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**PROJECT Nº: AAL-2010-3-093**

# D3.1: EVALUATION CRITERIA AND PILOT TRIALS MONITORING PLAN

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## List of Authors

| Partner | Authors |
|---------|---------|
| XIM | Laurence Pearce, Paul Waite |
| FeSalud | Coralie Vasquez, Inmaculada Aneas, Gemma Rísquez |
| HIB | Inmaculada Luengo |

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# 1.    Executive summary

This report is part of the GoldUI deliverables produced within the context of WP3 User testing and validation for the GoldUI system. The aim of this work package is to deploy and monitor the GoldUI solution in user testing environments as well as analyse and evaluate pilot trials and communicate results.  This work package will be lead by FeSalud and consists basically in implementing and testing the GoldUI solution in real-life environments. Pilot trials will be conducted and evaluated according to criteria and parameters described in this document: Evaluation criteria and pilot trials monitoring plan (D3.1) and the results will be analysed in order to provide feedback to the technological development team at specific points throughout the trial.

# 2.    Introduction

This report is part of the GoldUI deliverables produced within the context of WP3 User testing and validation for the GoldUI system. The approach that this document adopts is to elaborate evaluation criteria and pilot trials monitoring plan.

This document uses and builds on the results of the previous deliverables of this work package, namely:

D.1.1 User Involvement Plan
D.1.2 GoldUI Use Scenarios
D.1.3 Initial User Requirements
D2.1  Early prototype
D2.2  Second prototype

This document is a plan for trials and it describes how the GoldUI solution will be evaluated from the end-users perspectives as well as the market perspectives. The participants of the trials are recruited since the beginning of the project (WP1 User involvement) from the user organisation FeSalud.

The objective of WP3 is to organise and conduct trials in Spain, specifically in Andalusia – Costa del Sol with several and different user profiles (Spanish people, foreign people, carers, etc.) in order to validate the results of the project in actual use and provide material and criteria for evaluating the benefits and challenges related to the solution. This deliverable is a plan for trials and it describes how the GoldUI solution will be evaluated in Spain. The service will be evaluated from the end-users perspectives as well as the market perspective.

In the GoldUI project different packages are closely related to each other. While WP1 describes the user involvement, user characteristics and contextual specifications, WP3 is responsible for implementing the pilots that will be trialed.

## 2.1.    Purpose of this document

The common goal of the trial aims at evaluating and validating the GoldUI solution in real environment settings. The trials will involve users that represent the actual target group of the GoldUI solution and that have been identified in the different deliverables of WP1. It is expected to be as close to natural usage settings as possible.

# 3. Methodology

## 3.1. Participant selection

"The key issue in selecting and making decisions about the appropriate unit of analysis is to decide what is you want to be able to say something about at the end of the study" (Patton 2002).

Special emphasis should be given to participant selection. This work has already been explained under WP1 User Involvement. The same characteristics and methods will be used for achieving the objectives of WP3.

## 3.2. Pilot trial organisation

Pilot trials will be organised in two different ways in order to gather a maximum number of final—users and carers as well as obtain a complete evaluation of the GoldUI solution:

- Pilot trial at home
- Pilot trial at Lab

**Pilot trial at home will be organised as follows:**

FeSalud will organise one training session for final-users and carers in order to explain to them the functionalities of devices using the GoldUI solution. In this case, we are talking about Smartphone and digital radio. During this session, the objective for the users will be to create their GoldUI profiles and understand the different functionalities of the devices as well as to get to know the services delivered by the GoldUI solution.

Once participants have understood the different functionalities of the devices and of the GoldUI solution, final-users and carers will take the devices home in order to test them over approximately one week. After having tested the GoldUI solution at home, users will be asked to attend a feedback session and fill in several questionnaires in order to get their impressions and suggestions.

Action plan proposed for pilot trial at home is the following:

Participant's estimation: 21

➢ Week 1: Organization of the training session (functionalities of the devices and the GoldUI solution).

Delivery of a dossier containing: 1) presentation of the GoldUI solution and its services  2) tasks to be performed 3) how to create a GolDUI profile, reminders, etc 4) their self-report (specific table where users should report the activities they are performing, difficulties encountered, solutions, etc.) 5) Contact with people responsible for GoldUI project at FeSalud (phone and mail if they have questions or doubts)

➢ Week 2 to 7:  a 1 week trial in the home with the Smartphone and the digital radio, using the GoldUI system on their laptops/PCs/phones/etc. as appropriate (3 users at time). During the week trial, users will be asked to fill in their self-report to ensure they will not forget possible comments or suggestions to be reported during the feedback session.

➢ Week 8: users will return the devices and participate in a feedback session in order to report on their experiences. FeSalud will collect the self-report (anonymous) and organise a focus group in order to gather their impressions. Finally, FeSalud will distribute to the

users an individual questionnaire that will permit to compare the experiences of each user and provide a complete and final evaluation.

**Pilot trial at lab will be organised as follows:**

FeSalud will organise two pilot trials in the lab. The procedure followed will be really similar to the first one. The unique difference in this case is that users and carers will test directly the GoldUI solution after the training session.

Action plan proposed for pilot trial at lab is the following:

Participant's estimation: 18

> Organization of a training session (functionalities of the devices and the GoldUI solution).

> Constitution of a working group for starting with the testing session (3 users/device)

> Feedback session – constitution of a focus group in order to collect impressions and comments of the users. Users will be asked, as in the previous case, to fill in individual questionnaires and they also will participate in a brainstorming session in order to exchange their opinions.

## 3.3.    Tools

Pilot trials will use similar methods and tools than those used for WP1. Evaluation methods are divided into two main categories:

1. Quantitative methods
2. Qualitative methods

> **Quantitative methods**

- **Questionnaires:** Questionnaires are used to gather opinions from a particular group in a systematic way using closed and open-ended questions. They are a common and versatile way of collecting data and relatively cheap. They can be sent by email, posted on the web, or even posted by snail mail. Care needs to be taken in selecting the sample, phrasing the questions, and analyzing the results in order to make valid conclusions.

- **Quality of the service:** This measures the quality of a service in terms of five parameters: reliability, responsiveness, assurance, empathy, and tangibles.  It's a survey instrument that measures the gap between users' expectations for excellence and their perception of the actual service delivered.

> **Qualitative methods**

- **Interviews:** These are conversations, typically with one person. They may be structured, semi-structured, or unstructured, and conducted in person or by phone. They are useful for exploring opinions and issues in depth on a one-to-one basis.

▪ **Focus groups:** These are interviews conducted with a small group of people (e.g. 8-10). They allow you to get a range of views on an issue (not a consensus) and explore how strongly views are held or change as the issue is discussed. They are often used after a survey to help explain the results or clarify issues. However, they are time-consuming to set up and some skill is needed to guide and moderate the discussion.

▪ **Observation:** Observation is just that, observing what people do. It's a technique often used by developers of commercial software to find out how users use their product. If results aren't what they envisaged, they may change the design. Observation can be applied to other areas as well (e.g. how a process or content is used).

# 4. Evaluation criteria and tools

Common evaluation criteria have been developed in this work package in order to monitor and evaluate pilot outcomes. The methodology we will use preserve coherence with the Human Centred Design methodology previously defined and used in WP1.

The following criteria will be studied in the pilot trial and analysed in D3.2 and D3.3:

- Loneliness
- User[1] feedback
- User value
- Usability and accessibility
- Usage of the solution
- Market perspectives

## 4.1. *Evaluation criteria and research methods*

This part of the document describes the evaluation criteria that will be used during the pilot trial and the methods, tools and techniques we will use for gathering the information.

| Evaluation criteria for final-users in GoldUI testing | | |
|---|---|---|
| **Criteria** | **Methods and techniques** | **Tools** |
| Loneliness | Interview | We will use a specific questionnaire for gathering this information |
| User feedback | Initial use of the solution: <br><br> Focus group <br><br> Observation <br><br> Interview <br><br> End of pilot trial: | Initial use: user experience evaluation <br><br> At the end of pilot trial: user experience |

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[1] The use of "users" word refers to final users as well as carers, family, ect.

| | Focus group Questionnaire Interview | |
|---|---|---|
| User value | Questionnaire Interview | Evaluation of expectations |
| Usability and accessibility | Observation Questionnaire | Usability and accessibility information included in the final evaluation report |
| Technology usage of the solution | Individual questionnaire | Questionnaire |
| Market perspectives | Interview (for gathering their opinion – launch on the market of the product – price) | Questionnaire |

**Table 1 Evaluation criteria for final-users in GoldUI testing**

| Evaluation criteria for carers and or relatives in GoldUI testing phase | | |
|---|---|---|
| **Criteria** | **Methods and techniques** | **Tools** |
| Carer feedback | During use of the solution: Interview End of pilot trial: Interview | Questionnaire |
| Carer value | Questionnaire Interview | Evaluation of expectations |
| Usability and accessibility | Observation Questionnaire | Usability and accessibility information included in the final evaluation report |
| Technology usage of the solution | Individual questionnaire | Questionnaire |
| Market perspectives | Interview (for gathering their opinion – launch on the market of the product – price) | Questionnaire |

**Table 2 Evaluation criteria for carers and or relatives in GoldUI testing phase**

## 4.2.    Loneliness

The GoldUI project wishes to improve the quality of life and enable greater independence for elderly people. GoldUI is focused on empowering the older individual, enabling them to access online services themselves and to benefit from the convenience and economy of the digital world by using familiar home technologies. The GoldUI solution has been designed to alleviate the suffering loneliness causes by using a specific interface that improves their daily activities, social networking and relationships and therefore their quality of life.

Why do we measure loneliness?

Loneliness is an unpleasant feeling in which a person feels a strong sense of emptiness, yearning, distress and solitude resulting from an inadequate quantity or quality of social relationships[2].

One of the objectives of the project is to preserve the independence of elderly people as well as reducing their loneliness.

## 4.3.    User feedback

The objective of getting user feedback is to understand how the developed GoldUI system fits into user's daily lives. User feedback comes from user experience which "is about technology that fulfils more than just instrumental needs in a way that acknowledge its use as a subjective, situated, complex and dynamic encounter. User experience is a consequence of a user's internal stage (predispositions, expectations, needs, motivation, mood, etc.), the characteristics of the designed system (e.g. complexity, purpose, usability, functionality, etc.) and the context (or the environment) within which the interaction occurs (e.g. organizational/social setting, meaningfulness of the activity, voluntariness of use, etc.)." (Hassenzahi and Tractinsky 2006).
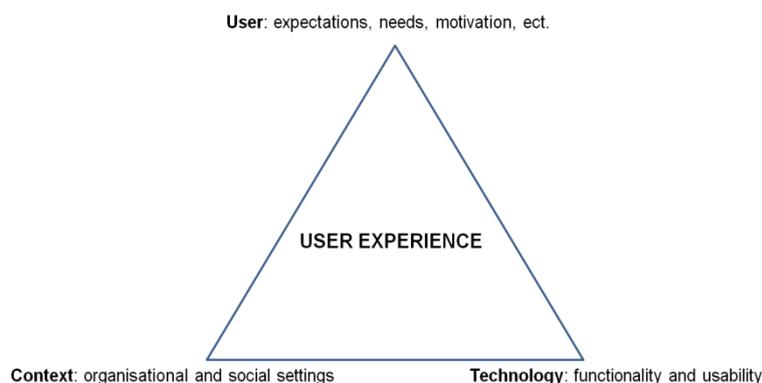


**Figure 1 User experience: dimensions**

User experience has been evaluated in different phases: GoldUI solution development such as conception of the solution and non-functional prototype (final results are described in D1.4) and we have already analyzed parameters as emotion, relationship with the product, etc.

From now, final-users will have the opportunity to test functional prototype and their feedback will be more realistic and complete. User experience will include lab studies (Guadalinfo centres) and surveys and experts evaluation among others.

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[2] Wikipedia: http://en.wikipedia.org/wiki/Loneliness

User experience regroups hedonic characteristics and subjective analysis. It is really important to underline that user experience and consequently user's expectations could affect the results of the experience more than usability for example due mainly to the fact that user experience is conditioned by demographic situation, context, etc.

### 4.3.1 Testing the solution

In order to obtain the best possible quality of feedback from users for analysis, we will be carrying out various sessions for testing the GoldUI solution. As we are co-designing the solution with the users and we are gathering their points of view for improving and developing a solution that respects their needs and exigencies, it is vital to plan the research with a number of key measurables in mind. These are set out on the following tables. Equally important will be the qualitative information that emerges and these will be gathered using the questionnaires in Appendix XYZ

| General quantifiable information - Targets | |
|---|---|
| **Key Measurables (estimation):** | **Targets:** |
| Number of End-users included in the research<br>Total number of sessions with End-users | 50<br> 40 |
| Number of Carers<br>Total number of sessions with Carers | 20  10 and 7 weeks trial in the home and in the lab |
| Number of End-user groups involved (in Centresand at home)<br>Number of sessions with groups | 30<br><br> 10 and 7 weeks trial in the home and in the lab |
| Number of times per week the system is used (More detailed measurables are included in the following tables) | Daily by 75% of End-users |
| Percentage of End-users and Carers who were satisfied with the GoldUI prototype and said they were willing to subscribe to the first commercial service. | 50% End-users<br>50% Carers |
| Number of suggestions made by users about how the service may be improved | Equal to the number of users =70 |
| Number of end users and carers who felt their comments were useful and considered for the next development(s) of the system. (Evidence that the HCD/PLI principles have been applied) | 100% of people offering suggestions |
| **Key Measurables:** | **Targets:** |

| | |
|---|---|
| Percentage of people who say they are more aware of the additional lifestyle benefits they can access through the internet (on a scale of 1 to 5)* | 95% |
| Percentage of people who say they are more confident using the internet (on a scale of 1 to 5) | 90% |
| Percentage of people who say they are more aware of the advantages that Smart phones, Smart TV and digital radios can bring into their lives | 80% |
| Percentage of people who say they are very likely to invest in a new device in the next 3 months | 50% |
| Percentage of people who say they are feeling more safe/secure about using the internet? (on a scale of 1 to 5) | 90% |
| Percentage of people who say they are feeling more independent (or more in control of their own life) after using the system | 90% |
| Percentage of people who think their independence will grow further as they gain more experience of GoldUI | 90% |
| Percentage of people who think it will enable them to do more things socially | 80% |
| Percentage of people who think their loneliness will reduce as they gain more experience of GoldUI | 75% |
| Percentage of people who say they are more likely to choose or switch to an internet service provider who has GoldUI as part of its services | 80% |
| Percentage of people who say they became comfortable using the system after two sessions, such that they were confident to use it independently | 50%<br><br>75% after 3 sessions |
| Percentage of people who use the system:<br><br>At least daily<br><br>Three times a week or more | <br><br>60%<br><br>35% |
| Percentage of people who say they would be prepared to pay a monthly subscription for GoldUI if it was 10 Euros per month. (With additional data from a question "Do you think that is about right, too expensive or good value for money?) | 90% |
| Checking user confidence in the system by using the question "Do you feel confident that you could help another End-user to use the GoldUI system?" | 75% |
| How many End-users would mention GoldUI to friends? | 80% |

| | |
|---|---|
| How many would recommend GoldUI to friends? (Plus qualitative work to establish any problems) | 60% |
| Measurement of the average duration of sessions | For all participants |
| Measurement of the average time spent on each of the different features of the system | For all participants |
| Establishing data about the relative value people place on the different features and measuring if this changes over time as End-users become more familiar with GoldUI | For all participants |
| Demographics of End-users: Ages, Gender, Nationality, Urban/Rural, ABC etc. | For all participants |

| Key Measurables: | Targets: |
|---|---|
| Percentage of Carers who say they think the GoldUI service will give them more peace of mind that their End-user(s) will be more self-sufficient and independent once they are familiar with its use? (on a scale of 1 to 5) | 90% |
| Percentage of Carers who say they are more likely to choose or switch to an internet provider who has GoldUI as part of its services (or encourage their End-user to do so) | 75% |
| Percentage of Carers who answer positively to "Would you (or your organisation) be prepared to pay a monthly subscription for GoldUI? If it was 10 Euros per month, do you think that is about right, too expensive or good value for money?" | 90% |
| Percentage of Carers who say the End-users in their care are feeling more safe/secure about using the internet? (on a scale of 1 to 5) | 90% |
| Percentage of Carers who say the End-users in their care are feeling more independent (or more in control of their own life) after using the system | 90% |
| Percentage of Carers who say the End-users in their care will be able to do more things socially | 80% |
| Percentage of Carers who say the loneliness of End-users in their care is likely to reduce as they gain more experience of GoldUI | 75% |
| Percentage of Carers who say they became comfortable using the system after two sessions, such that they were confident to use it independently | 50% 75% after 3 sessions |

| | |
|---|---|
| - Detailed data is needed about Carers use of the system:<br><br>- When setting up for a single End-user<br><br>- When making adjustments once the set-up is complete | For all participants |
| Measurement of the average duration of sessions | For all participants |
| Measurement of the average time spent on each of the different features of the system | For all participants |
| Demographics of Carers:<br><br>Ages, Gender, Nationality, Urban/Rural, ABC etc. | For all participants |

**Table 3 General quantifiable information - Targets**

* Carers will also be asked qualitative questions, for example to list the benefits they believe End-users have experienced through the trials.


## 4.3.2 End of pilot trial

Here the objective is to evaluate user experience and experienced value because final-users and carers have already learned to use the solution and they are able to transmit their experiences against their needs and expectations.


## 4.4. User value

The objective of this WP, as said at the beginning of the document, is to validate project results in actual use and evaluate the benefits for users related to the solution. Feedback from the pilot trials will be transmitted for developing the business model of the project through the final report (D3.3).

User value is a key concept during evaluation process. Value could be defined as something that is composed of the perceived, subjective experience of the user in interaction with the service and technology. User value will be studied under this WP whereas the business value will be studied in WP4 Exploitation and dissemination.

Two different values will be evaluating during pilot trials: expected value and perceived value.

By expected value, we refer to the expectations that the users have regarding the GoldUI solution. They will maybe not be able to describe their expectative but they will be able to transmit us if the GoldUI solution will suitable for them.

By perceived value, we refer to the subjective experience of the user in interacting with the solution. Being more practical, value is not really determined by the different functionalities of the services, but by the advantages that the user benefits and enjoys using in our case the GoldUI solution and the positive consequence and impact related to user's own meaningful goals in life. The value is in reality the result of a process where the service provider (Godlui solution) and the end-user work together: this is the co-creation value.

This value will be evaluating and studying through interview and observation carrying out during pilot trial. This will allow to analyse what the services could bring to the end-users and in which way the user is able to use the GoldUI solution for performing the goals they consider important.

## 4.5. Usability and accessibility

Usability is a relevant concept in projects such as GoldUI because usability studies ensure that the users are able to interact with the service in easy-to-use and intuitive ways. For evaluating usability, we have been in the previous sessions observing how users are interacting with the GoldUI solution and the same technique will be used during the pilot session. Moreover, users will be asked concerning their perceived ease of use. Perceived ease of use is "the degree to which a person believes that using a particular system would be free from effort" (Davis 1989).

During the previous sessions, accessibility has been taken into account. Users have given their feedback and also made some suggestions (see D1.4). The GoldUI solution is being designed accessible to as many users as possible. Accessibility parameter will be evaluated by observing users while they are using the GoldUI solution.

## 4.6. Attitudes and preferences about different technologies

It is important to establish the shift in End-users and Carers knowledge of and attitudes to the different technologies, or more specifically to the new devices that will deliver the services. In our earlier work, we established a baseline and the following table is taken from D1.3 Initial User Requirements:

| Users' knowledge about ICT devices and services | | | | |
|---|---|---|---|---|
| | | Guadalinfo Centers | Costa del Sol | CUDECA |
| | | Spanish users | Foreign Resident users | Caregivers |
| **Devices** | | | | |
| | LCD TV | 100% | 100% | 100% |
| | Smart TV | 0% | 0% | 0% |
| | PC | 100% | 100% | 100% |
| | Ipad | 50% | 100% | 100% |
| | Mobile Phone | 100% | 100% | 100% |
| | Smartphone | 0% | 100% | 75% |
| | Radio | 100% | 100% | 100% |
| | Digital Radio* | 75% | 0% | 0% |

| | | | | |
|---|---|---|---|---|
| | MP3 | 100% | 100% | 100% |
| | MP4 | 100% | 100% | 100% |
| | Video | 100% | 100% | 100% |
| | Hi-fi system | 100% | 100% | 100% |
| **Services** | | | | |
| | Internet | 100% | 100% | 100% |

**Table 4 Users' knowledge about ICT devices and services**

It is apparent that making people more aware of and therefore more accepting towards new devices will be critical to the success of the GoldUI service. A key part of this will be to concentrate on the features of the different devices when communicating and conducting tests, rather than the names adopted in the marketplace. For example, "This is a radio which also reminds you of your daily needs as well as allowing you to check your bank balance etc." rather than introducing a "Digital Radio" which is it's generic title but which means nothing to many older people in the research.

The work will also include an assessment of how peoples' intentions about using devices and services have been achieved in reality (Table 3 from D1.3 Initial User Requirements).

## 4.7. Market perspective

One of the main objectives of the AAL programme is to guarantee that results of the projects should be products, systems and services concepts that can be applied and deployed widely in Europe with a market introduction within 2-3 years after the project ends.

The GoldUI solution aims at satisfying end-users necessities by developing a product adapted to their needs and preferences. End-users should be the drivers in the development and practical application of these advancements and that's why GoldUI has chosen to involve them since the beginning of the project.

Regarding the market perspective, end-users are key persons for orienting our business model (customers segments, value proposition, etc.). This part of the evaluation will provide support to the business model's elaboration (price users will be able to pay for acquiring the GoldUI solution, devices, etc.). By engaging end-users in the whole process (co-creation, opinion on business value), the consortium will gain clear benefits. A synergistic relationship between all the actors (industry, end-users, research organizations, etc.) ensures that the final GoldUI solution will clearly reflect user needs and preferences.

# 5. Plan trial monitoring plan

Pilot trial is the better way for gathering and understanding how elderly people use the GoldUI solution in real-life situations. And as said previously, thanks to pilot trial sessions, it is possible to improve the solution and thus evaluate its market value.

Spain (Andalusia – Costa del Sol) is the chosen country for carrying out pilot trials. The number of censed inhabitants in the "Costa del Sol" is approximately 435.338 on a regular basis, although this figure doubles when considering the "real" population.

Foreigners, mostly northern Europeans are 32% of the total population. Population 65 and older encompass 13.32% and almost half of them ( 43.54%) are foreign born (northern European from Finland, Sweden, Denmark, Germany, UK, Netherlands and other European countries) residents. The majority of elderly foreign residents in the Costa del Sol, although in contact with relatives in their countries of origin, live alone and many do not speak Spanish, being sometimes limited in their mobility and safety.

Pilot trial will have access to these different segments of the elderly.  Finally, pilot trials will provide a complete analysis thanks to the fact that the ageing population in Spain encompasses very different groups in terms of demographic, cultural, educational and health characteristics.

## 5.1.    Objectives of the trial

The main objective of the trial is to evaluate subjective user experience of different user groups and changes in end-users' attitudes and behaviour while using the GoldUI solution. Parameters as accessibility and usability will also be evaluated. In order to evaluate the perceived value (see section 4.4), we will use a specific evaluation framework based on different STOF models as guidelines. Our current hypotheses are listed below:

- User's behaviour towards the GoldUI solution
- Users will have new possibilities for performing their daily activities and being reminded of these activities
- Users will have different and new contact with carers/ family
- Users will be more comfortable with (?) new technology after the GoldUI solution is available
- Users will enjoy staying at home more because they have the possibility to perform their activities via the service
- Use of the GoldUI solution will increase the perceived functional capacity of users
- Etc.
- GoldUI solution has increased users' wellbeing and quality of life

## 5.2.    Functional service description

In D2.1 we described the features of GoldUI in terms of four sets and the prototypes to be tested will enable users to test functions from Feature set C – Reminders. These are tabulated below.

| Feature Set A |
| :--- |
| Socializing and personalized information |

| | |
| :--- | :--- |
| **A1**<br>**High** | • Getting in touch with new people who have the same interests (Carer set-up alongside the user as quality time way of giving facilitating help?)<br><br>    o Creating a profile with their personal data and choices<br><br>    o Communicating on the internet with new contacts<br><br>    o Planning new trips and organizing new groups |

| A2 High | <ul><li>Being informed about events in each user's local community<ul><li>Entertainment and leisure opportunities (Carer set-up has option to include local community bookmarks in browser eg Northumberland Gazette link)</li><li>Church services and helpful spiritual information (Carer set-up?)</li></ul></li></ul> |
|---|---|
| A3 Incl in A2 above | <ul><li>Being informed about travels planned by IMSERSO (Institute for Older Persons and Social Services) or similar organizations</li></ul> |
| A4 Low | <ul><li>Being better educated about local culture and places of interest</li></ul> |
| A5 Med | <ul><li>Being educated about volunteer opportunities for elderly (to be grandparents for kids, senior companion for frail elderly, senior tutors for elementary students, helping in charity events, local fairs, etc… )</li></ul> |
| A6 Med | <ul><li>Being better informed, having more alternative perspectives and being more organized with the news (Carer set-up has option to include news bookmarks in browser eg BBC, Telegraph etc according to favoured sources)</li></ul> |
| A7 High | <ul><li>Social networking via GoldUI<ul><li>Easy-access Facebook (Link to FB in carer set-up?)</li><li>Family and close friends contact</li></ul></li></ul> |

**Table 5 Feature Set A Socializing and personalized information**

| **Feature Set C – Reminders**<br>Remembering daily tasks, getting alerts and staying informed through digital devices | |
|---|---|
| C1 | <ul><li>Wake up call and choices:<ul><li>Alarm</li><li>Music</li><li>Radio</li><li>Other (eg recorded message)</li></ul></li></ul> |
| C2 | <ul><li>List of appointments for the day ahead<ul><li>Appointments for the day ahead and choices of when received.</li><li>With wake-up call</li><li>When turning on tv</li><li>Hourly reminder of list</li><li>List on demand</li></ul></li></ul> |

| | |
|---|---|
| **C3** | • Reminders of appointments and schedules<br>    o Choice of device (eg mobile), means (eg SMS) and time before reminder message (eg 30 minutes) |
| **C4** | • Advance reminders of Birthdays and other occasions, giving enough time to plan presents etc. |
| **C5** | • Doctor/dentist/nurse/hospital appointments |
| **C6** | • Activity and Entertainment schedule reminders (eg days out with friends, trip to the movies, weekly workshops of arts/photography …) |
| **C7** | • Short-term entertainment and leisure reminders (eg favourite TV programme is on in 15 minutes) |
| **C8** | • Things to do at home today list (eg put out the garbage, water the plants, take medication) |
| **C9** | • Bills to be paid (electricity, telephone, …) |
| **C10** | • Books to be returned to the library |
| **C11** | • Other scheduled activity according to the end-user's and carer's needs. |

**Table 6 Feature Set C – Reminders**


## 5.3. Technical service description

### 5.3.1. Devices

We will be testing prototypes from two of the classes of platforms identified in previous WP's namely: Smart Phones and digital radios, plus services for the carer will be tested on PC/laptop/tablet via a standard browser interface.

| Devices | | |
|---|---|---|
| **Device** | **Model** | **Quantity in pilot** |
| Smartphone | *Samsung Galaxy* | 2 |
| Digital Radio | *Archos Home Connect 35 Wi-fi Radio* | 1 |
| Desktop Computer | Windows or Mac (browser based application) | As needed |

**Table 7 Devices**

Devices will be setup by Fesalud with assistance from HIB and XIM as required.

## 5.3.2.    Hosting

HIB will host the service on an area of the GoldUI website for the duration of the pilot, and if agreed, beyond for users wishing to continue with the service.

## 5.3.3.    Updates and bug fixes

Updates and bug fixes will be automatically distributed by HIB and XIM, and Fesalud and end users will be notified of any planned downtime should major upgrades be necessary.

## 5.3.4.    Security and confidentiality

Personal data will be held securely on HIB's servers and only transmitted encrypted (via https) during the pilot. At the end of the pilot, all personal data will be deleted, unless an agreement is established with specific end users to maintain the service.

## 5.3.5.    Technical support during the pilot trial

XIM and HIB will provide remote 'tier 2' technical support to Fesalud, while Fesalud will act as first line support to the end users and carers. An end user or carer will be able to raise a support request via a 'report issue' button and email-form in the prototype, plus an email address and local telephone number for support, which in the first instance will be received and logged by Fesalud. If the problem requires further technical help, Fesalud will forward the query as appropriate to either XIM or HIB.

## 5.4.    Trial – context and users

### 5.4.1 Context

The GoldUI solution will be piloted in Spain, more exactly in the region of Andalusia also called Costa del Sol. Testing will take place in home of users as well as in two different places - "labs". The main advantage of Costa del Sol is that we will have the possibility to regroup foreign users as well as Spanish users for contrasting their opinions.

### 5.4.2 Participants

Profiles of participants have already been analysed under WP1 User involvement. The pilot trial will use the characteristics we analysed in WP1 for chosen participants, ie.

| Participants' characteristics | | | | | |
|---|---|---|---|---|---|
| ID | Age (YOB) | Gender | Impairments / functional limitations | Experience with ICT | Other information |
|  |  |  |  |  |  |

**Table 8 Participants' characteristics**

## 5.5. Plan of methods and measurements

Human Centered Design (HCD) approach has been adopted for involving users during the project life. As a general approach we are using People Led Innovation (PLI). This is a methodology developed by people working at FeSalud in order to allow the potential customers or/and users to lead the innovation process and, as such, to guarantee the success of that product or service from both the social and business point of view. The model pursues an active participation of different people in real life contexts, generating a direct benefit for that specific social context.

Pilot trials final monitoring and evaluation report (D3.3) will measure success in a systematic and objective way. In the case of GoldUI project, evaluation focuses on whether the project was effective and achieved its objectives. Regarding project outputs, evaluation can focus on whether the outputs are useful, meet user needs and perform well.

### 5.5.1 Pilot trial plan - Evaluation plan

The common evaluation criteria described at the beginning of the document will be used in Spain's trial.

In addition, the pilot trial monitoring plan the final evaluation (D3.3) will explain the results and success of the project. The main factors being analysed in this plan will be the following:

- Assess whether the project achieved its aims and objectives
- Outcomes and impacts
- Users involvement
- Benefits
- Lessons learned
- Identify gaps and issues
- Effectiveness of the project

### 5.5.2 Functional capacity

Finally, the final report (D3.3) will also study functional capacity of users. Maintaining functional capacity is crucial for human and really important for elderly.

Functional capacity regroups physical, mental and social capacities. The first one includes mobility and sense of the person. The mental capacity refers to the capacity to engage into cognitive tasks such as remembering, language, physic wellbeing and the last one, social

capacity includes the possibility to interact with other persons. These capacities can be evaluated by interviewing people.

Jyrkämä (2008) has presented an approach for studying capacity of the elderly and this is very useful specially for studying interaction between elderly and new technologies. He has identified six essential dimensions listed below that we will use for producing our final report and thus bringing a complete evaluation of pilot trial:

- Skills and know-how ("can")
- Physical and cognitive capabilities ("be capable")
- Goals, motivations and expectations in life ("want")
- External expectations, limitations and necessities ("must")
- Possibilities and affordability? in life ("be able")
- Feelings and values ("feels)