described activities, the partners organized a second plenary meeting in Amersfoort. All partners participated during this plenary meeting. Large part of this meeting was dedicated to finding a common agreed value proposition of SALSA. In addition, the partners drafted in an interactive workshop the first user stories that can be found in D2.2. The following page demonstrates the value proposition of SALSA.

6.2   Final value proposition

Figure 7 - Value proposition graphic

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