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ANIMATE

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D2.3- User Requirements Report

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Glossary

Acronym	Meaning
IC	Informal Caregiver
FC	Formal Caregiver
IC/FC-I	IC or FC: Inexperienced
IC/FC-E	IC or FC: Experienced

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1. Introduction

ANIMATE provides a service facilitating an exchange of knowledge and expertise among younger employees/unemployed people and retired people or workers approaching retirement with the objective of making the most of older workers' experience. Through ANIMATE, a win-win model will be developed where each end-user (company, retired, older worker, young worker, unemployed) will enjoy a benefit, whether it is a new skill, recognition of experience, new contacts and opportunities.

Therefore, this deliverable explores the needs and experiences of these different stakeholders. The users in different countries were involved, as described in "User Involvement Plan"D2.1.

2. Results by Country

One of the aims of ANIMATE project is to provide a platform based on open, flexible and proven service standards. Therefore, since the website is intended to be used by older people, usually with not high ICT skills, setting up a simple interface becomes a need. Such interface shall be easy to use and specifically designed for this population. Thus, in order to ensure the accessibility and acceptance of the service by this public, an incremental prototyping user-centred design will be adopted; enabling to establish a direct contact with the public, already from the earliest stages of the project and incorporate expressed expectations and needs.

The purpose of the User Involvement plan is to outline the internal procedures for each participant of the ANIMATE project ensuring the process is planned, followed and conducted in a systematic way. End-users, which are members of the Thurrock (TCO, UK) and Lleida (IRBLL, SE) community, will be involved in different tasks and stages of the project with the aim of co-designing a commercially viable approach that will deliver the intended outcomes. Namely, the contribution of end users will play a crucial role throughout all phases of the project, being their point of view and their specific needs under continuous analysis. On this purpose, it is necessary to have a wide range of users representing the younger and older generations with a broad variety of skills and socio-cultural differences.

The objective of this part of the project was to conduct the first part of this analysis, in order to assess characteristics, needs and motivations in the population of potential users of ANIMATE; considering all the feedback that may be useful in the creation of the ANIMATE platform. Having two end users organisations involved in the project, first individual conclusions per each country will be analysed. Secondly, the conclusions drawn here comprise the summary of the final set of requirements obtained.

2.1. Spain: Summary of Results

2.1.1. Introduction

The analysis was performed following a hypothetical-deductive scientific methodology. Thus, it had done a background search, as a theoretical framework, from which we had developed a series of individual interviews for each scenario.

The trials were focused on younger and elderly population, that is, the age groups of 20-35 and 55-75; as typically, the age is correlated with the years worked and, therefore, with the level of experience. The chosen scenarios were formal and informal care, as well as the agricultural sector. The criteria for this selection were the huge availability of data, in our region, for these three sectors, in which the knowledge transfer becomes a big issue. The point of inclusion was to have (or to have had)an active working life, to live in the Lleida region and to work (or have worked) in one of each scenario (related to use cases defined in D2.2). Finally, the exclusion criteria were illiteracy and mental or physical illness that prevents them to use the platform or to correct answer the interview.

For choosing them, we recognized the possible influence of demographic factors (sex, age and nationality); physical factors (level of vision and perception, level of motor skills, etc.); mental (personality, attention span, memory, etc.); attitudinal (skill and knowledge in the use of ICT, previous experience, etc.) and attitudinal (motivation for using the program, positive attitude towards new technologies, etc.). Nevertheless, since the objective is to analyse the diversity of thoughts, views and opinions, we will not proceed to the election of a specific sample.

The sample that we analysed corresponds to 20 people: 5 informal caregivers, 4 experienced and 1 inexperienced; and to 15 formal caregivers: 11 experienced and 4 inexperienced. Due to the lack of time, there were chosen by availability, and unfortunately, we did not find any farmer, as it is difficult for us to access them. The recruitment of participants will be done by direct approach within the grounds of the hospital Santa Maria, being entirely voluntary and without benefits.

For its part, the empirical study had been conducted following a qualitative methodology, specifically by a semi-structured interview format. This methodology was chosen because the ultimate goal was to analyse thoughts, views, opinions and perspectives. Thus, a qualitative methodology allowed us a more complete and ecological study of the experiences of careers in the routine contexts. In turn, allowed us not only to know the objective reality but also the subjective, enabling the collection of opinions and points of view.

To carry out the interview, a large list of questions was collected for each one of the scenarios (see D2.1 for details on the interviews) and was tested in a pilot study. This study was made in a sample of four people: 2 formal caregivers and 2 workers, in a written format. With the data obtained, we decided to make some changes. On one hand, we decided to use an audio format, because the writing method obstructed the fluidity of the interviews. On the other hand, we resolved to perform less structured interviews, putting more emphasis on the ability of the interviewer to get the right answers. The reason is that, usually, the respondents answered some questions before being made and didn't respond others despite their formulation. Moreover, the aspects analysed are the same, that is: Motivation to become involved, Perceived Social effectiveness, Technology acceptance, and finally, customization and adaptation.

The final methodology followed corresponds to an open semi-structured interview approach, recorded in audio format. In order to meet the requirements of quality for qualitative research, a triangulation of data was performed. Therefore, the same person conducted all the interviews. Additional person was always accompanying the interviews to control the recordings and scoring additional useful information. Furthermore, two recorders were used to ensure proper data collection.

Meanwhile, having in mind the respect for the ethical and deontological issues, we proceeded to receive firstly, the approval from the Committee of Ethics and Clinical Research (CEIC) and from the "Assistential Ethics Committee" (CEA) of Arnau de Vilanova University Hospital (HUAV), Spain. Therefore, participants were informed firstly of the purpose of the interview and the method of data collection, having always a chance to refuse. Additionally, they were explained and handed over a copy of the informed consent sheet, and consistent with it, they signed their consent.

Furthermore, to ensure the confidentiality of information obtained we proceeded to keep informed consents under lock and to assign pseudonyms with which nobody could recognize the interviewees. No one outside of project was in contact with any data that would allow identification of the participant. In turn, a number of measures were taken to prevent discrimination against participants. These were to encourage equal opportunities for access requirements by avoiding unnecessary inclusion criteria and by the exclusion of illicitly or indirectly discriminatory requirements as sex, age, disability, creed, and political affiliation or trade union organizations, among others.

2.1.2. Background Analysis

Throughout the twentieth century there has been a marked decrease in mortality rates, leading to the increased longevity of the population, and a change in the epidemiology of diseases, such that acute disease decreases against an increase of chronic diseases incidence. This causes that the incidence of people living in dependency has increased greatly in recent decades. For some years now, the World Health Organization alerts of the progressive increase of this state in developed countries. In 2005, it was estimated that approximately 60% of people would suffer some type of chronic illness with a degree of dependence before his death.

Added to that, a change in the concept of health and disease is envisaged. This entails two novel concepts; first, the concept of health as a broader concept than the absence of disease, and second, the bio-psychosocial nature of both health and disease, that is, it is considered that psychological and social factors largely explain many of the diseases of modern society. Under this new conception, health is seen as a positive concept, resource for life and synonymous of physical, mental and social well being, where social and personal resources are emphasized along with the physical capabilities. In this way, the demands on healthcare are rising and the population increasingly seeks interventions, not only to cure and prevent disease, but also to implement health.

The challenges posed triggers the need for greater coverage of health care system, so that we are now in the need to transform and adapt it in order preserve, as far as possible, its quality and efficiency and its values of universality and equity(8). Strategies proposed by the European Union are to promote the prevention of disease and the promotion of health, to promote the intergenerational learning, to give and teach more competences to professionals and to develop new technologies for health.

In this regard, some authors point out a crisis facing the formal care sector in the face of an ageing society, not least because those currently employed in the sector are themselves nearing retirement age. There is likely to be a significant problem as demand for care increases and the availability of careers decreases. Furthermore, this sector corresponds with one in which younger workers need to be recruited and skilled up, and where older workers who face

increasing physical difficulties, have experience and skills to pass on. Unfortunately, in last years, because of factors such as the financial crisis and the reduction of health staff, hiring novice or unskilled staff is uncommon and experienced professionals have increasingly less time to train beginners.

In this point, it's important to create more viable strategies to transfer knowledge between experienced and novices in the formal care sector, where ANIMATE platform can be a good tool. Thus, the idea is to promote older adults teaching their expertise to novices, improving the society through knowledge sharing and at the same time improving their motivation. Moreover, in this process of knowledge transfer, seniors could also have access to new processes; technologies or ways of working provided by the younger workforce, enriching their skills and open their minds to new ways of working. Engaging those who are retired can be also positive, as data shows that occupation has beneficial effects on health and the well-being. In this sense, there's evidence confirming that employed people have, generally, a higher state of mental and physical health than the unemployed or retired one. On the other hand, there is evidence that people who do not remain active after retirement have more health problems.

On another hand, in countries with high coverage of formal services, such Spain, the increase in public spending commented so far can be glimpsed as difficult to meet. Therefore, political leaders view the incentive of informal care as a way to reduce pressure on the public budget (4), so a large portion of the responsibility of care is now turning to patient families. The main feature of dependency care is that is provided over long-time periods, and although isn't very complex in technologies required or in human preparation, involve significant emotional, physical and material costs for those who provide it, representing a major impact on health (3). In general, studies indicate a decrease in quality of life and a subjective well-being and a preponderance of psychological health problems, especially those associated with high levels of stress or overload (11, 23). In this point, some studies indicated that the training of caregivers greatly reduces the stress associated with caring, so that we consider the training of novels can be a good strategy (11).

In reference to ICT services, data background shows that intergenerational learning can be better adding the new technologies. Currently, the network has become one of the largest sources of knowledge in the health sector and is visited daily by both professionals and patients. In this way, the models traditionally established of knowledge transfer have been modified, either by a self-evolving knowledge into a new stage of development, or by a change of habits in human behaviour towards the use of these technologies. By the way, it's broadly recognised that Internet is actually the most effective, accessible, flexible and economical method of learning.

Referring to Internet, studies show that the large body of current content relating to health and care is created by social media applications, that is, they are the users of the network who create content, interact with others and work collaboratively. In this sense the network is a tool that enables a constant knowledge transfer. However, it is often noted the existence of unreliable or false contend in the network, so it's important that governments and the health systems look for strategies to control information network and to enable useful and quality healthcare information. In this social context, we propose the establishment of knowledge

transfer and intergenerational learning web services controlled by competent bodies, so that the accuracy of the information could be ensured.

All the commented makes us optimistic in getting a tool that combines new technologies and intergenerational knowledge transfer, so that we can also obtain the health benefits linked to it.

2.1.3. Informal Caregivers (IC)

We interviewed 5 informal caregivers, 4 experienced and 1 inexperienced. The experienced were 3 women and 1 man, and the inexperienced was a woman. They were aged between 50 and 79, with an average of 65 years old. As we only interviewed one informal caregiver without experience, we decided to make a unique analysis of needs, so we analysed the 5 people at once.

Starting with the residence, all of them are living in Lleida least the one inexperienced that is living in a nearby town. The whole have basic studies, it means, education that was provided to everyone a few years ago, but that not corresponds with any academic certificate. About the caring, all of them are currently caring only one person, but the man had previously taken care of another family members. Three of the women are caring their husbands, and the remaining woman and the man are caring their mother. The both mothers have a high level of dependence, and the husbands are rather independent. In general, all agree that they usually spend a lot of hours daily caring and this affects their private and social life, being worst when the dependent is the mother.

In reference to the help obtained by others they claim not receive barely help of other family members or friends (for ex*. "No, I do it myself. My husband helps me, but you see, my husband it's not as if he ... he has his issues. ", "Yes, you see, I have a sister but... That is why I brought them because she said she couldn't…She didn't ... She didn't want to take care of anything, she said she would go home to visit them, and that I already ... "* - AAL, woman, 55, caring her mother), and although they have some kind of formal help, they see it as a support, not as a solution (for ex. *"Then I have three days a week they come to bathe him and they bathe him and that's it, and everything else, I do it on my own, all day "," Well look, that day I don't need to do it, in the morning, because at night back again, or afternoon, it depends"*- ZZA, woman, 81, caring her husband). Even so, they ensure that formal assistance provided them learning about how to perform the care *(*for ex."***And were you taught to make postural changes in bed?** *Yes.* ***To stand them?*** *Also.", "I guess so ... You see, usually when you are in the hospital, and... when you're going to go home, and then they tell you: Do this, do that ... I mean, more or less. And when the nurse comes home a little bit also...* "- AAL, woman, 55, caring her mother).

In relation to the motivation of learning, they confess us that they wouldn't conduct trainings right now (for ex."*No, yes, let's see, I'll tell you one thing, in CAP sometimes they have placed some placards of some... I neither... haven't gone*." - AAL, woman, 55, caring her mother) mainly because they don't perceive the lack of knowledge as a barrier or difficulty (for ex. "*That... I don't know... I do it my way, and I manage it."* - PEPA, woman, 79, caring her husband) or because they believe are sufficiently trained as they had cared people for a long time (for ex. "*No, because I already had taken care of my mother and my mother in law"* - ZZA, woman, 81, caring her husband).

On another hand, they are not motivated at all to teach others (for ex. "*I don't know ... but I don't know ... because listen... to say if I will do that, or I will do... I don't know. I always go on the fly [laughs], always, always I've gone on the fly."* - PEPA, woman, 79, caring her husband), although they consider it positive and helpful (For ex. "*Yes, I might like. Man helping always ... always like. If… maybe a little, to give help and to give things, that's fine"* - ZZA, woman, 81, caring her husband)

Finally, in reference of ICT, they ensure that they wouldn't use it(For ex.*"No, no. I would like if they come and explain it to me better.* ***In person?****Yes*." - PBS, woman, 59, caring his husband) because they are digital illiterate *(*For ex.*"I neither use computers ... I am a… [laughs] "," I'm ... computer, if I have to use a computer, I'm completely void. I do just enough, the phone, just enough, calls and… "* -AAL, woman, 55, caring her mother)

2.1.4. Formal Caregivers: Experienced (FC-E)

In this case, we interviewed 11 formal caregivers experienced, only women, aged between 55 and 66 years old, averaging 57 years old. All were working but one that is already retired. Concerning the academic background, only one has a vocational higher level, corresponding with a woman who works caring children with disabilities. The other 10 have the nursing higher education degree, and four of them have completed also some master in the matter. The educational background is presented in the graph below.

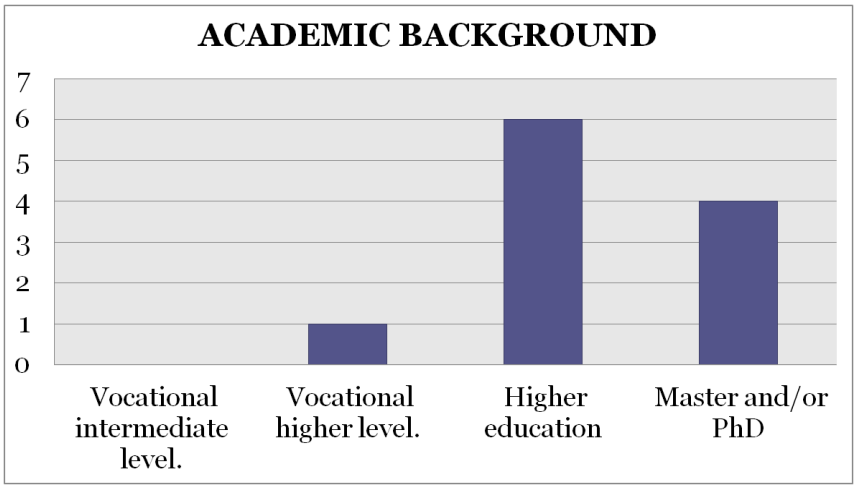

Figure 1 Spain: FC- E Participants' Academic Background

About the seniority in the current workplace and in the profession, they have worked, on average, 35 years in the profession, and from 2 to 27 in the current workplace. Data allows predicting that all of them have a lot of experience right now. You can see the seniority in the current workplace and in the profession in the graph below, where all nurses were analysed:

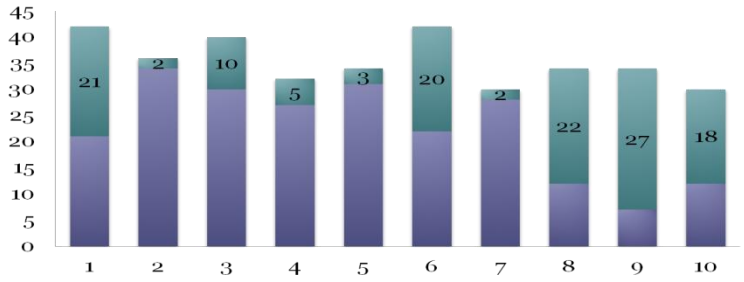

Figure 2 Spain: FC- E Participants' Seniority in the Current Place (years)

About the use of ITC devices, all of them use some type of device frequently. The most commonly used are computer and mobile and the more unknown is the tablet. All of them use the computer in the workplace; therefore use specific programs of the profession. Generally, have been using the computer for more than ten years ago and use it daily. Commonly go online to check the email, to find information about something or to unwinding. Many of them also have social networks like Twitter or Facebook, but very few make videoconference or purchases online. They also use the mobile daily, and the most have Internet there also, usually used to check the email and to use social media like WhatsApp, and occasionally to check things on the net. Only one looked at pages online for work and got none for that method.

About the level of experience using ITC devices, we can say that they have great level. But although the most have used those devices for more than 10 years, only 2 believe that have broad proficiency. Other 7 consider they have in-depth knowledge, and the other two consider they have a functional one, it means, they know enough to use it, but it's all. In the graph below you can see the perceived level using ICT devices:

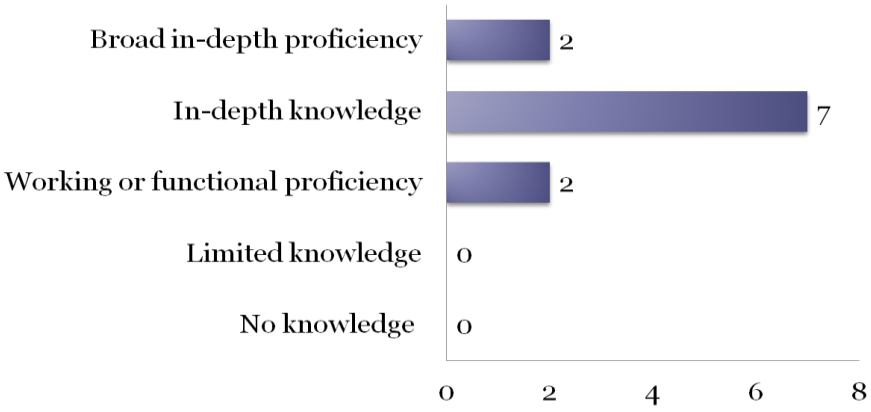

Figure 3 Spain: FC- E Participants' ICT Experience Level

About the training when they started working, they indicated to have had a good transfer and a more than adequate access to practical training (For ex. *"No, because eh ... time before practices was very different from now... I spent… classes in the mornings ... and in the afternoon practices, all the year. I mean, I did 3 years of internship ..."* - LLA, woman, 55, nurse in an urology cabinet). They related, also, that as it was a need of formal care staff, they began working immediately after completing their studies (for ex. *"Newly finished.. I ended here in June ... I went here and then I started ... that was ... 15 days after that had ended. , "When I started*

working was no working problems as now, I ... wanted me everywhere." - TTA, woman, 66, Retired), so they considered themselves very well qualified (for ex. *"Well trained, furthermore, I remember it with a lot of prestige, we had a lot of prestige in the hospital and around Lleida."* - SSA, woman, 63, social work) and they received a lot of support of both the organization and the other staff(For ex. "*Effectively my teammates lend me a hand when I started in internal medicine. Of course yes."* - AMJ, woman, 55, health education).

Regarding the motivation of learning, they think they should learn many things (for ex."Every day, we have to learn every day. Always..." (AA, woman, 55, nurse in mental health area), but it's not an agreement about learning via Internet, so that some of them consider it as a good method (for ex. "*If I understood the question… if I use new technologies? I can tell you yes, and online courses I have done a few, yes… a few ... yes, yes."* - SSA, woman, 63, social work) and another ones didn't consider it (For ex. *"**Would you do the training via the Internet, online?**No. **No? Did you in person?** Personally **OK.** Online you can make a course, that's fine, but I learn more with people. [...]. I think that verbal education, talking with colleagues, that ... to share experiences together, you acquire more skills than to be on the Internet, in a box there..."* - AMJ, woman, 55, health education). Anyway, they all agree in considering the Internet as very useful tool and all of them use it currently.

In reference to knowledge transfer, some of them point transfer problems in the sector (For ex.*"Time before, we tried to go with the new people, at least in the service I was, was always one old and one young, to teach it, and of course ... It was essential to teach them. Now, time doesn't allow it."* - LLA, woman, 55, nurse in an urology cabinet), and although they think novices are highly skilled, they consider that they aren't enough prepared for professional practice. (For ex. *"What I said is that they are not enough trained in the issue of everyday patients, in technology a lot."* - TGN, woman, 56, nurse). For these reason, they think that the guidance and advice from qualified professionals is fundamental.

Regarding the motivation about teaching, all are willing to train novices, because that would make them feel useful (For ex. *"I mean, much also depends… if is someone who likes teaching and likes to transmit it, you know, a little satisfaction ..."* - LLA, woman, 55, nurse in an urology cabinet). Also, exchanging knowledge looks very positive (For ex. *"Yes, and catch all the best for the other. Of course… why not?"* - AMJ, woman, 55, health education) and they think they can learn a lot from them (For ex. *"Yes, of course. I teach them and I learn a lot from them too, huh? There are techniques that they teach you, and you say: ah, looks good, and I like it..."* - TGN, woman, 56, nurse). But it must be said that most of them wouldn't want to train novices after retired (For ex. *"No. I think when is finished, just is finished. Things have to start and have to end and I think at 65, I hope earlier, you don't give the 100%."*- AMJ, woman, 55, health education).

Finally, regarding the way of teaching, the majority believes that the best one is by attendance, and they don't like at all online learning (For ex.*"I think the computer tools are very useful, but in our profession it is crucial to see people individually"* - LLA, woman, 55, nurse in an urology cabinet) but they agree to combine both techniques (For ex. *"Yes, then yes. Because online only ... not because I've done many things online, the truth is that you don't put the interest ... if not ... you don't put the interest"* - RCA, woman, 57, responsible of infection control).

2.1.5. Formal Caregivers: Inexperienced (FC-I)

Four experienced formal caregivers were interviewed, all woman, aged between 21 and 24, with an average of 23 years old. In that moment, all had the nursing higher education degree, and were working as nurses. All of them started working in the last year and, although three of them consulted online pages to get a work, none of them obtained it for that method.

About the use of ICT devices, all of them use all types of devices daily. They normally use the computer at work and the laptop at home, and they used them for everything. They use the Internet daily and they use all the resources of the network: email, social media, videos, movies, and so on, but like the older, they very few make videoconference or purchases online. They use the mobile all day and all have Internet there, usually to check the email, to use social media, to check things on the net or to use apps. As can be seen in the graph below, all but one consider to have broad proficiency using the network, and they feel highly trained to use it in all aspects.

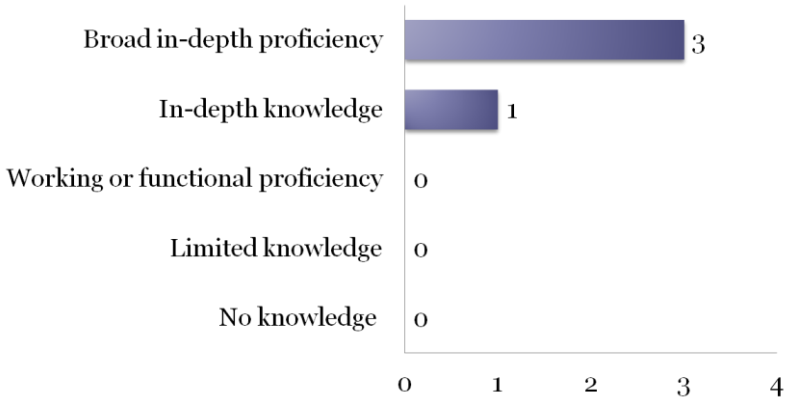

Figure 4 Spain: FC- I Participants' ICT Experience Level

Regarding the learning received when they started working, they claim they received little initial training (For ex. "*They told me I could came to do practices everything I want for a week, They have advised me to come all hours possible, which is what I did …and maybe I started practices on a Tuesday and in Saturday I started working."* - OTB, woman, 23, nurse in intern medicine area), and because of that, at the beginning they didn't considered themselves enough skilled for the work and were very unsafe*(For ex. "I think I had never been so nervous before. Because I was afraid… because I am super nervous ... and, now I no longer know how to do anything"* - OTB, woman, 23, nurse in intern medicine area)*.*

Because of that, although they consider they received support and advice from workmates,(for ex. "There's everything, like everywhere [laughs] ... but in general yes. Here in Santa Maria yes. They've helped me a lot, haven't bothered, normally." - OTB, woman, 23, nurse in intern medicine area) they believe that the lack of knowledge and experience in novels is a difficulty that should be solved(For ex. "The registers, for example, when you are a student they didn't explain you" - CCZ, woman, 21, nurse in MCH area).

Regarding the knowledge transfer, they are very motivated for learning new things (For ex. *"Yes, because ... Well, you are receiving extra training, a part of the 4 years degree, and it's well ... It's always well to be more prepared."* - CCZ, woman, 21, nurse in MCH area) and look positive to the fact that more experienced caregivers teach them(For ex. "*Yes, of course, because a person who knows what is talking about and then… after working all his life... it would very useful. Well, I mean, it's experience and you're not going to find it in the books, is much more useful."* - MZU, woman, 23, EIR in mental health)

Finally, regardingthe ICT method as the one for knowledge transfer, although they continue preferring the attendance training, look kindly the online one (For ex. "Oh! Yes, but I think ... well maybe I prefer personally... but well I studied many times online and it's just as good ... you get the same knowledge… all depends on you but well, is positive." - CCZ, woman, 21, nurse in MCH area), so it seems to be a great acceptance of network as a tool for training.

2.1.6. Spain: Conclusive Remarks

Interviews and analyses conducted with informal caregivers make us think that this scenario won't be wellacceptedin to the ANIMATE platform. It is because they have a low motivation to transfer knowledge, both learning and teaching. Meanwhile, the digital literacy is a major impediment that must be considered. At this point, we should expose sample limitations – the sample size is too small to conclude that an informal caregiving sector isn't able to use the ANIMATE platform. However, based on the results we argue that we need to create a simple platform, which allows people with very poor ICT skills use it.

Furthermore, we received very positive feedback from the formal caregivers. They both show great motivation to share knowledge, to learn and to use new technologies. Still, it's necessary to create strategies to customize the transference treatment, finding unanimity of opinions in reference to the need of a personal or a direct contact. Regarding the Internet benefits, we found that scope, speed, availability and adaptability are the key issues of network that makes them useful compared with face a face one, against distrust and information search difficulties, that are the main disadvantages. Finally, in relation to the user requirements, the caregiverswould prefer a simple, well structured and with easy navigation platform which a lot of interactivity and preferably designed with light colours and with support for extensive images and videos. For its part, they claimed the existence of a controlling expert support documentation as well as a technical service available. Regarding the tools which must be included in ANIMATE, they agreed to use those more in line with demand, and in general all of them are well accepted (text, images, forums, blogs, etc.).

2.2. UK: Summary of the Results

2.2.1. Informal Caregivers: Experienced (IC-E)

Thurrock interviewed 8 informal experienced care givers. All care givers were female and aged between 40-80 years. Majority of the ladies interviewed where at the higher range of the age spectrum.

The end users interviewed lived in Thurrock and cared for a Thurrock resident, a minority had recently moved from other local boroughs (2) although most had lived in Thurrock for many years.One experienced carer, the youngest had a formal qualification that of a NVQ in

management. The other carers had attended today's equivalent of a UK secondary school, leaving at the age of 14/15 with no formal qualifications. Some had worked during their lives, while others had remained housewives.

All experienced carers interviewed were caring for one person, which were predominately their partners or husbands. One Carer cared for her neighbour and all cared for persons had a formal diagnose of Dementia. They had been diagnosed for 4 years or more.

During a normal day the carers' time spent performing their role varied (figure 5) and in reflection the tasks that they performed also varied. Majority reported completing the following tasks on a daily basis; - meal preparation, cleaning, washing, shopping, prompting and offering support. Two experienced carers supported with personal care, which may have included washing and dressing.

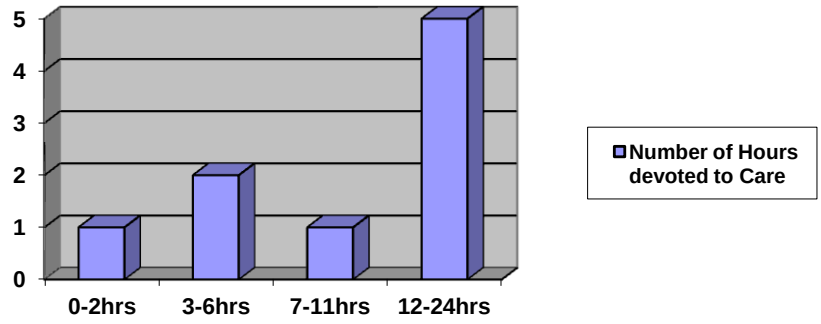

Figure 5 UK: IC-E Participants Number of Hours Devoted to Care (Daily)

Three of eight experienced carers explained the main barrier that they had to overcome included performing daily task's previously performed by their husband, such as driving, budgeting, paying utility bills and basic DIY. While, one carer who supported her neighbour found not being the next of kin her major barrier. This had resulted in her being unable to complete he role. All carers stated that their lives had been affected by becoming a carer, with few having some free time. The free time was associated with the tasks that they performed. Carer's who provided more intensive support had limited free time. *" My life has changed, my husband is now my priority"* – PC, 73 caring for her husband

Some carers received external support from professional carers. Three quarters found this support invaluable while others (2) reported it as a hindrance. This barrier, they felt included not performing tasks or attending the home in a way that was not deemed appropriate by the carer – at a time that suited them. All had reported that the cared for person did not see this issue as a barrier. "*They visit my neighbour at 9 to give him his breakfast and again at 11 to give him his lunch, 3 for his dinner and 7 to put him to bed, so when I finish work I pop in and have to change him…its just too close together. I have spoken to the carers but they won't change because Gus (my neighbour) likes it that way*" LW, 40, Caring for her neighbour

Upon starting their role 6 of the 8 carers confirmed that lack of knowledge was a issue or important to them, They overcome this by "learning on the job" and or by socialising with other carers (peer support) .One experience carer explained she had previous professional experience while the rest believed it was instinctive " *No I don't so, It is something you do naturally. You know you have got to do it so you do it"* PS, 71 Caring for her husband.

Half of the experienced formal carers attended a group run by Alzheimer's support they found that this motivated them to learn from *others " I learn coming here, everyone's different and at different stages. We share what works and then if it works it works if it doesn't I try someone else's advice, but I know I can call any of the ladies whenever I need them to chat. I'm lucky"* EJ, 80 Caring for her husband

All experienced carers felt that their motivation to learn was low at the moment. Some felt that there was nothing at this moment in time they needed to learn. Comments were made by two carers that they had information leaflets as a method of learning*" No not at the moment, I have enough paper to go through"* YC, 64 Caring for her husband

The carers that were interviewed all expressed a wish to transfer their knowledge to a less experienced carer *" I think it could be helpful for the younger generation to point them along the way"* PC, 73 caring for her husband

Only one informal experienced carer used the Internet to gain information, while one carer asked their son to look if she needed information. All the rest did not have a computer or access to the Internet.

2.2.2. Informal Caregivers: Inexperienced (IC-I)

During the interviews Thurrock questioned 5 inexperienced carers who aged between 55-70 years old, all were female. They had all been caring for a single partner or husbands for less than 2 years, although some had only recently been given a formal diagnosis of dementia. Two of the carers continued to work part time as well as caring for their relative. Like the experienced carers, the hours that they dedicated to performing tasks varied (Figure 6).

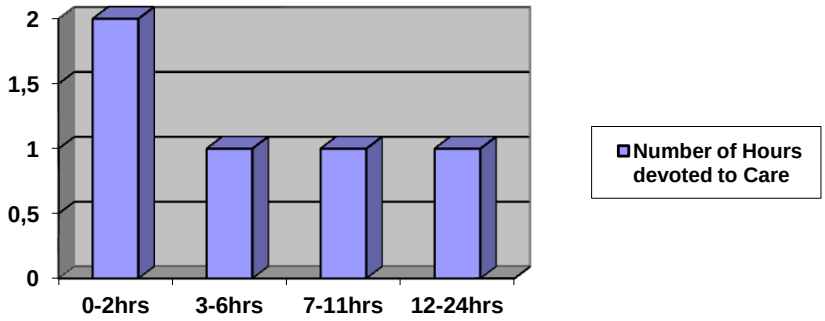

Figure 6 UK: IC-I Participants Number of Hours Devoted to Care (Daily)

The tasks that they performed were also very similar to the experienced carers including meal preparation, shopping and prompting with tasks.

Four of the carers expressed that they felt qualified to perform the role, with some relating it to their previous experience of motherhood. Three carer's major challenges included the anticipation of the disease and the uncertainty of what to expect, while one carer explained her main barrier other people lack of knowledge and understanding of dementia *"Do you know what he will be like… It would be easier if he had broken his leg… you can see that it is more acceptable because people can see and they know."*-TG – 55, caring for her husband

There was a three – two split against receiving specific training. Two carers had recently requested to attend the Alzheimer's support six week training course while the other three felt

experienced in the role that they perform. It was noted by the interviewer a comment that may have suggested one carer, although she felt confident to perform the tasks, may have required more support that she had acknowledged *"I stood up in church and told everyone a couple of weeks ago, they didn't realise and kept telling me how surprised they were as he acted 'normal' to them… they don't know what happens behind closed doors.. We bicker sometimes he doesn't understand and I keep having to tell him over and over again"* EB- 67, caring for her husband.

Computers and the Internet were more accepted by this group, with over half having a tablet or e-reading device. All three who had tablets had used the Internet to search for learning, especially around the diagnoses of dementia. One of the carers had also used video-conference to speak to her son who lived in another part of the UK. *"I did use Skype but I don't now, Chris (son) gave me his old ipad and I Facebook thingy… no facetime him every so often"* TG-55, caring for her husband.

In relation to knowledge transfer all involved in the study felt that they would welcome speaking to someone more experienced, although a common theme was that this would require to be on a informal context than in a formal mentorship process *" talking to others is good, you don't feel alone"* – BD -68, caring for her husband.

One lady did express that due to her work commitments she could not always attend formal meetings, like the current provision by Alzheimer's support and suggested that sometimes these groups were outside of the normal working week.

2.2.3. Formal Caregivers: Experienced (FC-E)

We interviewed 5 formal experienced caregivers ageing between 53 and 64 years of age. We interviewed 4 females and 1 male. The academic background (figure 7) varied greatly in this area from vocational qualifications to PhD. All workers in this field have been within the profession for more than 10 years and had stated that they found caring a vocation and not financially rewarding. Three of the interviewees had accomplished seniority in their profession, which included care co-ordinators and a chief executive of a formal care provider.

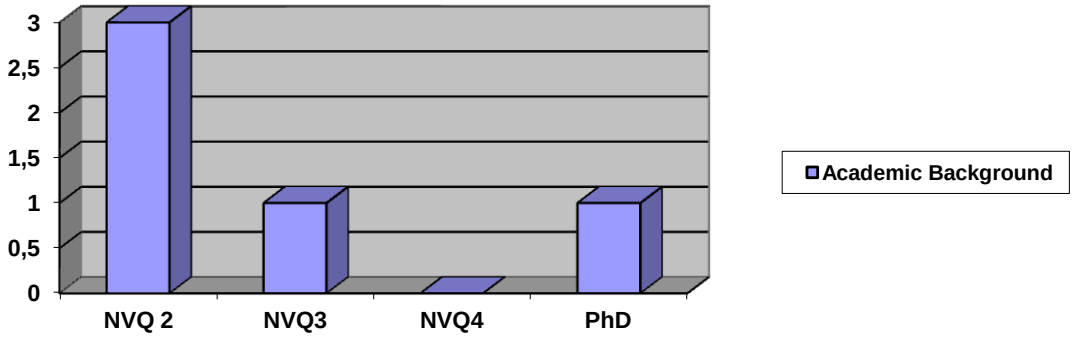

Figure 7 UK: FC-E Participants'Academic Background

All formal caregivers use technology on a daily basis with the most common being computers and mobile device (including smart phone). The formal care workers interviewed felt more confident using computers than smart phones; majority had had to use this devicein their day-to-day work and or social life. The functions in which they were most confident in included emails, Microsoft office, social media and you tube.

Three of the five workers interviewed had been recruited to their post through networking or word of mouth. While one worker attended an open day and another responded to a local job advert. *"I was working at Essex when I joined here; I visited an Essex open day and walked away working for Thurrock"* MH-64 Care coordinator

When starting their role they all had a minimum overlap with the previous worker in which they had taken post from. Four of the five formal care workers had previously worked in this sector, so their handover included local procedures, while one formal carer received hands on training and in-depth local knowledge. *"I'd never done this before, I didn't know what to expect she (previous worker) showed me how to get around Thurrock and the jobs I needed to do"* KH – 54 Domiciliary carer.

All five interviewed understand the benefits of transferring their knowledge to the younger generation. All apart from one felt that the benefits of this would include a streamline professional working process while they were in the workplace. One interviewee felt more of a personal responsibility to transferring his knowledge. *"I've had a good career and enjoyed my job, which many can't say. I think that its my turn to help younger people uptake this profession, as I'm going to be old one day"* MF- Chief executive of formal care company

Most formal carers accepted the concept of online teaching, although the delivery of this training varied. Four out of the five were happy to provide online training via a forum, instant message or email concept, but required anonymity. *"I don't mind helping online but I don't want to be video'd or have my picture taken. I hate seeing myself on photos"* BW- 63 – Care Coordinator. One interviewee was happy to provide videos as a method of training. This carer had previous provided classroom teaching to a wide range of inexperienced carers.

2.2.4. Formal Caregivers: Inexperienced (FC-I)

Thurrock struggled to recruit this section of formal carers within the short period, but has made contact with inexperienced carers that would like to be involved in ANIMATE moving forward.

For the user case analysis report Thurrock interviewed 2 inexperienced carers that were about to start a new career in caring. They were 25 and 40 years old and were of both genders. They both had attended formal education, the highest academic achievement being GCSE or equivalent.

Both inexperienced carers interviewed had recently completed "Health and Social Care: an introduction" course at a local college so had limited practical experience. They acknowledge that they had a desire to learn by attending the course and both will continue their education. They embraced the concept of ANIMATE and felt that it would be very beneficial to them. *"I don't know everything and talking to someone who knows more would help"* SM- 25, pre employment.

RV – 40, pre employment explained that since completing the course she lacks in confidence to complete certain tasks *"Learning in the classroom is different to learning outside"* - RV – 40

2.2.5. General: Experienced Worker

During the study Thurrock was approached by a general experienced worker who also showed an interest in being involved in ANIMATE. LY is a 59 year old lady, who lives in Thurrock who will shortly be retiring and relocating to Geneva. Her present role is that of a Business Manager for the local authority. She has been in post for more than 10 years. As part of her role, she

manages projects, which in past have included IT implementation, Management of information and creating and maintaining central information points.

Her academic achievements include a bachelor's degree, which she achieved online. She uses ICT on a daily basis in all aspects of her work and social life. Her currently job was found on the Internet, which she felt widen her job opportunity. When she joined the local authority she overlapped with the previous worker *"My current role I created but previously when I first started there was an overlap of one week. She gave advice and guidance, although Thurrock provides good training"* LY- 59, Business Manager.

In her current role she is responsible for teaching new workers and has created local procedures for new starters. When providing the teaching she feels satisfaction from training new workers *"you feel great from the success and knowing that you can learn from teaching people and changing your own techniques"* LY- 59, Business Manager.

When she retires she is concerned that the experience she brings will be lost. *"The organisation changes, autonomy of process. The knowledge I have (stakeholder management) can be lost. Means you have people duplicating tasks and wasting time"* LY- 59, Business Manager.

She acknowledges that younger workers joining the workforce are not experienced to perform the tasks, but feels that she updates her knowledge from them with alternative methods of working.

2.2.6. All Participants: ICT Skills

When asking the 21 interviewees about their current technology skills, it became apparent that the older the generation the less likely they are to be involved with technology. Nearly all interviewed had a mobile telephone, although only a few had a smart phone (Figure 8).

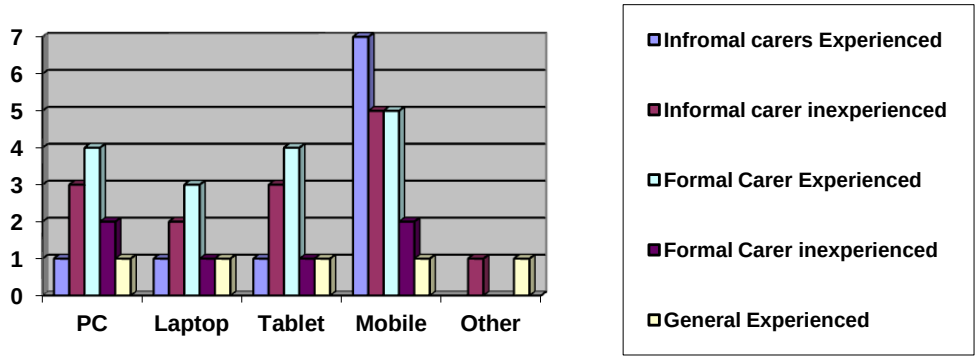

Figure 8 UK: All Participants' ICT Use

If the end users interviewed had access to technology, they had experience of the device for more than two years with the most experienced (general worker) having experience of using a PC since the 1980's.

Where devices were used the most common applications included; making and receiving telephone calls, text messaging, browsing the web, emails and social networking. Nobody had used Vimeo although majority has used you tube, especially for teaching purposes such as DIY and other household chores *"I learnt to change the Hoover bag (referring to you tube) you get to know what you are looking for. You look at it and see how old it looks and if it's from a company or not and the quality of the rating"* –MF- 54 Chief executive of formal care company

People's confidence of using devices varied. It became noticeable that the more devices they had access to the more confident they became. Over half of the 7 informal carers who had technology (mobile telephone) felt confident in answering a call and being able to text message (Figure 9).

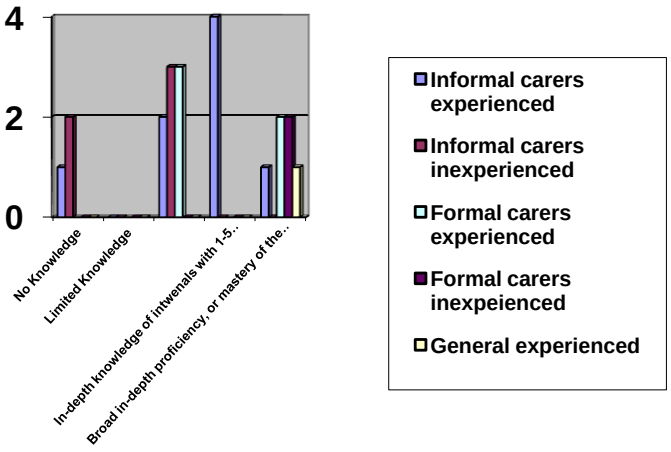

Figure 9 UK: All Participants' ICT Experience Level

2.2.7. UK: Conclusive Remarks

Informal carers preferred the method of peer support for transferring knowledge, while formal carers and the general worker believed that mentorship was a more appropriate way of supporting inexperienced workers. A senior formal carer and general worker suggested that an incentive may be required to encourage younger workers to participate within ANIMATE.

Formal and some informal carers believed that the accessibility of this form of communication would benefit their lifestyle.

A concern maybe that due to deprivation or non engagement with technology accessing devices maybe seen as a barrier within end users homes. Thurrock may consider overcoming this issue with supplying advice and information directing people to local Internet services and reciprocal exchange of teaching computer skills.

Finally, like Lleida, the interviewees felt that an easy navigational platform would be more beneficial including pictures as well as text. Some informal and formal carers have restrictive sight, so consideration should be made to font size and contrasting colours.

3. User Requirements

The following requirements are derived from cumulative results of both countries. The requirements are categorized as non-functional (related to the appearance, usability and content of the ANIMATE website) and functional (related to the services provided by ANIMATE).

3.1. Summary of Non-Functional Requirements

After the interviews where ended, each of the partners in contact with end-users derived a list of requirements – these mainly constitute non-functional requirements mentioned by the users along the interviews.

General usability features including visual appearance

- Intuitive: confusion should be avoided; a glimpse should be enough for everybody to understand what he or she sees.
- Lightweight: the appearance shouldn't keep high density of content; people do not want to read beyond what is indispensable. Any visual information better than written.
- Dynamic and attractive: good-looking and catchy appearance has been mentioned
- Responsive: the users wish to quickly access the content they are looking for.
- Light colours: it is required for the sake of the users' visual comfort.

Tools and Options (→in functional requirements)

- Diversity: multiple options available for the users: video, text, chat, blog, etc.
- Effective search: the users need to easily find what they are looking for.
- Possibility to detail own profile: in order to receive offers matching your needs and expectations.
- E-mail reception of offers: when the users check the e-mail, they expect to be notified in case they receive some message from any other user or company.
- Socialization: For the users, it's important to have facilities also to share other experiences, aside from the "pure" knowledge.
- Human presence: Besides the automated functionalities, the users consider essential to count on the support of an expert that they can contact in case of necessity.

Content

- Structured: the users do not wish to get list surfing along the webpage. Clear sidebar menu shall be always visible: showing the content categories such that the user can quickly identify the desired section.
- Personalized: people are more concerned about their local context and needs, than general features.
- Up-to-date information: information shall be updated and also the review date should be visible.
- Reliable information/Respected sources: stringency must be present in all published data. Ideally, renowned experts shall moderate the content.
- Transparent: the users would like to have available the information about the content they are using and about a company/individual with which they are potentially setting an agreement.

3.2. Note on Optimal Complexity

As Lavandera Fernández, Hassan Montero, y Ortega Santamaría pointed in the APEI report on usability[25], the concept that prevails in conducting usable interactive designs is "simplicity", so that a website is simple, and thus usable, when the function of each element and its relations with the rest are noticeable immediately and unequivocally.

To achieve this simplicity, the authors point out the need to reduce the contents to an optimal level of complexity, so as to avoid visual and cognitive overload without interposing the visibility of the action required.

3.3. Summary of Functional Requirements

ANIMATE emerges as a potential convergence point for different parties with common interests and high diversity of needs and strengths. The platform will enable exchanges between companies in search of mutual beneficial collaborations, as described in Use Cases (D.2.2). For this purpose, the main functions offered are:

- Profile creation and personalization by the users, to describe their context and define their needs, assets or skills to be taught and offered
- Support for sharing multimedia resources (text/pictures/video) in private, limited group or a public manner.
- The content search (manual) or automatic matching of complementary needs and assets amongst different ANIMATE users. It shall be done according to several factors as skills needs, goals, expertise level and content endorsements.
- The profile search (manual) or automatic matching of complementary needs and assets amongst different ANIMATE users, enabling to perform mutual enriching exchanges. It shall be done according to several factors as skills needs, goals, expertise level and user endorsements, as well as timeline required or physical distance between users.
- Endorsement of users/content possible
- Online communication: private messaging/chat
- Communication via public or limited group forum.
- Real-time video-conference communication for knowledge-exchange sessions.
- An interface for Augmented-Reality devices to carry out a guided learning by attendance.

3.4. Summary of Requirements: Non-Functional and Functional

Requirements		
Non-Functional Requirements: Usability	**Essential**	**Optional**
Intuitive	YES	
Lightweight (essential text and images only) – required low cognitive load to use it	YES	
Dynamic and attractive	YES	
Responsive (across platforms)	YES	
Light colours (no violet, blue or yellow)	YES	
No broken links (reliable functionality)	YES	
No automatic pop-ups	YES	
Non-Functional Requirements: Accessibility	**Essential**	**Optional**
Normal or large (12-14px) font-size as a default	YES	
Front and image size change	YES	

Textual alternatives to icons and images	YES	
High contrast between background and content so that content could be perfectly perceptible	YES	
Pages do not expire early, so users have enough time to read and use the content	YES	
Sitemap visible	YES	
Sufficient spacing between letters and lines	YES	
Non-Functional Requirements: Content	**Essential**	**Optional**
Structured	YES	
Personalized (incl. language option)	YES	
Up to Date	YES	
Reliable (involves expert moderation)	YES	YES
Transparent	YES	
Adapted to cultural and socio-demographic preferences of the audience		YES
Functional Requirements	**Essential**	**Optional**
User profile creation/editing/deletion etc.	YES	
Personal notification settings (in web and/or email)		YES
Sharing multimedia content (text, videos, photos)	YES	
Manual content/user search (multiple criteria)		YES
Privacy settings for shared content (private, limited access, public)	YES	
Automatic content/user match (multiple criteria)	YES	
User/content endorsement (expertise level, appropriateness, usefulness)	YES	
Online communications between users: private	YES	
Online communications between users: public	YES	
Real-time video-conference communication	YES	
Interface for Augmented-Reality devices		YES

Table 1 ANIMATE Functional and Non-Functional Requirements

4. Conclusions

This deliverable presents the first part of the user-centric analysis, where we assess characteristics, needs and motivations in the population of potential users of ANIMATE; considering all the feedback that may be useful in the creation of the ANIMATE platform. Two end users organisations involved in the project have conducted interviews with potential platform users and summarized their results first on a country level, and then on a population level. There were not significant differences between the countries at the population level.

The conclusions indicated that users require basic functionalities related to profile and content management, as well as search and automatic matching mechanisms for users and content. Additionally, an Augmented Reality interface is required (although optional). These have been already identified from the Use Cases (D2.2). There are also many non-functional requirements including requirements put on content itself to be trustworthy, as well as put on interfaces, e.g., intuitive interfaces, implying particular choice of fonts, colours and interactivity features.