

## Project FoSIBLE Fostering Social Interactions for a Better Life of the Elderly

**D7.1 - Redesigned Use Cases** 



#### Deliverable

D7.1: Redesigned Use Cases

## Responsible

UTT

# Participant

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Work Package WP7 – Practical evaluation

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# 1) Introduction

## 1.1 Background and Related Tasks

This deliverable is part of WP7 which is dedicated to the practical evaluation of the FoSIBLE system. The objective of this WP is to test the system in home environments with members of the target group. The focus is on long term usability and user experience aspects and the interaction functions of the developed software and hardware.

The evaluation of the FoSIBLE system has different objectives. First, we want to receive user feedback to be able to deliver the product supporting the user needs optimally. In addition, we aim to understand why end-users like or dislike some of the features, to broaden the scope of results. It will permit to understand the acceptability of this kind of AAL product. Finally, we would like to understand how social interactions take place to understand the key factors of this kind of product. These objectives are represented by the following list of goals of the evaluation phase (WP7):

- 1. Update integrated scenarios (improvements from the user experience feedback).
- 2. Study the evolution of the perception of the FoSIBLE platform to learn about the acceptability as well as the evolution of usage experiences during that time.
- 3. Analyse the social interaction with the tool:
  - a. Describe the social interactions with the platform (how are the exchanges in the system, e.g. forum and chat, realized).
  - b. Evaluate the quality of exchanges.

WP7 consists of six tasks. This deliverable is mainly related to three of them:

- Task 7.3: Installation of hardware and software in home environments.
- Task 7.4: Living lab testing of applications and hardware prototypes.
- Task 7.6: Usability testing in the real end-users environment.

This deliverable refers to the "tools to support technology appropriation and data collection" that were presented in the methodological section of the deliverable D7.2 "Test Results (in the form of problems to be solved in update packs)", namely the handbook and the media diary.

#### **1.2** Scope of this Deliverable

This report will inform about how users in practical evaluation of the system could make use of the tasks which had been given to them in the media diary. These tasks had been developed on the basis of the results of the requirements analysis as well as our on-going field work in the context of the living labs in France and Germany. The tasks are also closely linked to the use cases which were constantly aligned with the findings of the field evaluation on the one hand and technical possibilities and feasibilities on the other hand.

#### Project: FoSIBLE Report on Redesigned Use Cases- 31/07/2013

A first set of technology has been handed out in September 2012 in France and at the beginning of June 2013 in Germany. The technology set consists of a Samsung TV and an Arcos Tablet PC, both including the FoSIBLE Software. In France, a tape recorder has been added in case the end-users were reluctant to write down their experience with the system, and in Germany, a smartphone has been added for sending immediate feed-back to the research team in case of problems with the technology at home.

In France and in Germany, it was decided to set up in a collective place where the volunteers of the study have a frequently access (Les Arcades in France and the club room of the German senior co-researchers, i.e. the volunteer association AlterAKTIV Wittgenstein e.V, in Germany). Besides the test persons, the "collective" technology set enables us to gather experiences from more elderly people who visit the club/center. In Siegen, the team is giving demo sessions every two weeks and gather the on-site users' comments and experiences.

As we have described in D7.2, the technology has been distributed together with a hand book and a media diary. The media diary includes a number of tasks which the test persons are asked to perform.

In France, the FoSIBLE widget is not running yet due to unexpected problems in the interoperability of the Samsung widget and the French TV broadcast system. However, the French research team is in close contact with the households and tries to stimulate discussions and reflections as much as possible. Results from meetings with the households will be included in this report.

Due to the close contact to the test households, the use cases and tasks could be grounded subsequently and in an evolutionary manner in real-live requirements of our test persons. Re-design requirements for the use cases will be reported accordingly.

In the following, chapter 2 provides the use cases the system actually allows. In chapter 3, the media diary is presented in detail, and chapter 4 will report on the redesign requirements. In the section 4.1. we report on general findings related to use cases and user tasks from the first evaluation period. In 4.2. we sum up redesign recommendations for use cases and user tasks. Subsequently, a conclusion will be given in chapter 5 and future work will be listed in chapter 6. All the screenshots have been made from the German version of the system, so all the terms are in German, but the system is of course entirely translated into French for the French end-users.

## 2) Actual Use Cases

The functionality of the FoSIBLE system is divided into four main categories. After the log-in the user enters the main screen where he/she can chose between the four options: chat, stay in touch, clubs and contacts (Figure 1).

At the first glance, he/she can already see if there is a new message, which is indicated by a red icon containing the number of new messages.

A list of contacts is also visible on the right side of the screen. The color of the dot on the left side of the name shows whether a person in his/her network is available.

While the application is running the user can still watch TV while interacting with his/her contacts. The contacts can see on their TV which show and which channel the user is watching. Madeleine Dufour for example is currently watching the show "heute" on the channel "ZDF" which she can see at the top of the contact list (Figure 1). However, her friends can also see what she is watching if they are online.



Figure 1 - Fosible FoSIBLE Main screen

Below, the four functionalities will be described separately in the order they are arranged in the FoSIBLE application.

#### 2.1 Chat

After the user pressed the red button on the remote control to open the chat, he/she is asked to use the tablet for the text input. On the tablet he/she sees the screen provided in the Figure 2. The left side of the tablet screen shows a list of the different channels to choose from. The right side of the tablet screen presents the channel chat information of the channel that the user has chosen. He/she is now able to write a comment by pressing the "write a comment" button.

	î 🔮 23:27 ┥ 📢) 🖛 📰
FoSIBLE	Senderchat
** Wählen Sie einen Kanal	Programm "
ard	Keine Nachrichten zum Anzeigen
zdf	Kente Nachhenten zum Anzeigen
rtl	
3sat	
rtl2	
arte	
vox	Kommentar schreiben

Figure 2: Choose Channel for the Chat

The tablet screen now shows a big text input field (Figure 3). The user can enter his/her chat message into the text input field. After he/she has finished writing, it will send the message by pressing the button with the green checkmark.



Figure 3: Write a comment in the Chat

His/her new chat message is now displayed both on the TV screen (Figure 4) and on the right side of the tablet screen.



Figure 4: Chat on the widget

### 2.2 Stay in touch

At the second section, the user can write private messages to stay in touch with other users. The inbox gives him/her a general view of all received messages (Figure 5). They are ordered by date and time (last on top). The bold, italicized message from Madeleine Dufour for example, indicates a new, unread message.

			FoSIBLE8:14:35
Treffpunkt Madeleine Dufour Francois Dupond Francois Dupond Madeleine Dufour Madeleine Dufour Madeleine Dufour Francois Dupond Francois Dupond Madeleine Dufour Madeleine Dufour Madeleine Dufour	•	24.04.2013 21:14:05 23.04.2013 12:54:56 23.04.2013 12:51:56 12.04.2013 14:43:52 25.03.2013 13:12:35 21.03.2013 18:57:40 19.03.2013 11:34:58 19.03.2013 11:33:02 11.03.2013 11:56:16 11.03.2013 11:26:42	Madeleine Dufour ARD : Bloch: Die Lavendelkönigin Kontakte online (9) ALAOUI Malek Michael Hoffstaedter Ilja Michaelis Claudia Müller Marge Anna Kötteritzsch
Posteingang	ontakt hinzufügen	🗠 / 🕶 Navigieren 🕫	Francois Dupond

Figure 5: Received messages

Using the remote control, the user can select a message to open it (Figure 6). A pop-upwindow appears where he/she can read, what the sender wrote him/her. Now, he/she has to decide, whether he/she wants to close or to reply this message.



Figure 6: Private message

Assuming that the user wants to answer the message, the FoSIBLE TV application asks him/her to use the tablet (Figure 7). The tablet application on the other hand asks him/her if he/she really wants to write this message (Figure 8), which he/she has to confirm in order to reach the input field for writing the answer (Figure 9). Then, the user sends the message by selecting the green checkmark on the tablet application (Figure 9).



Figure 7: Please use your tablet as input device - popup

C ↓↓↓↓↓ FoSIBLE		
Möchten Sie eine pe Dufour schreiben?	ersönliche Nachricht an Made	leine
Ja	Nein	

Figure 8: Message - confirmation dialogue (tablet application)

合	₹ 3 23:24 📣 📣 🗮
oSIBLE	Nachricht schreiben
Nachricht:	Nachricht schreiben

Figure 9: Write a message (tablet application)

If the user wants to add a new contact, he/she can select the green button "add contact" in the FoSIBLE TV application using his/her remote control (Figure 10). Then, he/she can type the name of the desired new contact (Figure 10), to let the system search him/her. A list of all registered persons will be shown, where the user can choose the preferred person (Figure 11).







2.3

## Figure 11: Choose contact to add



Figure 12: Clubs list

## 2.4 Clubs

After entering the clubs section, the user can chose between different predefined clubs (Figure 11). He/she can select a club from the list and create a new topic or join the discussion in one of the topics created before (Figure 12). He/she also has the option to leave the clubs by selecting the yellow button "close clubs" (Figure 11) or by using the return button on the remote control. By doing so the view switches back to the main screen (Figure 1).

Assuming that the user wants to create a new topic, for example, in the recipe club he/she has to select the green button "create topic" (Figure 12). The FoSIBLE application asks the user to use his/her tablet as input device (Figure 6). The tablet application on the other hand asks the user if he/she really wants to create a new topic in the recipe club (Figure 13) which the user has to confirm in order to reach the input fields for creating a new topic (Figure 14). He/she saves his newly created topic by selecting the green arrow on the tablet application (Figure 14). The new topic then appears in the FoSIBLE application on the TV.



Figure 13: Content of a club



Figure 14: confirmation dialogue for a new topic to be created (tablet application)

If the user does not want to create a new topic but would like to join an already created discussion instead, he/she has to select one topic from the list (Figure 12) and chose the "write a comment" button (Figure 15). The subsequent procedure is the same as when creating a topic: the user is asked to use his/her tablet, then he/she has to confirm that he/she really wants to add a comment to the selected topic and finally an input field appears where the user can type in his/her comment and save it, using the green arrow on the tablet application.



Figure 15: Create a topic (tablet application)



Figure 16: Content of a concrete topic, with the list of contacts



Figure 17: Activity list

#### 2.5 Contacts

Selecting the blue contact button the activity list (Figure 17) disappears and the contact list (Figure 16) reappears. The user can go through the contact list and select one of his/her contacts if he/she wants to see the contact's recent activities. E.g. Madeleine Dufour can see that she started a new discussion "pizza" in the club "recipe" when she selects herself in the contact list (Figure 16). If she wants to know what her friend Marge did, she has to select Marge. Selected contacts are marked blue in the list. In order to send a contact a private message, recommend him/her a TV program or delete him/her from the contact list (Figure 17), the user has to press the enter button on the remote control when the user is selected.

If the user selects the "recommend a program" button in order to recommend a program to one of his contacts a TV guide appears (Figure 18). He/she now can go through the list and select the show he/she wants to recommend (Figure 19). The selected contact will then receive a recommendation (Figure 20). He/she has the option to use a "reminder" which will remind him/her about the show ten minutes before the starting time (Figure 21).



Figure 18: Popup when choosing a contact in the contact list – recommend a program selected



Figure 19: Recommendation popup/ TV Guide



Figure 20: Recommendation



Figure 21: Reminder

When the user wants to send a private message to the selected contact he/she has to choose the corresponding button (Figure 22). The procedure is the same as responding to a message (cf. 'Stay in touch' section).



Figure 22: Popup when choosing a contact in the contact list – send the selected message

In order to delete a contact the user has to choose the contact he/she wants to delete and press "delete as contact". In case the user wants to undo the deletion, he/she has the option to add the user again in the stay in touch section "add contact".

## 3) Media Diary and User Tasks

The media diary serves two purposes:

1) The diary helps the researchers in gathering data from the field and complements personal meetings with the household members. Personal visits to the households with indepth interviews and participant observation take place every two or three weeks by the research team and the media diary supports in gathering a deep understanding of the every-day life and related activities of the end-users to their TV- and general media consumption.

2) The second purpose of the media diary is to help users to get familiar with a technology which is completely new to them. Albeit TV watching is a common every-day live experience, the linkage of TV watching and Internet usage poses a completely new practice whose development puts a lot of effort to the elderly end-users. By being reminded to note down experiences, thoughts and reflections, the appropriation of the new technology is being facilitated. Similarly, the tasks included in the diary help users to start the adoption of the applications and to progress in their development of new and unknown practices. In order to not overwhelm the end-users, the tasks have been conceptualized as weekly to-dos. In the following, the media diary and the tasks are being described in detail. The media diary in general is divided in two main areas, one sequence is for daily system usage documentation and the second provides the weekly tasks.

Fig. 23 and 24 show introductory images of the diary and an explanation for the user how to use the diary during the test phase.



Figure 24 - Introduction and how-to use

Figure 25 displays a page which reminds the user, supports the daily usage of the system, and fosters reflection on actual usage. The user can write a page per day if he/she likes. Additional space is provided on the back of each page. To simplify the users' effort, some themes are pre-defined, such as duration of TV consumption and the number of actual users on each day. Furthermore, some check-boxes have been inserted in order to indicate which part of the application has been used (channel chat, meeting place, clubs, and contacts). Additional questions ("Why did you choose the respective function" and "please report on your experiences with the respective function") have been integrated to help the user when reporting on the system usage.

Journal d'utilisation de la télévision <b>FoSIBL</b>	E Medientagebuch FoSIBLE
Date Durée (de - à) Personnes chez vous	Datum Zeittdauer (von - bis) Personen
Quels sont les services que vous avez utilisés aujourd'hui ? (Cochez la case correspondante)	Welche der vier Funktionslitäten haben Sie genutzt? (Betreffende ankreuzen)
O Conversation O Rester en contact O Clubs O Arnis	O Senderchat O Treffpunkt O Clubs O Kontakte
Pourquoi avez-vous choisi ces services?	Warum haben Sie diese Funktionalitäten ausgewählt?
	Wie waren Ihre Erfahrungen mit den ausgewählten Funktionalitäten?
Avez vous rencontré des difficultés lors de l'utilisation de ces services ?	
	-
	Welche Medien haben Sie heute genutzt? (Betreffende ankreuzen)
	_ O Redio O Zeitung O Internet O Fernseher

Avez-vous déjà essayé de ...



.,		
3	Cochez la case correspondante	
:		 E
1	ajouter un ami?	1
3		
3	discuter avec un ami sur un programme télé par le biais du	E
:	menu « Conversation »?	ł
1		ł
3	envoyer un message à un ami?	E
1	recommander à un ami un programme télé?	1
1	raconniandar a un ann un programma tara:	
1	publier une nouvelle recette de cusine dans le club « Cuisine »?	E
ŝ		
1	publier une recommandation dans le club « Lecture »?	
1		
-		

Figure 25 -Daily notes on the usage of the system (French and German version)

Figure 26 shows as an example the weekly task No.1. In this manner other tasks for 6 weeks have been designed and added to the book. These tasks will be explained in detail.

Wocher	naufgabe 1		FoSIBLE
Welche M	ediengeräte gibt es in Ihre	m im Haushalt? Wie viel	le gibt es?
Anzahl	Geräte		
	Fernsehgerät		
	DVD-Player		
	Handy		
	PC/ Laptop		
	Tablet PC (z.B. iPad usw.		
	Spielekonsole		
	Kamera		
Sonstige:			
	ile uns etwas darüber mitt Jen Sie damit sind?		te natzen ana
Wochenau	fgeben ten Sie welche Geräte Sie		
nicht aus	n Sie einem Ihrer Kontakt probiert haben.		

Figure 26: Weekly Task #1

**Weekly Task 1** is about the general media usage in the household. Question: Which media is in usage in your household and how many?

Question towards reflection of how the usage actually is and how satisfied they are with the usage. Subsequently, the users are asked to self-observe which devices they often use during the week.

Another subtask is to write a message to a contact via the FoSIBLE system to make first steps in the system usage.

**Weekly Task 2** summarizes the Weekly Task 1. Another issue is the usage of remote controls in the household. Users are being asked to observe which and how often they use remote controls.

Another system related subtask is to recommend a TV show to a contact.

**Weekly Task 3** starts with a summary of the second week about the remote control usage. Another task is to think about the question, whether they would be willing to purchase a book which has been recommended in the FoSIBLE book club and to give reasons for a positive or negative answer.

Another task is to observe with whom they communicate during the week and via which channels. In addition, they are being asked to note down where their communication partners live.

A system related further task is to give a feedback via the feedback app on the smartphone.

**Weekly Task 4** provides two maps and asks to insert the places where the communication partners of the week before live.

The next question is to summarize the communication channels that have been used. In order to structure these data a table that can be completed is being provided.

The next subtask of week 4 is to have a look at cooking recipes in the cooking group and to write down reflections on this.

Another system related task is on (self-)observation when using the system or on observing behaviour of the spouse who uses the system. The second system related task is to insert a favourite recipe in the cooking group on the system.

**Weekly Task 5** aims at fostering reflection on the question whether the TV consumption behaviour has changed during the time of the usage of the FoSIBLE system.

Two system related tasks of the week are to start a chat with a person who is watching the same programme and to write a book review and post it in the reading club.

**Weekly Task 6** asks the users to reflect on the general usage of the system and to note down wishes and recommendations for changes and improvements.

## 4) Redesign recommendations

#### 4.1 General observations

After some weeks of evaluation, it can be observed that the media diary in general was helpful for the end-users in getting a first access to how to use the system. However, due to many unforeseen problems during the setup of the technology in each individual household infrastructure, the media diary and the tasks have not been followed as extensively as being anticipated by the researchers.

Infrastructural problems were caused by the different ways of TV and Internet access options every single household provided. E.g., one household could only operate with wireless LAN and thus, a special adapter for the TV had to be purchased additionally. However, some problems with TV access were more severe. In Germany and in France, TV programme is being received via cable, antenna or satellite. In Germany, households receive the programme with cable. This set up worked immediately with the FoSIBLE infrastructure, but antenna reception often caused problems due to the individual position of the house in the landscape – the test area is a very hilly area and thus unforeseen problems with the antenna reception added up which had to be solved with the purchase of stronger antennas.

Another problem was based on the unfamiliarity with tablet usage of some of the end-users which caused them to have severe problems with inserting texts via the tablet. These users needed more training time.

Other more general problems were caused by the mismatch of the end-users' expectations of the system functionalities which had been announced as visions at the project start and the actual system as it has been developed. For several reasons the system visions had to be reduced, which caused confusion and partly disappointment among the users.

Interestingly, the first phase of practical evaluation displayed some paradox dilemmas in respect to the general media appropriation and usage processes of the end-users: deliberately, end-users with a spectrum of different media skills and experiences with media devices were chosen. Thus, some of them are very skilled in Internet usage and others use the Internet and innovative devices, such as smartphones and tablet PCs, only very scarcely. However, for all end-users severe adoption barriers of the smart TV system could be determined. All of them were interested in learning about this new technology, even though none of them are actual smartTV users.

All in all, huge barriers towards the uptake of the usage by all users could be observed, for the ones with only low new media skills as well as for more skilled persons. This implicates that the experience of watching TV and the experience of using the Internet are two very different activity patterns for them.

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In a first step, these have to be brought together in a common frame of reference by the researchers – and both in the tasks in the media diary and in personal meetings and common reflections and workshops. Interestingly, problems occur in regard to allocating activities – are they rather related to the usage of the Internet or rather related to the activity of watching TV? This means on the one hand, that they like the functionality of the chat that enables them to start a communication in the realm of watching a certain TV show in their reflection. This is then rather perceived as belonging to the TV. But then they ask at the same time for full access to Internet to be able to browse in general. However, they think that this activity would be better performed on a PC because this would be more convenient than on a TV.

Another paradox is that, especially in Germany, household members are still quite mobile seniors and all are no extensive TV watchers. In fact, we learned that talking about individual TV consumption patterns is closely linked to identity management (Giddens 1991). Thus, to some of the end-users, TV watching is sometimes seen as a senseless activity and by this, an activity which is to be reduced to TV shows which contain serious contents from the viewpoint of the interview partners. This means that watching TV is a practice linked to social distinction (Bourdieu 1984), and moral inscriptions and related attitudes have to be observed in more detail.

One finding from the evaluation phase is that most of the end-users deliberately plan their TV watching times and even only watch channels which are perceived as being serious. On the other hand – and this is linked to the phenomenon of social desirability bias (McBurney 1994) – some do not like the idea to be seen by others when watching TV. This finding gives the impression that the activity of watching TV is often perceived as a very private activity and not very readily linked to community formats.

Interestingly, although all households are more or less using the Internet at least for Internet search and email, they are not used to forum activities at all. By all of them, it is being considered as an interesting idea to participate and discuss on topics of their interest. Moreover, the impression management issue comes also to the fore here. For many of them, the motivation to use the forum – in FoSIBLE, this is the "Groups" functionality – is to display and share their knowledge with others, e.g. to provide information on a nice hiking trip in the local area. This is not an innovative functionality. However, as a smart TV functionality for elderly people it seems promising, because people have the option to display their personality to a chosen network of other people in a way which is pleasant to them. However, the actual status of the system does not allow for the set-up of new thematic groups by the end-users themselves. We recommend to open up this functionality in this regard.

The interest for usage of group forums also hints that asynchronous communication forms serve the needs of the people better than synchronous formats with deep interactions. This result is supported by the finding that people think that the TV recommendation

functionality is also interesting, but they need more time to plan a future common TV watching experience.

Most users say that they are interested in getting to know Smart TV functionalities, however they contest that they are "still too mobile and engaged in their every-day life at the moment" in order to use it extensively. However, they think that this might be useful when they will be very old and much more limited in their mobility. On the other hand they think that very old and less technophile people would have a hard time in adopting the Smart TV technology and thus, learning processes should be started when being younger and more open to ICT. This is a paradox which can partly be overcome with our approach in cooperating with the German seniors' association AlterAKTIV and the Prevention Centre AGIRC ARRCO Les Arcades in Troyes (France) which also serve as communicators and counsellors for elderly people in the fourth life stage. In fact, the roll-out of the technologies in the households as well as in the AlterAKTIV and Les Arcades rooms already stimulated the uptake of discussions and general reflection on individual plans of elderly people to engage with Smart TV hardware and software.

#### 4.2 Redesign recommendations for Use Cases and User Tasks

The first evaluation period has revealed several issues concerning use cases and user tasks which have to be better grounded to actual every-day practices in the households:

- The idea of sharing knowledge and ideas is being seen as valuable by the end-users. That's why the club functionality has proven to be an interesting instrument to foster social interaction so far. However, the structure of the club should be less predefined and more open. Accordingly, a task should be to insert a free theme of interest and try to see if others are responding to this topic, too.
- Some participants criticized that the group topics are not enough linked to every-day
  activities in respect to activities flows. As an example, the sharing of cooking recipes
  is linked to actual cooking sessions, and for this, it would be important to be able to
  print the recipe before the cooking session and to take and display a picture when
  the cooking is done. At this point, it seems necessary to reflect more about what a
  Social TV application could and should provide and what not. A related redesigned
  task should take this into account and motivate users to reflect on themes which are
  better grounded and meaningful in their daily practice linked to TV consumption and
  leisure behaviour.
- Channel chat is being acknowledged as an innovative feature in the realm of watching TV. However, the users do not want to be observed by others all the time. This is the reason why functionalities should be added that allow for more privacy options. Here, an interesting contrast to other forms of visibility of networks, e.g. as in *facebook*, comes to the fore. Most users only want – if at all – to share a TV

watching experience with a very near and small circle of acquaintances and friends. The further the friends are away from the inner circle the less they should be informed about actual TV watching patterns. This leads to the recommendation for a new functionality which allows the users to customize the degree of information sharing in the network.

- Accordingly, a task should be added which motivates the users to reflect and talk about the occasions in which more privacy would be important and when community features are more interesting. However, this is linked to the problem of social expectancy which can only be overcome by the build-up of a tight and trustful user-designer relationship which will need time to evolve in the context of the living lab approach.
- The idea of the take-up of a spontaneous interaction did not prove as a lead idea during the evaluation period. Even the usage of TV show recommendation is in practice linked to a scheduling of the activities of daily living and thus, should be better supported, e.g. by a calendar in which the recommendation could be saved for further planning of the next days or weeks.
- This also accounts for the chat functionality. The actual end-users are, based on their TV watching patterns, not very interested in it right now. However, they think that this functionality might be interesting for them when being rather immobile and TV watching times are larger.
- All participants do not like the idea that they have to operate with so many remote controls and input devices. They wish for a better integration of devices, such as to be able to use the tablet PC solely for all activities.
- In respect to the "contact" and "meeting point" functionality, end-users compare this strongly to known patterns of emailing. That's why they miss a "sent messages" and a "deleted messages" area in order to be able to control which messages have been sent to whom. This is also linked to the issue of identity management and selfactualization. They desire for more control and traceability of their interactions with the system. A task should be inserted which fosters self-reflection of these issues of identity management and self-actualization.

## 5) Conclusion

This field evaluation period gave us several interesting insights and unexpected results (according to the requirements gathering phase) that have been described above and that can briefly be summarize in two main ideas:

- Chat, Recommendation and Clubs have been appreciated by the participants. However, the intended use of the FoSIBLE system clearly depends on the autonomy of the end-users. For autonomous and healthy elderly, the most relevant features are clubs (forums) to share knowledge and expertise and messages to stay in touch. For less autonomous people who watch TV probably more often, recommendation function and the chat seem to be valuable.

- Watching TV and using Internet are clearly distinct patterns and this indicates that future SmartTV systems should integrate these different patterns. The prerequisite is an improvement of the Human-TV-Interaction experience: better usability of the input devices and better display on TV screen.

We have identified several paradoxes which make it difficult to define exactly which functionalities are appropriate, but here are the changes that should be made in order for the FoSIBLE system to enter the market:

#### Hardware

 Integration of input/output devices: end-users should have only one device for interacting with the TV, whatever the practice (interaction with a contact, watching TV, exchanging knowledge in a forum).

#### Software

- Asynchronous communication
  - Provide a message management close to the well-known email systems (sent messages, deleted messages, read messages ...).
  - Open clubs (forum) management: end-users should be able to create topics and invite people to join these topics.
  - Provide a calendar where the recommendation for a program could be automatically stored, added to some personal, autorecommendation.
- Privacy (more results will be described after the administration of a dedicated questionnaire):
  - The end-user should be able to define several circles (or groups) to describe who can see which information about oneself (e.g., when he/she is watching a program, when he/she has posted a comment in a club, and who can recommend him/her a program or who can start chatting with him/her)
  - End-users should be able to change their status visible to others (online, offline, do not disturb for instance).

# 6) Future Work

The field evaluation will continue until M41. Following the results described above, the tasks of the media diary will be updated and specific scenarios will be defined in order to analyse more precisely how the system usage could be improved. Interviews conducted by the psychologist of Les Arcades will be analysed with the focus on the quality of life of the end-users. Furthermore, a questionnaire focusing on privacy and data management issues designed by CURE will be administrated. The findings will be described in the following deliverables:

- Updated version of D7.2: Test results. Delivery date M41.
- Updated version of D7.3: Report on usability assessments. Delivery date M41.
- D7.4: Report on psychological impacts of the system usage. Delivery date: M41.
- D7.5: Report on innovative data security management possibilities for elderly using interactive communication media. Delivery Date: M41.

## 7) References

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