



ROBOTS IN ASSISTED LIVING ENVIRONMENTS

UNOBTRUSIVE, EFFICIENT, RELIABLE AND
MODULAR SOLUTIONS FOR INDEPENDENT AGEING

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Abstract

This report plans the *first round summative phase of pilots* that will test the first integrated RADIO prototype, including: (i.e. robotic platform, smart home functionalities and the final prototype of RADIO GUI) and establishes the procedures for collecting questionnaires, RADIO output and ground truth observations for estimating the usability and efficacy of the system.

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Executive Summary

This report plans the *first round summative phase of pilots* that will test the first integrated RADIO prototype (i.e. robotic platform, smart home functionalities and the final prototype of RADIO GUI). More specifically, this report details the number of the participants and how long they will work with the consortium in the first round summative phase of pilots (M25-M27) both at *private residences outside of any medical care institutions* (FZ) and at the *FHAG Geriatric Centre*. This report describes the scenarios of both pilots. It also describes the study design, the procedures for collecting questionnaires, RADIO output and ground truth observations for estimating the usability and efficacy of the system. This report also appends the consent forms that will be used for the study subjects, the ethics approvals obtained by both FHAG and FZ, the data recording forms to be filled by research assistants and nurses during the pilot studies and the custom-made questionnaire for obtrusiveness.

Abbreviations and Acronyms

ADL	Activities of Daily Living
ASQ	After-Scenario Questionnaire
IADL	Instrumental Activities of Daily Living
interRAI	International collaborative to improve the quality of life of vulnerable persons through a seamless comprehensive assessment system. Cf. http://www.interrai.org
interRAI HC	The <i>interRAI</i> Home Care Assessment System
interRAI LTCF	The <i>interRAI</i> Long-Term Care Facilities Assessment System
MMSE	Mini Mental State Examination
PIADS	Psychosocial Impact of Assistive Devices Scale
SCRSA	Self-Contained RADIO Smart Apartment, the RADIO installation at FHAG.
SUS	System Usability Scale

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1 INTRODUCTION

1.1 Purpose and Scope

RADIO presents a domestic assistant and home automation profile to the end-user, which most importantly acts as an unobtrusive health monitoring system.

RADIO's main objective is an unobtrusive monitoring system whose equipment is an obvious and accepted part of the user's daily life, by adopting a smart home/assistant robot approach, where the sensing equipment actively strives to be obvious and closely located to the user; that is, we propose that robot companions and assistants are used to collect the data needed for medical monitoring.

RADIO system will provide a pool of ICT based in-home services that will be offered to elderly users that live at home to improve time spent autonomously at home. Although the RADIO system is primarily presenting a domestic assistant and home automation profile, it is also acting as an unobtrusive health monitoring system and as an instrument for medical evaluation. It will ensure the timely availability of the patients' clinical and behavioral data to allow timely prognosis and clinical actions. Through its direct involvement in end-users' daily activities, RADIO observes *activities of daily life* and *mood*. These observations are used to establish patterns and identify deviations. Moreover, RADIO empowers new care service provisioning models based on the remote supervision of the elderly/patients from the medical experts and/or health professionals or caregivers. It deals with the extraction/derivation of reinforced medical knowledge associated with symptoms, good practices, treatments and personalized patterns of treatment for elderly users.

Objectives of the study:

- Measure validity of the Radio system
- Evaluate functional activities and mood
- Improving Quality of Life
- Measure Usability

This report plans the *first round* of the *summative phase of pilots* (M25-M27) that will test the first integrated RADIO (i.e. robotic platform, smart home functionalities and the final prototype of RADIO GUI) in order to establish the procedures for collecting questionnaires, RADIO output and ground truth observations for estimating the usability and efficacy of the system. More specifically, this report details the number of the participants and how long they will work with the consortium both at *private residences outside of any medical care institutions* (FZ) and at the *FHAG Geriatric Centre*. This report describes the scenarios of both pilots. This report also appends the consent forms that will be used for the study subjects, the assessment questionnaires and the safety certification of the used hardware.

1.2 Approach

RADIO pilot studies have been designed in three phases:

1. Formative phase; first pilot at FSL (D6.1/D6.5/D6.9)
2. Intermediate phase; second pilot of RADIO components at FSL (D6.2/D6.6/D6.10/D6.13)
3. Summative phase; final RADIO pilots.

The Summative phase includes **two rounds** of pilots, one during M25- M27 and one during M31-M33. Both rounds include pilots at FHAG premises and at the private homes of FZ clients who have volunteered to participate. The objectives of these pilots are (a) to validate the prototype of the overall RADIO system; and (b) to provide data for the final, summative user evaluation report and medical evaluation report. This deliverable plans the **first round** of summative piloting phase.

The steps leading up to carrying out the first round of pilot are as follows (described separately for FHAG and FZ studies):

Table 1. Time plan of FHAG pilot study deployment.

FHAG	Pilot facility refurbished and technical infrastructure ready to be tested by technical partners	20 Feb 2017
ROBOTNIK	Mapping of FHAG premises	
NCSR-D	Collected datasets with target group population for testing recognition methods for chair transfer, bed transfer, pill intake and 4m timed walk	20-22 Feb 2017
TWG	Network and BLE coverage	
S&C	Deployment of Smart Home (SH) sensors	10 Feb 2017
NCSR-D, TWG, ROBOTNIK, S&C	Overall deployment at FHAG / technical workshop/testing ADLs related to SH sensors	13-15 March 2017
NCSR-D, TWG, AVN	Finalize the recognition method software that will be used at the first round of Summative Phase pilots.	End of 2 nd reporting period
NCSR-D	Delivery of D5.5, final RADIO GUI prototype.	
ROBOTNIK	Finalize the robot platform design.	
NCSR-D	Final version of the main controller that collects data and prepares the daily report.	
ROBOTNIK	Delivered two robot platform units for FHAG pilot study.	
NCSR-D, TWG, ROBOTNIK, S&C	Overall deployment for the purposes of FZ Pilots/ technical workshop. Delivery of two robot platform units for FZ pilot study	May 2017

NCSR-D, TWG, ROBOTNIK and S&C will support the pilot with personnel on site (before and during the first days) and on the phone/email (throughout the whole pilot).

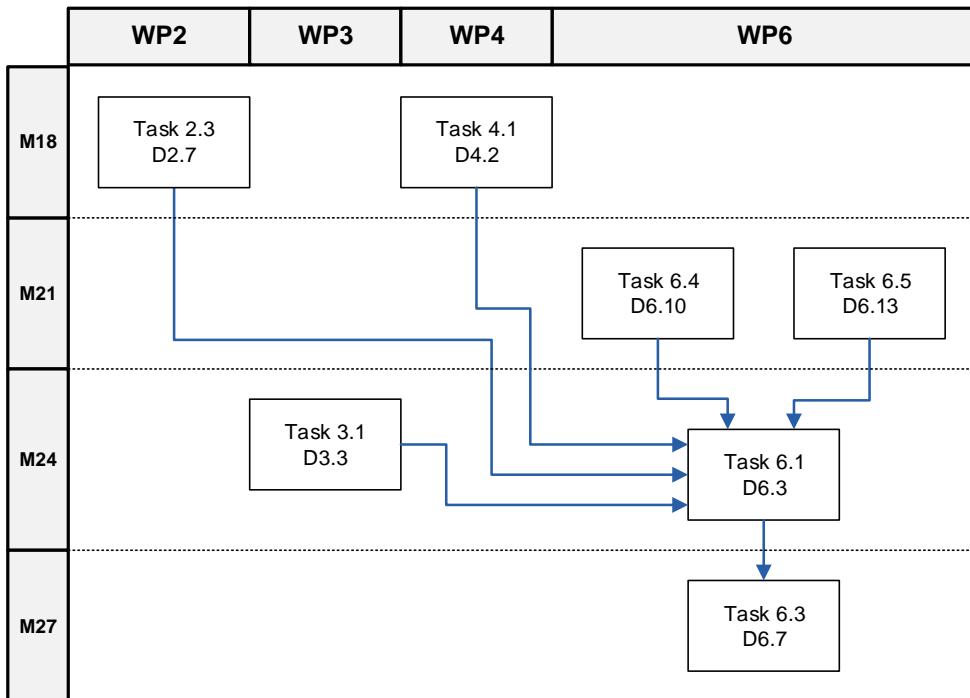


Figure 1: Dependencies between this deliverable and other deliverables.

1.3 Relation to other Work Packages and Deliverables

This deliverable is prepared within Task 6.1 *Piloting plan development* and it describes the pilot planning of the summative phase of the pilots. The selection criteria of the participants were firstly described in *D2.1 Early detection methods & relevant system requirements I*. Moreover, this deliverable takes into account the results of the summative phase pilot trials as reported in *D6.10 User evaluation report II*.

The ADL items recognition that is going to be tested during the summative phase pilot was decided based on *D2.7 Balancing between medical requirements and obtrusiveness*, *D3.3 Conceptual architecture for sensing methods and sensor data sharing III*, *D4.2 Architecture for extending smart homes with robotic platforms II* and the outcomes of the 3rd plenary meeting (Bochum, December 2016).

This report plans the *first round of trials of the summative phase* study that will be carried out at FHAG premises and at the private homes of FZ's clients in the context of *Task 6.3 Pilot deployment and execution (M22-M33)* to produce *D6.7 Pilot report II (M27)*.

These dependencies and interactions are also graphically depicted in Figure 1.

2 SUMMATIVE PHASE PILOTS: MATERIALS AND METHODS

The summative phase is dedicated to the evaluation of the usability and fitness of purpose of both the first and final *integrated RADIO prototype*. These will be tested during M25-M27 and M31-M33, accordingly. Particularly this report describes the details related to the pilot during M25-27 (first round of Summative phase pilot studies) at both FHAG premises and at private homes of FZ's clients.

2.1 Pilots at FHAG

2.1.1 Participants

Participants will be recruited from Day Hospital and Adolfo Montanya Nursing Home. For the pilot study all subjects will give written informed consent for participation.

Two weeks before the onset of the study, each potential candidate will be invited by a Researcher to a half an hour appointment that will take place at the Self-Contained RADIO Smart Apartment (SCRSA) to be informed about the purpose of the study and discuss any potential issues. At this stage, following detailed information, the participant will give us signed consent to precede the study.

Participants will be selected based on the inclusion and exclusion criteria as described in *D2.1 Early detection methods & relevant system requirements I* (see Section 2.4.2). In reference to the exclusion criterion related to the ability to operate the RADIO system, if a participant is unable to operate the RADIO system during 3 training sessions he will be excluded.

Eight (8) participants will be involved in the first round of the summative phase of pilots, starting from the 15th of May. Each participant will work **3 days** with the consortium.

2.1.2 Description of Self-Contained RADIO Smart Apartment

The test will take place inside the *Self-Contained RADIO Smart Apartment* (SCRSA) in Fundació Hospital Asil de Granollers. SCRSA is placed on third floor of the Adolfo Montanya Geriatric Centre (Figure 2). The services provided by the Smart Home are listed in Table 2.

Table 2. FHAG Smart Home Services

Services	Details on service
Security	<ul style="list-style-type: none"> • Flood detection • Smoke detection • Movement detection • Intrusion detection
Control: To turn on/off equipment & scheduling	<ul style="list-style-type: none"> • Lights • Air conditioning • Shutters • Electric appliances
Consumption: Information on electricity consumption and scheduling	<ul style="list-style-type: none"> • Room electric consumption • Cooker
Comfort: Knowledge about comfort values at home /Other smart home automations	<ul style="list-style-type: none"> • Motion, Temperature, Light, Humidity, Vibration, UV

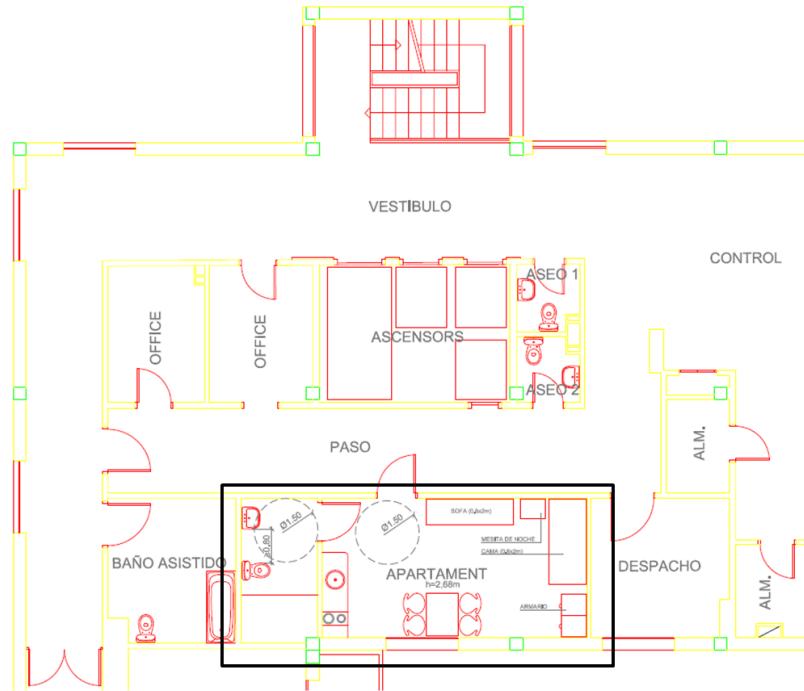


Figure 2 Floor map of the 3rd floor at Adolfo Montañá Geriatric Centre- Rectangle marks SCRSA with bedroom, dining space, kitchen and bathroom facilities



Figure 3. SCRSA. A and B correspond to the SCRSA; C bathroom; D robot station-positioning on the SCRSA: E doctor's visit room (named "despacho" at the 2D map of Figure 2).

2.1.3 Smart Nursing Home Scenario Description

Illustrative Scenario

Mrs. Josefa Pérez is an 80 years old lady with chronic medical conditions, without serious functional impairment who was admitted to our Nursing Home 2 years ago because she became widow, felt alone and was concerned about her performance managing on her own in the community (showed difficulties on managing finances and her medication).

Two weeks before the onset of the study, our Research Assistant (RA) will invite her to participate. A half an hour appointment will take place at SCRSA premises informing and discussing the purpose of it. At this stage, following detailed information, consent forms (see Appendices I and II) will be signed by the participant.

The first day of the study will be dedicated to assessment and training. *On the day of the study* the RA will pick up Mrs JP from her bedroom at room 21 on AM Nursing Home. The patient will be admitted around 11:00 am with some personal belongings regarding personal hygiene, clothing or food preferences. Soon after the person settles in the new apartment the research assistant will approach the patient in order to perform the standardized comprehensive geriatric assessment (CGA) using interRAI LTCF form (see D2.1).

Following CGA the RA will introduce interfaces, equipment and other facilities of the Smart Nursing Home as well as relevant considerations about safety and alarms. The SCRSA is connected 24 hours to the nursing central station. The RA will work with the patient in order to become familiar with the technology and up to three runs of information and practice with the Graphic User Interface will be offered before deciding that the patient is able to participate in the study. The Research Assistant will spend enough time to train the patient with the functionalities similar to what described in D6.2 section 2.2.2 Training description. After the baseline assessment and training the scheduled program will consist of 2 days / 1 night stay at SCRSA, completing three days all together for each participant at the FHAG pilot study.

Following the training day, the study will with data collection on human activity patterns with the RADIO system as it is presented in Table 3. We will work with 3 sub-scenarios at morning, afternoon and dinner times where basic (bed transfer, chair transfer, 4 meters walk) and instrumental (pill intake, meal preparation) activities will take place. Moreover, each participant will be given the opportunity to use smart home's functionalities. Each sub-scenario has its own description and it is characterized by specific activities that will happen in these periods of time. Health Care personnel will be present during specific periods of time (sub scenarios: breakfast, lunch and dinner time) to make the ground truth assessment.

The study finishes at 10:30 on day 3 with the fulfilment of usability, satisfaction and quality of life questionnaires and in-depth interview about potential obtrusiveness of the technology for qualitative analysis.

Standard schedule

Table 3. Standard schedule for FHAG pilot study scenario.

Day	Sub scenario	Schedule of events
D1 Training Day	Phase Baseline: Assessment 0. (11:00 – 12:30)	<ul style="list-style-type: none"> Arranged admission at 11:00 hours Reception Comprehensive Geriatric Assessment (CGA) by health care personnel. Information and training with RADIO system (up to three runs) Use of GUI: Initial ADLs recording: Bed transfer, Chair transfer, Pill intake, 4 meters walk inside.
D2 Study Day	Phase Baseline: Assessment I (11:00-12:30)	<ul style="list-style-type: none"> Start of the study Use of GUI: Comfort and safety (switching off TV set, blinks down, lights off sensor, arming safety alarm) ADLs recording: Bed transfer, Chair transfer, Pill intake, 4 meters walk inside.
	Phase II (Lunch) (13:30 – 15:00)	<ul style="list-style-type: none"> Pill intake -Lunch time medication Chair transfer -Lunch dining room Lunch ADL recording: 4 meters walk inside (x two times) Bed transfer- Lunch nap Armchair transfer (for TV watching) TV watching (activation of TV set) Use of GUI: Comfort and safety (switching off TV set, blinks down, lights off sensor, arming safety alarm) Going out
	Phase III (Dinner) (19:00 – 20:30)	<ul style="list-style-type: none"> Dinner time medication (Pill intake) ADLs recording: Chair transfer, 4 meters walk inside. Meal preparation Use of GUI: TV set down sensor, blinks down sensor, lights off sensor bed sensor. Going to bed 23:00
D3 Study Day	Phase I (Breakfast) (08:00 – 09:30)	<ul style="list-style-type: none"> Waking up 08:00 GUI usage: control comfort (lights, air conditioning, shutters) Final ADLs recording: Bed transfer, Chair transfer, Pill intake, 4 meters walk inside. Meal preparation: Breakfast
	Phase I (Outpatient's Visit) (09:30 – 10:00)	<ul style="list-style-type: none"> Going out to the doctor's appointment the patient has requested to the GUI to guide him to the doctor's outpatients visits. Opportunity to perform the 4 meter walking test outside the RADIO Smart Apartment. 4 meters walking test Going to OP 4 meters walking test Coming from OP End of the test. Final assessments and usability, QoL and obtrusiveness evaluation

All scenarios presented above are going to be repeated twice (see Appendix VI).

2.1.4 Evaluation Methods

The objectives of the study have in some way hierarchical priorities: first of all, the accuracy of the RADIO platform to measure activities of daily living, then to assess usability of the system and finally to analyse if there is any impact on self perceived quality of life. So we will have different statistical analysis according each of these objectives.

Evaluation of functional ADL

Functional status will be assessed with the interRAI LTCF instrument at the beginning of the study. Section G regarding physical function, in particular, will be measured also at the end of the study. The Folstein's MMSE will be performed to all participants as part of the comprehensive geriatric assessment.

Usability measures

RADIO overall usability will be measured using SUS, ASQ and PIADS questionnaires. Measures of the usability will be also assessed following the statistical methodology provided in D6.1 section 2.3.3 and D6.2 sections 2.3.3.1 and 2.3.3.2 from pilots. We will consider non-parametric tests due to small size of samples and ordinal/rank outcome variables. Median plus interquartile range Spearman test.

Improving Quality of Life

The impact of the RADIO ecosystem will be tested on Nursing Home (NH) participants. The self-reported Quality of Life instrument for Nursing Home Residents has up to 50 items grouped in 10 domains including privacy, food/meal, safety/ security, comfort, making daily decisions, respect, responsive staff, staff-resident bonding, activity option and personal relationship. These domains are very important in LTCF. There are two levels of scores; those domains specific and an overall aggregate score. In order to assess the impact of the RADIO ecosystem on patient's quality of life we will a before and after "intervention" assessment comparing these two measurements. We will consider non parametric tests due to small size of samples ($n < 30$). Descriptive statistics for central tendency and dispersion will be given with median plus interquartile and Wilcoxon test for paired data when testing mean differences.

Moreover, a custom made questionnaire will be used to assess dimensions of obtrusiveness as required in D2.6 Balancing between medical requirements and obtrusiveness (Appendix VIII).

Indicators for measuring validity of the Radio system

The following table reports, the **ground truth** observations/recording that will be conducted by the RA as well as the RADIO output. Ground truth will be compared to RADIO system output for the purposes of medical evaluation, i.e the validity of the RADIO system for its medical purpose (the results of this analysis will be reported in *D6.14 Medical evaluation report II*)

Statistical methodology will follow directives given in D2.1 section 2.6.1 "Measuring the accuracy of activities of daily life (ADL) recognition" regarding the development of a confusion matrix summarizing how many times different activities were misclassified by the system compared with ground truth assessment. From this matrix a set of common metrics such precision, recall, accuracy and the F1 score (harmonic mean of precision and recall) will be also calculated for each activity. The data recording form to be filled by RAs for each participant is provided in Appendix VI.

Table 4. Ground truth and RADIO system output for each interRAI item.

interRAI item	Ground Truth	RADIO output
<i>Bed transfer</i>	Collect ground truth similar to Intermediate phase pilot study *	Time of transfer (secs) (Onset and total duration from lying down in bed to standing up position)
<i>Chair transfer</i>		Duration of transfer (secs)
<i>4 meters walk</i>		Duration of walk (secs)
<i>Pill intake</i>	The research assistant will assess pill intake during different times throughout the study. Medication (placebo or pill-like candy) will be at the patient's room. Before pill intake the patient will put the meds into the container and will proceed with pill intake.	Confirmation of pill intake and time stamp
<i>TV watching.</i>	Random observations within the day – number of occurrences	Comparison with RADIO system's time stamped event.
<i>Going out of the room.</i>	Logged times of participants in and outs of the room.	Time stamped events (based on SH rule engine).
<i>Meal preparation</i>	The auxiliary nurse writes down the time of beginning and end of meal preparation.	Time stamped events (based on SH rule engine). **

* The robot produces a sound that signals: A) to the participant to start performing the ADL and B) to the RA to start recording time. When participant is in a standing position, this is the end of the recording.

** This rule is based on: Open cupboard & kettle use & toaster (or microwave use) & fridge use.

2.2 Pilots at the private homes of FZ clients

2.2.1 Participants

Participants will be selected based on the inclusion and exclusion criteria as described in *D2.1 Early detection methods & relevant system requirements I*, coming from:

- Beneficiaries of Frontida Zois home care services
- Volunteers coming from the social care activities network of Frontida Zois

After the termination of the technical control visits by the technical group of TWG to the homes of the selected participants, and in a time period of 1 month before the actual start of FZ's 1st piloting phase (at the end of May), the medical team of FZ composed by a nurse and a social worker will visit and inform all the selected subjects. All the necessary information about the project, its objectives and the methodology of the trial will be analyzed to the patients and their relatives/caregivers, and once accepted to participate all subjects will sign the informed consent form in order to start the training (Appendices I/IV).

Ten (10) participants (private homes) will be involved in the first round of the summative phase of pilots. Each participant will work three consecutive days with the consortium.

The RADIO system will be pre-installed before the actual start of the three days testing period. During the testing period of three days, the subject will follow his usual living routine with the RADIO system activated and monitoring. The training sessions will be arranged between the participant and the nurse of FZ who is scheduled to visit the participant daily to take feedback for the course of the intervention

and to give guidance and support (more than a month before the actual study). According to the last of the exclusion criteria for the summative phase of the trials, if a subject proves to be unable to operate the RADIO system during 2 training sessions he will be excluded.

2.2.2 Description of pilot setting

The morphology of the subject's private homes may vary significantly. The effort of FZ will be to recruit elderly people that live in a house that permits the deployment of the RADIO robot in terms of space and settling of objects and furniture that might impede the robot. Other parameter required by the home users is to have internet connection installed into their homes

In cases that no internet connection is available, the technical team assigned for FZ use cases along with the team from FZ will elaborate alternatives (for example, wireless limited connection to the network).

The Smart Home services to be installed in the private homes will be:

- Control: To turn on/off lights and/or TV and
- Comfort: Knowledge about comfort values at home (Temperature, Light, Humidity)

2.2.3 Scenario Description

Illustrative scenario

Mrs Vasiliki is a 69-years old woman, she lives at home alone since her husband death 10 years ago, and she has two married daughters. She has a moderate mobility restriction due to ageing, but she is walking without help, although when outside she uses a cane.

More than 1 month before the actual start of the pilots, the GUI experts from TWG along with the nurse of FZ will visit the participant candidates to introduce them the interface, and train the participant into using the RADIO GUI in functionalities similar to what described in D6.2 section 2.2.2 Training description. Moreover, at this time the nurse will provide a more detailed explanation of the overall RADIO system, about what to be expected. All the possible risks and attitude towards the robot will be analyzed and Mrs Vasiliki will sign the informed consent form. This first session with the participant minimize the risks of drop outs at a later stage of the study.

Three weeks before the start of the pilots the technical team of TWG will visit Mrs Vassiliki along with the nurse of FZ and they will make the appropriate measurements for the technical configuration needed for the test period.

At the first day of the pilot the nurse of FZ will visit Mrs Vasiliki at an arranged time (09.00 at morning) in order to perform the standardized the comprehensive geriatric assessment (CGA) using the interRAI HC form and run the pilot schedule of the training day, as described in Table 5.

The rest of the days, we will work with 3 sub-scenarios at morning, lunch and dinner times where basic (bed transfer, chair transfer, 4 meters walk) and instrumental (pill intake, meal preparation) activities will take place (Table 5). The study finishes at 10:00 on day 3 with the fulfilment of usability questionnaires and in-depth interview about potential obtrusiveness of the technology for qualitative analysis.

Standard schedule

Table 5. Standard schedule for FHAG pilot study scenario.

Day	Sub scenario	Schedule of events
D1 <i>Training Day</i>	Phase Baseline: <i>Assessment 0.</i> (09:00 – 11:00)	<ul style="list-style-type: none"> • Visit of FZ Nurse at 09.00am • Comprehensive Geriatric Assessment (CGA) by FZ Nurse. • Use of the Graphical User Interface • Initial ADLs recording: Bed transfer, Chair transfer, Pill intake, 4 meters walk inside.
D2 <i>Study Day</i>	Phase II (Lunch) (12:00-14:30)	<ul style="list-style-type: none"> • Visit of FZ Nurse at 12.00am • Use of the Graphical User Interface • Pill intake - Lunch time medication • Lunch ADLs recording: 4 meters walk inside (x2), Chair transfer (x2) • Bed transfer –Lunch nap • TV watching
	Phase III (Dinner) (20:30 – 22:00)	<ul style="list-style-type: none"> • Dinner time medication (Pill intake) • ADLs recording x 2 Times: Chair transfer, 4 meters walk inside. • Use of GUI: TV set down sensor, lights off
D3 Study Day	Phase I <i>(Breakfast)</i> (09:30 – 10:00)	<ul style="list-style-type: none"> • Visit of FZ Nurse at 09.00am • Waking up • GUI usage: control comfort (lights, shutters) • Final ADLs recording: Bed transfer, Chair transfer, Pill intake, 4 meters walk inside. • End of the test. • Final assessments and usability, and obtrusiveness evaluation

All scenarios presented above are going to be repeated twice (see Appendix VII). The robot positions for recording the ADLs in case of private homes will be define during the technical visit.

2.2.4 Evaluation Methods

Similar to Section 2.1.4 this section describes the evaluation methods for the private homes scenarios.

Evaluation of functional ADL

Functional status will be assessed with the interRAI HC instrument by the nurse of FZ in the beginning of the study. Section G regarding physical function, in particular, will be measured also at the end of the study. The Folstein's MMSE will be performed to all participants. In order to avoid drop outs because of the exclusion criteria based on MMSE, when inviting candidates a sort of clinical assessment from recent medical records should be contemplated.

InterRAI HC was translated by FZ and was sent for verification of terminology to different doctors from the Patras region.

Usability measures

Usability will be evaluated in a similar way to the one described in 2.1.4.

Improving Quality of Life

In case of FZ, only the custom made questionnaire to assess dimensions of obtrusiveness will be used, as required in D2.6 Balancing between medical requirements and obtrusiveness (Appendix VIII).

Indicators for measuring validity of the Radio system

Similar to what described in Section 2.1.4, ground truth observations that will be conducted by the FZ nurse assigned for each participants. Ground truth will be compared to RADIO system output for the purposes of medical evaluation, i.e the validity of the RADIO system for its medical purpose (the results of this analysis will be reported in D6.14 Medical evaluation report II). The data recording form to be filled by nurse in case of FZ scenarios is provided in Appendix VII.

2.3 Data Retention

Data retention procedures follow the same methodology and described in *D6.2 Piloting Planning II/ Section 2.4.*

3 TECHNICAL DETAILS

3.1 Graphical User Interface and Clinical Staff Update

During the Summative Phase of pilot studies, participants will use the *RADIO Graphical User Interface* (GUI) to interact with the robot (ask to be guided to the doctor's room) and to use Smart Home functionalities. This GUI has been developed and tested within Task 5.2 and it follows the requirements provided by previous studies (*D6.9 and D6.10: User evaluation report I/II*).

Clinical staff will receive an email with a report on recognized interRAI items upon completion of the study for each participant, Moreover, all clinical information will be found in the Hospital GUI.

3.2 Communication between RADIO home components

The architecture of the different RADIO home components as it will be used in the Summative Phase pilot studies is described D4.2.

3.3 Recognition methods and components

The following ADLs will be recorded:

- **Walking 4 meters** (time) – Laser scanner data processing for detecting movement, method described in D3.4,
- **Medication intake** – Image processing for detecting that a medicine cap is used, method described in D3.4,
- **Bed transfer** (time) – Image processing for detecting movement from a lying position to standing up, method described in D3.4,
- **Chair transfer** (time) – Image processing for detecting movement from a sitting position to standing up, described in D3.5,
- **Meal preparation** – Smart home sensors' event detection and decision based on rule engine described in D3.5.
- **TV watching** – Smart home sensors' event detection and decision based on rule engine described in D3.5,
- **Going in and out of home** – Smart home sensors' event detection and decision based on rule engine described in D3.5,

3.4 Robot Design and Robot Behaviour

The robotic platform used for the test will be the first design of the RADIO robot (Deliverable 4.6).

The robot will be composed by:

- The Turtlebot 2 mobile platform
- A Hokuyo UST10 LX laser
- An Orbbec RGBD camera
- On board NUC pc
- WiFi and Bluetooth Low Energy connectivity

In the FHAG pilot study, two locations have been selected as appropriate for observing ADLs. The robot will automatically position itself in these locations through the day to make measurements and also respond to user requests for robot guidance. The robot will dock itself to re-charge.

The experimenters are provided with remote control functionalities that force making measurements. This allows parallel system/ground truth measurements for experimentation and comparison.

3.5 Equipment for supporting Smart Home functionalities

Table 6 presents the Smart Home equipment installed by S&C at the FHAG premises for accommodating the smart home services listed. In the case of FZ pilots, the following services will be available: Control/Comfort of Lights/TV (Smart plugs) and *Control /Comfort* home environment (Multisensor 6)

Table 6. Smart Home Services and sensors /actuators.

Smart Home Services	Sensor /Actuator
<i>Security-Flood sensing</i>	Flood Sensor
<i>Security-Smoke sensing</i>	Smoke Sensor
<i>Security-Presence sensor in the room</i>	Presence sensor in the room
<i>Security- Magnetic Sensors on Door</i>	Magnetic Sensors on: Door
<i>Control/Comfort of Lights</i>	Smart switch –interrupter (Kitchen light and room light)
<i>Control/Comfort air conditioning</i>	Z-Wave-to-AC IR Extender
<i>Control /Comfort home environment (Motion, Temperature, Light, Humidity, Vibration, UV)</i>	Multisensor 6 (x2) (Under bed and on the wall close to the TV)
<i>Control of shutters.</i>	Connection with motors
<i>Control of electric appliances</i>	Kettle/ Toaster/ Microwave /TV smart plugs
<i>Consumption of room energy</i>	Z-Wave Smart Energy Meter
<i>Consumption of cooktop</i>	Cooktop power consumption sensor
<i>Comfort</i>	Pressure sensor under mattress
<i>Comfort</i>	Pressure sensor under sofa
<i>Comfort</i>	Pressure sensor under chair
<i>Comfort</i>	Magnetic Sensors on: Fridge door/ Cupboards (3)

APPENDICES

APPENDIX I

This appendix presents the English-language *Participant Information and Consent Form* that informs participants about the project and explains the tests and treatments involved.

Participant Information and Consent Form (PICF)

Project: Robots in assisted living environments:
Unobtrusive, efficient, reliable and modular solutions for
independent ageing (RADIO)

H2020-PHC-2014-single-stage 643892

Headed with Institution's name or on Institution's Letterhead

Participant Information and Consent Form

[Insert Institution's name]

Full Project Title: Robots in assisted living environments: Unobtrusive, efficient, reliable and modular solutions for independent ageing (RADIO)

Principal Researcher: **[Insert researcher name]**

1. Introduction

You are invited to take part in the RADIO project. This innovation project will develop and evaluate a platform, which enables to improve time to be spent autonomously at home by users. It will ensure the timely availability of the user's clinical and behavioural data to allow timely prognosis and clinical actions from the medical expert and/or health professional or care-givers.

This Participant Information and Consent Form informs you about the project. It explains the tests and treatments involved. Please read this information carefully. Ask questions about anything that you don't understand or want to know more about.

Participation in this project is **voluntary**. If you don't wish to take part, you don't have to. **You will receive the best possible care whether you take part or not.**

If you decide you want to take part in the project, you will be asked to sign the consent section. By signing it you are telling us that you:

- understand what you have read;
- consent to take part in the project;
- consent to have the tests and treatments that are described;
- consent to the use of your personal and health information as described.

You will be given a copy of this Participant Information and Consent Form to keep.

2. What is the purpose of this research?

The project will develop and evaluate a platform, which enables to improve time to be spent autonomously at home by users. Technological partners will provide their innovative solutions to be integrated in the new platform and evaluated by several healthcare organizations across Europe.

The goal of RADIO is to develop methods for detecting the activities of daily life (ADL) and mood conditions that are pertinent for detecting early symptoms of cognitive impairment; frailty, and social exclusion, and to compare them against what can be achieved by more obtrusive setups (that affect quality of life of primary end users) or by placing the burden of constant monitoring on their care givers.

This project will enable to evaluate how well the RADIO-provided information can serve the purpose of detecting early symptoms of cognitive impairment, so that admissions and days spent in care institutions for precautionary reasons can be drastically reduced.

The effectiveness of the solutions will be evaluated by over 100 elderly users/patients across different countries, cultures, age groups and risk factors.

The RADIO system will consist in a domestic assistant robot that robot exhibits a behaviour akin to that of a pet.

This research is being conducted by the RADIO Consortium and sponsored by the European Commission under the H2020 program - H2020-PHC-2014-single-stage 643892.

3. What does participation in this research involve?

An experimental multicentre and multinational clinical trial will be performed. The study will be conducted on 164 elderly participants living at home or in residential care. The participants will be located in 3 pilot sites.

To be included in the trial each user must meet a set of conditions called, inclusion criteria. Participants who satisfy inclusion criteria will be assigned to one of the following groups:

1. 30 participants will be enrolled in the Formative phase group; the pilot at Fondazione Santa Lucia – FSL (Italy)
2. 36 participants will be enrolled in the Intermediate phase group; the pilot of RADIO components at FSL: 36 users
3. 82 participants will be enrolled in the Summative phase group; 24 users at Granoillers-FHAG (Spain), 24 users and 24 caregivers at Frontida - FZ (Grece)

1. Formative phase. The first pilot will be carried out at FSL premises. This phase will be used to collect data useful for the following phase. Each patient will be required to attend one session. Each session will be 30 minutes duration.

2. Intermediate phase. The second round of pilot, also at FSL premises, will be realized with the first versions of user interfaces, devices, and the robotic platform. Each patient will be required to attend two sessions. Each session will be 1-hour duration

3. Summative phase. This final phase includes two sets of experiments, one at FHAG premises and one at the FZ. The objectives of these pilots are to validate the RADIO system and to provide results to support their validity.

[INSERT PARTICIPATION PROTOCOL HERE]

[START SAMPLE PARTICIPATION PROTOCOL]

Each training process will be executed in 2 sessions per week for 12 weeks (24 sessions). Duration of each session: 1 hour.

All the participants in the study will be followed during 9 months.

[END SAMPLE PARTICIPATION PROTOCOL]

You will not be paid for your participation in this research.

4. What are the possible benefits?

We cannot guarantee or promise that you will receive any benefits from this research, however, possible benefits may include:

- prolonging the time that elderly people can live independently at home by providing ICT service;
- delivering evidence of improvements in the quality of life of older people and their families;
- facilitating wide take-up of ICT based independent living related solutions across Europe.

5. What are the possible risks?

No side effects are expected for this experimentation based on using at home a robot which collect data about daily activities and mood and has been developed to help user during emergency situation trough an alert send to care-giver/doctors and helps users in remind some activities as take a medications.

6. What if new information arises during this project?

During the project, new information about the risks and benefits of the project may become known to the researchers. If this occurs, you will be told about this new information and your doctor will discuss whether this new information affects you.

7. Can I have other treatments during this project?

It is important to tell your doctor and the research staff about any treatments or medications you may be taking, including over-the-counter medications, vitamins or herbal remedies, acupuncture or other alternative treatments. You should also tell your doctor about any changes to these during your participation in the research.

8. Are there alternatives to participation?

Participation in this trial is not your only option. Your other options may include the standard care. Discuss these options with your doctor before deciding whether or not to take part in this research project.

9. Do I have to take part in this project?

Participation in any research project is voluntary. If you do not wish to take part you don't have to. If you decide to take part and later change your mind, you are **free to withdraw** from the project at any time.

Your decision whether to take part or to not take part, or to take part and then withdraw, will not affect your routine treatment, your relationship with those treating you or your relationship with [your Institution's name].

10. What if I withdraw from this project?

If you decide to withdraw from the project, please notify a member of the research team before you withdraw. This notice will allow that person or the research supervisor to inform you if there are any health risks or special requirements linked to withdrawing.

If you decide to leave the project, the researchers would like to keep the personal and health information about you that have been collected. This is to help them make sure that the results of the research can be measured properly. If you do not want them to do this, you must tell them before you join the research project.

11. Could this research project be stopped unexpectedly?

This research project may be stopped for a variety of reasons before completion. These may include reasons such as:

- Unacceptable side effects;
- The intervention being shown not to be effective;
- The intervention being shown to work and not need further testing;

12. What else do I need to know?

What will happen to the information about me?

Any information obtained in connection with this research project that can identify you will remain confidential and will only be used for the purpose of this research project. It will only be disclosed with your permission, except as required by law. All personal and medical information will be treated securely and in accordance with privacy rules and with EU Data Protection and confidentiality laws.

Your health records and any information obtained during the study are subject to inspection (for the purpose of verifying the procedures and the data) by the relevant authorities and authorised representatives of the Sponsor, the European Commission, [INSERT ORGANIZATION NAME] or as required by law. By signing the consent section, you authorise release of, or access to, this confidential information to the relevant study personnel and regulatory authorities as noted above.

In any publication and/or presentation, information will be provided in such a way that you cannot be identified, except with your permission.

What happens if I am injured as a result of participating in this research project?

The Hospitals and/or Care Centers involved in these trials unilaterally accept full and formal duty of care for patients involved in the study. For this reason, if you suffer an injury as a result of participating in this research project, hospital care and treatment will be provided by the public health service at no extra cost to you if you elect to be treated as a public patient.

If, for any reason you cannot benefit of public health service, hospital care and treatment will be directly provided by the hospitals and care center leading the trials.

13. Consent

I have read, or have had read to me in a language that I understand, this document and I understand the purposes, procedures and risks of this research project as described within it.

I give permission for my doctors, other health professionals, hospitals or laboratories outside this hospital to release information to [name of Institution] concerning my disease and treatment that is needed for this project. I understand that such information will remain confidential.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this research project as described.

I understand that I will be given a signed copy of this document to keep.

Participant's name (printed)

Signature

Date

Name of witness to participant's signature (printed)

Signature

Date

Declaration by researcher*: I have given a verbal explanation of the research project, its procedures and risks and I believe that the participant has understood that explanation.

Researcher's name (printed)

Signature

Date

* A senior member of the research team must provide the explanation and provision of information concerning the research project.

Note: All parties signing the consent section must date their own signature.

14. Who can I contact?

The person you may need to contact will depend on the nature of your query. Therefore, please note the following:

For further information or appointments:

If you want any further information concerning this project or if you have any medical problems which may be related to your involvement in the project (for example, any side effects), you can contact the principal researcher or any of the following people:

Name:

Role: *principal investigator* (and 24-hour medical contact)

Telephone:

Name:

Role:

Telephone:

For complaints:

If you have any complaints about any aspect of the project, the way it is being conducted or any questions about being a research participant in general, then you may contact:

Name:

Position:

Telephone:

APPENDIX II

This appendix presents the Spanish -language *Participant Information and Consent Form* that informs participants of the FHAG pilot study about the project and explains the tests and treatments involved. This form is based on the English-language form in Appendix I.



Hoja de información al paciente y consentimiento informado

Proyecto:

Robots in assisted living environments:

Unobtrusive, efficient, reliable and modular solutions
for independent ageing (RADIO)

Soluciones no intrusivas, eficientes, fiables y modulares para un envejecimiento independiente (RADIO).

H2020-PHC-2014-single-stage 643892

Fundació Privada Hospital Asil de Granollers



Hoja de Información al paciente y consentimiento informado.

Título del proyecto: Robots in assisted living environments: Unobtrusive, efficient, reliable and modular solutions for independent ageing (RADIO). **Robots en entornos de vivienda asistida. Soluciones no intrusivas, eficientes, fiables y modulares para un envejecimiento independiente.**

Investigadores principales: Dr. Sergio Ariño, Dra. Elena Barranco

Institución: Fundació Privada Hospital Asil de Granollers

1. Introducción

Usted está invitado a participar en el proyecto RADIO. Este proyecto de innovación quiere desarrollar y evaluar una plataforma, que pretende mejorar la vida autónoma en el hogar. En el proyecto se garantizará la disponibilidad oportuna de los datos clínicos y de comportamiento del usuario para permitir un pronóstico y acciones clínicas oportunas por parte del experto médico y / o profesional de la salud o del profesional cuidador.

Esta Hoja de Información al Paciente y Consentimiento Informado le informa sobre el proyecto, y explica las pruebas y tratamientos a realizar. Por favor, lea esta información cuidadosamente. Haga preguntas sobre cualquier cosa que usted no entienda o que requiera más información.

La participación en este proyecto **es voluntaria**. Si no desea participar, no debe hacerlo. Usted recibirá la mejor atención posible tanto si decide participar o no.

Si usted decide que quiere participar en el proyecto, se le pedirá que firme el consentimiento informado, la sección al final de esta hoja de información al paciente. Al firmar está informando que:

- comprende lo que ha leído;
- da su consentimiento para participar en el proyecto;
- da su consentimiento para realizar las pruebas y los tratamientos que se describen;
- da su consentimiento para el uso de su información personal y de salud como se describe.

Se le dará una copia de esta Hoja de Información al Paciente y del Formulario de Consentimiento Informado.

2. ¿Cuál es el propósito de esta investigación?

El proyecto desarrollará y evaluará una plataforma que permitirá mejorar el tiempo de vida autónoma en el hogar por parte de los usuarios. Los socios tecnológicos del proyecto ofrecerán soluciones innovadoras que se irán integrando en la nueva plataforma, al tiempo que serán evaluadas por varios centros de salud de toda Europa.

El objetivo del proyecto RADIO es desarrollar métodos para detectar las **actividades de la vida diaria** (AVD) y las condiciones en el estado de ánimo que son pertinentes para detectar los primeros síntomas de deterioro cognitivo, la



fragilidad y la exclusión social y compararlos con lo que se puede conseguir a través de configuraciones más molestas (que afectan la calidad de vida de los usuarios finales primarios) o trasladando la carga del monitoreo constante a los cuidadores. Cabe destacar que las AVD a controlar son: baño, higiene personal, el proceso de vestir (parte superior e inferior del cuerpo) caminar, locomoción, traslado, uso del WC, movilidad en la cama y alimentación.

Además de las AVD, los cambios en el ánimo y el comportamiento pueden proporcionar indicadores para planes de cuidado e intervención apropiados. El reconocimiento del estado de ánimo será obtenido a través de análisis del habla y de características faciales.

El sistema RADIO consiste en **un asistente doméstico robot** que muestra un comportamiento similar a una mascota. Se trata de un robot móvil dotado de sensores capaz de detectar los movimientos del usuario, registrar audio, hacer un reconocimiento de expresión facial ya través de una interfaz de pantalla táctil controlar el robot, la domótica y entornos de asistencia.

Este proyecto permitirá evaluar hasta qué punto la información proporcionada por RADIO puede servir al propósito de detectar síntomas previos de deterioro cognitivo, de manera que los ingresos y los días transcurridos en instituciones por razones de precaución pueden ser reducidos drásticamente

La efectividad de las soluciones será evaluada con más de 100 usuarios o pacientes en diferentes países, diferentes culturas, diferentes grupos de edad y diferentes factores de riesgo.

Esta investigación se realiza por el Consorcio RADIO y está subvencionado por la Comisión Europea a través de la convocatoria H2020-PHC-2.014, proyecto 643.892, del Programa Horizon 2020.

3. ¿Qué implica esta investigación?

Se llevará a cabo un ensayo clínico multicéntrico y multinacional. El estudio se llevará a cabo con **114 participantes** escogidos entre gente mayor, que viven en su domicilio o bien en una residencia. Los participantes se escogerán de 3 centros piloto.

Para ser incluido en el estudio, cada usuario debe cumplir una serie de condiciones llamadas criterios de inclusión. Los participantes que cumplan los criterios de inclusión serán asignados a los centros siguientes:

- 1- 30 participantes serán reclutados al **grupo de fase formativa**; el centro piloto se la Fondazione Santa Lucia - FSL (Italia).
- 2- 62 participantes serán reclutados para el **grupo de fase intermedia**: el piloto también se llevará a cabo en FSL (Italia) y se reclutará 36 usuarios y 26 cuidadores.
- 3- 72 participantes se reclutarán en el **grupo de fase acumulativa**: 24 usuarios en el **Hospital General de Granollers** (España) y 24 usuarios y 24 cuidadores en Frontida (FZ), Grecia.

1. Fase formativa: el primer estudio piloto se llevará a cabo en las instalaciones de FSL. En esta fase se recogerán datos útiles para la fase siguiente. Cada paciente será convocado a una sesión de 30 minutos de duración.

2. Fase intermedia: la segunda fase del piloto también se realiza a FSL y se realizará con las primeras versiones de interfaces, dispositivos y la plataforma robótica. Cada paciente será convocado a dos sesiones. Cada sesión será de una semana de duración.

3. Fase acumulativa: En esta fase final se incluyen dos conjuntos de experimentos: uno en las instalaciones del Hospital de Granollers y otra en el centro FZ de Grecia. Los objetivos de estos estudios piloto serán validar el sistema RADIO y obtener resultados que refuerzen su validez.

Para los pilotos llevados a cabo en el Hospital de Granollers:

- Todos los participantes en el estudio tendrán un seguimiento de 3 días de duración.
- La participación en el estudio no conlleva ninguna compensación económica.

4. ¿Cuáles son los posibles beneficios?

No podemos garantizar ni prometer que recibirá beneficios de esta investigación, sin embargo, los posibles beneficios pueden incluir:

- prolongar el tiempo que las personas mayores puedan vivir independientemente en casa provistas de servicios de Tecnologías de la Información y la Comunicación (TIC).
- aportar evidencia en la mejora la calidad de vida de las personas mayores y sus familias;
- facilitar una amplia adopción en toda Europa de soluciones basadas en las TIC, para la vida independiente de las personas mayores.

5. ¿Cuáles son los posibles riesgos de participar en este estudio?

No hay efectos adversos previstos en experimentos basados en el uso de un robot en el domicilio, que recogerá datos referentes a actividades de la vida diaria y el estado de ánimo, y que, ha sido desarrollado para ayudar al usuario durante situaciones de emergencia, a través de una alerta enviada a cuidadores y / o médicos, así como para recordar al usuario actividades como la toma de medicación.

6. ¿Qué pasaría si surge nueva información relevante a lo largo del proyecto?

Puede darse el caso de que surja nueva información durante el proyecto relativa a los riesgos o beneficios. Si esto sucede, usted será informado de esta nueva situación, así como si ésta, puede afectarle en algún sentido.

7. ¿Puedo disponer de otros tratamientos durante este proyecto?

Es importante que le comunique a su médico y al equipo investigador cualquier tratamiento o medicación que esté tomando, incluyendo medicamentos no prescritos, vitaminas, hierbas tradicionales, acupuntura o cualquier tratamiento alternativo. También debería comunicarle a su médico acerca de los cambios que pueda notar durante la participación en la investigación.

8. ¿Existen alternativas a la participación en este estudio?

La participación en este estudio no es su única opción. Las otras opciones pueden incluir el manejo estándar. Es necesario que discuta todas las opciones con su médico antes de decidir si participar en este proyecto de investigación.

9. ¿Tengo que participar en este proyecto?

La participación en cualquier proyecto de investigación **es voluntaria**. Usted no tiene que participar si no quiere. Si decide participar y posteriormente cambia de opinión usted **es libre de abandonar el proyecto en cualquier momento**. Su decisión de participar o no, o de participar y luego abandonar, no afectará su



tratamiento rutinario, la relación con las personas que lo/la tratan o su relación con la Fundación Privada Hospital Asil de Granollers.

10. ¿Y si abandono el proyecto?

Si decide abandonar el proyecto, por favor **notifíquelo** un miembro del equipo investigador antes de abandonarlo. Esta notificación previa permitirá al responsable de la investigación informarle de cualquier riesgo o condición especial ligada al hecho de abandonar.

Si decide abandonar el proyecto, los investigadores querrán mantener su información personal y de salud que hayan recogido sobre usted. Esto es para ayudarles a obtener datos fiables que permitan un recuento de datos adecuado. Si usted no desea que se conserve esta información, debe avisar al equipo antes de participar en el proyecto de investigación.

11. ¿Podría este proyecto ser detenido en cualquier momento?

Este proyecto de investigación se puede detener por varias razones antes de llegar a su fin. Algunas causas pueden ser:

- Efectos adversos inaceptables.
- El tratamiento demuestra no ser efectivo.
- Se demuestra que el tratamiento funciona y no necesita más pruebas

12. ¿Qué más necesito saber?

• ¿Qué pasará con mi información personal?

Toda la información obtenida en relación con este proyecto de investigación es confidencial y sólo será utilizada para el propósito de este proyecto de investigación. Sólo se proporcionará a terceros con su permiso, excepto cuando sea requerido por la ley.

Los datos personales y médicos serán tratados de forma segura de acuerdo con la Ley Orgánica 15/1999 de 13 de diciembre de Protección de Datos Personales (LOPD).

Su historial de salud y cualquier otra información obtenida durante el estudio **están sujetos a inspección** (a los efectos de verificar los procedimientos y los datos) por las autoridades competentes y los representantes autorizados del patrocinador, la Comisión Europea, la Fundación Privada Hospital Asilo de Granollers, o de lo requerido por la ley.

Al firmar la sección de consentimiento, acepta la divulgación o el acceso a dicha información confidencial pertinente para el personal del estudio y las autoridades reguladoras como se ha señalado anteriormente.

En cualquier publicación y / o presentación, la información será tratada de modo que usted no pueda ser identificado a menos que contamos con su permiso.

De conformidad con la normativa vigente en materia de protección de datos, Ley Orgánica 15/99 de 3 de diciembre, usted consiente expresamente la inclusión de los datos de su historia clínica así como los resultados de su participación en el estudio en un fichero de datos personales "Investigación y ensayos clínicos" bajo la



responsabilidad de la Fundación Privada Hospital Asilo de Granollers. El acceso a su información personal quedará restringido al médico del estudio y sus colaboradores, autoridades sanitarias, el Comité Ético de Investigación y los monitores y auditores del promotor, que estarán sujetos al deber de secreto inherente a su profesión cuando lo necesiten, para comprobar los datos y procedimientos del estudio, pero siempre manteniendo la confidencialidad de las mismas de acuerdo con la legislación vigente.

Finalmente, usted puede ejercer los derechos de acceso, rectificación, cancelación y oposición de datos, para lo cual deberá dirigirse al Centro donde se haya desarrollado el estudio: Fundación Privada Hospital Asilo de Granollers

• ¿Qué sucede si resulto herido como consecuencia de participar en este proyecto de investigación?

Los Hospitales y / o Centros de Atención de Salud involucrados en estos ensayos, aceptan unilateralmente de forma total y formal el deber de atender a los pacientes que participan en el estudio.

Por esta razón, si usted sufre una lesión como resultado de participar en este proyecto de investigación, el servicio público de salud proveerá el tratamiento y atención hospitalaria sin coste adicional para usted, si elige ser tratado a través del sistema público.

13. Consentimiento

He leído, o me han leído en un lenguaje que entiendo, este documento y entiendo los propósitos, procedimientos y riesgos de este proyecto de investigación tal como se describe en este documento.

Doy permiso para mi personal médico, a otros profesionales asistenciales, en el hospital o laboratorios fuera de este hospital difundir información a la Fundación Privada Hospital Asilo de Granollers relativa a mi enfermedad y tratamiento necesario para este proyecto. Entiendo que esta información se mantendrá confidencial.

He tenido la oportunidad de hacer preguntas y estoy satisfecho con las respuestas que he recibido.

Acepto libremente participar en este proyecto de investigación tal como se describe.

De conformidad con la normativa vigente en materia de protección de datos, Ley Orgánica 15/99 de 3 de diciembre, usted consiente expresamente la inclusión de los datos de su historia clínica así como los resultados de su participación en el estudio en un fichero de datos personales "Investigación y ensayos clínicos" bajo la responsabilidad de la Fundación Privada Hospital Asilo de Granollers. El acceso a su información personal quedará restringido al médico del estudio y sus colaboradores, autoridades sanitarias, el Comité Ético de Investigación y los monitores y auditores del promotor, que estarán sometidos al deber de secreto inherente a su profesión cuando lo necesiten, para comprobar los datos y procedimientos del estudio, pero siempre manteniendo la confidencialidad de las mismas de acuerdo con la legislación vigente.

Finalmente, usted puede ejercer los derechos de acceso, rectificación, cancelación y oposición de datos, para lo cual deberá dirigirse al Centro donde se haya desarrollado el estudio: Fundación Privada Hospital Asilo de Granollers.

Entiendo que me darán una copia firmada de este documento para mi archivo.
Nombre del participante

Firma

Fecha

Nombre del testigo de la firma del participante

Firma

Fecha



Declaración del investigador*: He realizado una explicación verbal del proyecto de investigación, de sus procedimientos y riesgos y creo que el participante ha entendido esta explicación.

Nombre del investigador

Firma

Fecha

* Un miembro senior del equipo de investigación debe de proveer la explicación y provisión de la información correspondiente al proyecto de investigación.

Nota: Todas las partes que firman la sección de consentimiento deben fechar además de firmar.

14. ¿Con quién puedo contactar?

La persona con la que podría necesitar contactar dependerá de la naturaleza de su consulta. Por favor, tenga en cuenta lo siguiente:

Para información adicional o citas:

Si usted necesita cualquier información adicional respecto este proyecto, o si tiene algún problema médico que pueda estar relacionado a su participación en el proyecto (por ejemplo, algún efecto secundario), puede contactar con el investigador principal o cualquiera de las siguientes personas:

Nombre:

Cargo: *Investigador Principal* (y contacto médico las 24 horas)

Teléfono:

Nombre:

Cargo:

Teléfono:

Para reclamaciones:

En caso de tener alguna queja o reclamación por cualquier aspecto del proyecto, la forma en que se desarrolla o cualquier pregunta sobre su rol como participante en el estudio, puede contactar con:

Nombre:

Cargo:

Teléfono:

APPENDIX III

Ethical Committee approval at FHAG.



APPROVAL OF THE CLINICAL RESEARCH ETHICS COMMITTEE

I hereby confirm that the Fundación Hospital/Asilo de Granollers CLINICAL RESEARCH ETHICS COMMITTEE (CEIC FHAG) has reviewed and approved the clinical study entitled

Study Title: "Robots in assisted living environments: Unobtrusive, efficient, reliable and modular solutions for independent ageing" (RADIO)

Internal Reference No: 20153015

Call Number: H2020-PHC-2014-single-stage 643892

In which Dr. Sergio Ariño is the principal investigator.

The Committee has also reviewed and approved the patient information sheet and the informed consent forms.

at the meeting held at Granollers on December the 28th, 2015.

Dr. Felipe Ojeda Pérez

President Fundación Hospital/Asilo de Granollers
CLINICAL RESEARCH ETHICS COMMITTEE

APPENDIX IV

This appendix presents the Greek -language *Participant Information and Consent Form* that informs participants of the FZ pilot study about the project and explains the tests and treatments involved. This form is based on the English-language form in Appendix I.

ΦΟΡΜΑ ΠΛΗΡΟΦΟΡΙΑΣ ΚΑΙ ΣΥΝΑΙΝΕΣΗΣ

Πρόγραμμα: Τα ρομπότ σε περιβάλλοντα υποβοηθούμενης διαβίωσης: Μη φορτικές, αποτελεσματικές, αξιόπιστες και αρθρωτές λύσεις για ανεξάρτητη γήρανση (RADIO).

H2020-PHC-2014-single-stage 643892

Όνομα του οργανισμού: ΦΡΟΝΤΙΔΑ ΖΩΗΣ Ε.Ε.

Πλήρης τίτλος: Τα ρομπότ σε περιβάλλοντα υποβοηθούμενης διαβίωσης: Μη φορτικές, αποτελεσματικές, αξιόπιστες και αρθρωτές λύσεις για ανεξάρτητη γήρανση (RADIO).

Ανώτατος ερευνητής:

1. Εισαγωγή

Προσκαλείστε να λάβετε μέρος στο ερευνητικό πρόγραμμα RADIO. Αυτό το καινοτόμο πρόγραμμα θα αναπτύξει και θα αξιολογήσει μια πλατφόρμα, η οποία δίνει τη δυνατότητα στους χρήστες της να αυξήσουν το χρόνο αυτονομίας τους στο σπίτι. Η πλατφόρμα θα εξασφαλίζει την έγκαιρη διαθεσιμότητα των ιατρικών και συμπεριφοριστικών στοιχείων των χρηστών ώστε να επιτρέπει την έγκαιρη πρόγνωση και ιατρικές ενέργειες από τους κλινικούς εδικούς και/ή τους επαγγελματίες υγείας ή τους φροντιστές.

Αυτή η φόρμα πληροφορίας και Συναίνεσης, σας πληροφορεί για το πρόγραμμα. Εξηγεί τις δοκιμές και θεραπείες που περιλαμβάνονται. Παρακαλούμε διαβάστε αυτές τις πληροφορίες προσεκτικά. Ρωτήστε για οτιδήποτε δεν καταλαβαίνετε ή θέλετε να μάθετε περισσότερα.

Η συμμετοχή σε αυτό το πρόγραμμα είναι εθελοντική. Εάν δεν επιθυμείτε να λάβετε μέρος, δεν είστε υποχρεωμένος να το κάνετε. Θα λάβετε την καλύτερη δυνατή φροντίδα είτε λάβετε μέρος είτε όχι.

Εάν αποφασίσετε ότι θέλετε να λάβετε μέρος στο πρόγραμμα, θα σας ζητηθεί να υπογράψετε τη φόρμα συναίνεσης. Με την υπογραφή σας μας λέτε ότι:

- Καταλαβαίνετε τι έχετε διαβάσει
- Συναινείτε να συμμετάσχετε στο πρόγραμμα
- Συναινείτε να λάβετε μέρος στις δοκιμές που περιγράφονται
- Συναινείτε στη χρήση προσωπικών δεδομένων και δεδομένων υγείας σας, όπως περιγράφεται.

Θα σας δοθεί ένα αντίγραφο αυτού έντυπου συναίνεσης για να το κρατήσετε.

2. Ποιος είναι ο σκοπός αυτής της έρευνας;

Το έργο θα αναπτύξει και θα αξιολογήσει μια πλατφόρμα, η οποία δίνει τη δυνατότητα να αυξηθεί ο χρόνος αυτονομίας στο σπίτι από τους χρήστες. Οι τεχνολογικοί εταίροι θα παράσχουν καινοτόμες

λύσεις τους για να ενσωματωθούν στη νέα πλατφόρμα και να αξιολογηθούν από διάφορους οργανισμούς υγειονομικής περίθαλψης σε ολόκληρη την Ευρώπη.

Ο στόχος του RADIO είναι η ανάπτυξη μεθόδων για την ανίχνευση δραστηριοτήτων καθημερινής ζωής (ΔΚΖ) και διάθεσης που είναι σχετικές με την ανίχνευση πρώιμων συμπτωμάτων γνωστικής εξασθένησης, ευθραυστότητας και κοινωνικού αποκλεισμού, και η σύγκρισή τους με τι επιτυγχάνεται από πιο ενοχλητικές ρυθμίσεις (που επηρεάζουν την ποιότητα της ζωής των τελικών χρηστών) ή με την τοποθέτηση του βάρους της συνεχούς παρακολούθησης στους φροντιστές τους.

Το έργο αυτό θα δώσει τη δυνατότητα να αξιολογηθεί πόσο καλά οι πληροφορίες που παρέχει το RADIO μπορούν να εξυπηρετήσει το σκοπό της ανίχνευσης πρώιμων συμπτωμάτων νοητικής έκπτωσης, έτσι ώστε η εισαγωγή και διαβίωση σε ιδρύματα φροντίδας για προληπτικούς λόγους να μειωθεί δραστικά.

Η αποτελεσματικότητα των λύσεων θα αξιολογηθεί σε πάνω από 100 ηλικιωμένους χρήστες / ασθενείς σε διαφορετικές χώρες, πολιτισμούς, ηλικίες και παράγοντες κινδύνου.

Το σύστημα RADIO θα συνίσταται από ένα ρομπότ οικιακής βοήθειας που παρουσιάζει μια συμπεριφορά παρόμοια με εκείνη ενός κατοικίδιου ζώου.

Αυτή η έρευνα διεξάγεται από την Κοινοπραξία RADIO και χρηματοδοτείται από την Ευρωπαϊκή Επιτροπή στο πλαίσιο του προγράμματος Ορίζοντας 2020 - H2020-PHC-2014-μονού σταδίου 643892.

3. Τι περιλαμβάνει η συμμετοχή σε αυτή την έρευνα;

Μια πειραματική πολυκεντρική και πολυεθνική κλινική δοκιμή θα εκτελεστεί. Η μελέτη θα διεξαχθεί σε 164 ηλικιωμένους συμμετέχοντες που ζουν στο σπίτι ή σε οίκους ευγηρίας. Οι συμμετέχοντες θα βρίσκονται σε 3 πιλοτικές περιοχές.

Για να συμπεριληφθεί στη δοκιμή κάθε χρήστης πρέπει να πληρεί μια σειρά από προϋποθέσεις που ονομάζονται, τα κριτήρια ένταξης. Οι συμμετέχοντες που πληρούν τα κριτήρια ένταξης θα καταχωρούνται σε μία από τις ακόλουθες ομάδες:

1. 30 συμμετέχοντες θα εγγραφούν στην Διαμορφωτική φάση. Η πιλοτική δοκιμή θα γίνει στη κλινική Fondazione Santa Lucia - FSL (Ιταλία)
 2. 36 συμμετέχοντες θα εγγραφούν στην Ενδιάμεση φάση. Η πιλοτική δοκιμή των στοιχείων του RADIO θα γίνει στο FSL: 36 χρήστες
 3. 82 συμμετέχοντες θα εγγραφούν στην Αθροιστική φάση. 24 χρήστες στη κλινική Granoillers- FHAG (Ισπανία), 24 χρήστες και 24 φροντιστές στον οργανισμό ΦΡΟΝΤΙΔΑ - FZ (Grece)
1. Διαμορφωτική φάση. Η πρώτη πιλοτική δοκιμή θα πραγματοποιηθεί στις εγκαταστάσεις FSL. Αυτή η φάση θα χρησιμοποιηθεί για τη συλλογή δεδομένων χρήσιμων για την επόμενη φάση. Σε κάθε ασθενή θα ζητηθεί να παρακολουθήσει μία συνεδρία. Κάθε συνεδρία θα είναι διάρκειας 30 λεπτών.
 2. Ενδιάμεση φάση. Ο δεύτερος γύρος των πιλοτικών δοκιμών, επίσης στις εγκαταστάσεις της FSL, θα πραγματοποιηθεί με τις πρώτες εκδόσεις των διεπαφών χρήστη, συσκευών, και τη ρομποτική πλατφόρμα. Σε κάθε ασθενή θα ζητηθεί να παρακολουθήσει δύο συνεδρίες. Κάθε συνεδρία θα είναι διάρκειας 1 ώρας
 3. Αθροιστική φάση. Αυτή η τελική φάση περιλαμβάνει δύο σύνολα πειραματικών δοκιμών, μία στις εγκαταστάσεις FHAG και μία στη Φροντίδα Ζωής. Οι στόχοι αυτών των πιλοτικών δοκιμών είναι να επικυρώσουν το σύστημα RADIO και να παρέχουν αποτελέσματα που να υποστηρίζουν την εγκυρότητά τους.

Κάθε εκπαιδευτική διαδικασία θα πραγματοποιείται σε 2 συνεδρίες την εβδομάδα για 12 εβδομάδες (24 συνεδρίες). Διάρκεια κάθε συνεδρίας: 1 ώρα.

Όλοι οι συμμετέχοντες στη μελέτη θα παρακολουθούνται για 9 μήνες.

Δεν θα αποζημιωθείτε για τη συμμετοχή σας σε αυτή την έρευνα.

4. Ποια είναι τα πιθανά οφέλη;

Δεν μπορούμε να εγγυηθούμε ή να υποσχεθούμε ότι θα λάβετε κάποια οφέλη από αυτή την έρευνα, ωστόσο, τα πιθανά οφέλη μπορεί να περιλαμβάνουν:

- παράταση του χρόνου που οι ηλικιωμένοι μπορούν να ζουν ανεξάρτητα στο σπίτι τους με την παροχή υπηρεσιών ΤΠΕ
- την παροχή αποδεικτικών στοιχείων της βελτίωσης της ποιότητας ζωής των ηλικιωμένων και των οικογενειών τους
- διευκόλυνση ευρείας υιοθέτησης των βασιζόμενων σε ΤΠΕ λύσεων σχετιζόμενων στην ανεξάρτητη διαβίωση σε όλη την Ευρώπη.

5. Ποιοι είναι οι πιθανοί κίνδυνοι;

Δεν αναμένονται παρενέργειες για αυτό τη δοκιμή που βασίζεται στη χρήση στο σπίτι ενός ρομπότ που συλλέγει δεδομένα για τις καθημερινές δραστηριότητες και τη διάθεση και έχει αναπτυχθεί για να βοηθήσει το χρήστη κατά τη διάρκεια μιας κατάστασης έκτακτης ανάγκης μέσα από την αποστολή ειδοποίησης στο φροντιστή / γιατρό και βοηθά τους χρήστες μέσω υπενθύμισης ορισμένων δραστηριοτήτων όπως το να πάρουν φάρμακα.

6. Τι θα συμβεί αν νέες πληροφορίες προκύψουν κατά τη διάρκεια αυτού του έργου;

Κατά τη διάρκεια του έργου, νέες πληροφορίες σχετικά με τους κινδύνους και τα οφέλη του έργου μπορεί να γίνουν γνωστά στους ερευνητές. Εάν συμβεί αυτό, θα ενημερωθείτε για αυτή τη νέα πληροφορία και ο γιατρός σας θα συζητήσει μαζί σας κατά πόσο τα νέα αυτά στοιχεία σας επηρεάζουν.

7. Μπορώ να λαμβάνω άλλες θεραπείες κατά τη διάρκεια αυτού του έργου;

Είναι σημαντικό να ενημερώσετε το γιατρό σας και το ερευνητικό προσωπικό για τυχόν θεραπείες ή φάρμακα που μπορεί να παίρνετε, συμπεριλαμβανομένων των μη συνταγογραφούμενων φαρμάκων, βιταμίνες ή βότανα, βελονισμός ή άλλες εναλλακτικές θεραπείες. Θα πρέπει επίσης να ενημερώσετε το γιατρό σας για οποιεσδήποτε αλλαγές σε αυτά κατά τη διάρκεια της συμμετοχής σας στην έρευνα.

8. Υπάρχουν εναλλακτικές λύσεις πέρα από τη συμμετοχή;

Η συμμετοχή σε αυτή τη μελέτη δεν είναι η μόνη επιλογή σας. Οι άλλες επιλογές σας μπορεί να περιλαμβάνουν τη συνήθη φροντίδα. Συζητήστε αυτές τις επιλογές με το γιατρό σας πριν αποφασίσετε αν πρέπει ή όχι να λάβετε μέρος σε αυτό το ερευνητικό έργο.

9. Είμαι αναγκασμένος να λάβω μέρος σε αυτό το έργο;

Η συμμετοχή σε οποιοδήποτε ερευνητικό πρόγραμμα είναι εθελοντική. Εάν δεν επιθυμείτε να λάβετε μέρος δεν είστε υποχρεωμένος να το κάνετε. Αν αποφασίσετε να λάβετε μέρος και στη συνέχεια αλλάξετε άποψη, είστε ελεύθεροι να αποσυρθείτε από το πρόγραμμα ανά πάσα στιγμή.

Η απόφασή σας για το αν θα λάβετε μέρος ή όχι, ή να λάβετε μέρος και στη συνέχεια να αποσυρθείτε, δεν θα επηρεάσει την ρουτίνα της θεραπείας σας, τη σχέση σας με αυτούς σας φροντίζουν, ή τη σχέση σας με το [όνομα του ιδρύματος σας].

10. Τι γίνεται αν έχω αποχωρήσει από το έργο αυτό;

Αν αποφασίσετε να αποσυρθείτε από το πρόγραμμα, παρακαλούμε ενημερώστε ένα μέλος της ερευνητικής ομάδας, πριν να αποσυρθείτε. Αυτή η ανακοίνωση θα επιτρέψει στο πρόσωπο ή τους εποπτεύοντα ερευνητή να σας ενημερώσει αν υπάρχουν κίνδυνοι για την υγεία σας ή ειδικές απαιτήσεις που συνδέονται με την απόσυρση.

Αν αποφασίσετε να εγκαταλείψετε το πρόγραμμα, οι ερευνητές θα ήθελαν να κρατήσουν τις πληροφορίες για τα προσωπικά σας δεδομένα και για την υγεία, που έχουν συλλεχθεί. Αυτό θα τους βοηθήσει να βεβαιωθούν ότι τα αποτελέσματα της έρευνας έχουν μετρηθεί σωστά. Εάν δεν θέλετε να το κάνετε αυτό, θα πρέπει να τους το πείτε πριν ενταχθείτε στο ερευνητικό έργο.

11. Θα μπορούσε αυτό το ερευνητικό πρόγραμμα να σταματήσει απροσδόκητα;

Αυτό το ερευνητικό έργο μπορεί να διακοπεί για διάφορους λόγους πριν από την ολοκλήρωση. Αυτοί οι λόγοι μπορεί να περιλαμβάνουν αιτίες, όπως:

- Μη αποδεκτές παρενέργειες
- Η παρέμβαση που δεν φαίνεται να είναι αποτελεσματική
- Η παρέμβαση φαίνεται να αποδίδει και δεν χρειάζονται περαιτέρω δοκιμές

12. Τι άλλο χρειάζεται να ξέρω; Τι συμβαίνει με τις πληροφορίες που με αφορούν;

Όλες οι πληροφορίες που λαμβάνονται σε σχέση με αυτό το ερευνητικό πρόγραμμα που μπορεί να σας ταυτοποιούν, θα παραμείνουν εμπιστευτικές και θα χρησιμοποιηθούν μόνο για τους σκοπούς του παρόντος ερευνητικού έργου. Θα αποκαλυφθούν μόνο με την άδειά σας, εκτός αν απαιτείται από το νόμο. Όλα τα προσωπικά και ιατρικά στοιχεία θα αντιμετωπιστούν με ασφάλεια και σύμφωνα με τους κανόνες της ιδιωτικότητας και της προστασίας των προσωπικών δεδομένων της ΕΕ και των νόμων της εμπιστευτικότητας.

Τα αρχεία υγείας σας, καθώς και οποιαδήποτε πληροφορία που θα ληφθεί κατά τη διάρκεια της μελέτης υπόκεινται σε έλεγχο (για την επαλήθευση των διαδικασιών και των δεδομένων) από τις αρμόδιες αρχές και τους εξουσιοδοτημένους αντιπροσώπους του χορηγού, της Ευρωπαϊκής Επιτροπής, της Φροντίδας Ζωής, ή όπως απαιτείται από το νόμο. Με την υπογραφή της φόρμας συναίνεσης, επιτρέπετε την άφεση ή την πρόσβαση σε αυτές τις εμπιστευτικές πληροφορίες στο αρμόδιο προσωπικό της μελέτης και τις ρυθμιστικές αρχές, όπως προαναφέρθηκε.

Σε κάθε δημοσίευση ή / και παρουσίαση, οι πληροφορίες θα πρέπει να παρέχονται με τέτοιο τρόπο που να μην μπορείτε να αναγνωριστείτε, παρά μόνο με την άδειά σας.

Τι θα συμβεί αν τραυματιστώ ως αποτέλεσμα της συμμετοχής σε αυτό το ερευνητικό έργο;

Τα Νοσοκομεία και / ή οι δομές φροντίδας που εμπλέκονται σε αυτές τις δοκιμές αποδέχονται μονομερώς το καθήκον της πλήρους και επίσημης φροντίδας για τους ασθενείς που συμμετέχουν στη μελέτη. Για το λόγο αυτό, αν υποστείτε έναν τραυματισμό, ως αποτέλεσμα της συμμετοχής σε αυτό το ερευνητικό έργο, η νοσοκομειακή περίθαλψη και θεραπεία θα σας παρασχεθεί από την υπηρεσία δημόσιας υγείας χωρίς επιπλέον κόστος για εσάς, αν επιλέξετε να αντιμετωπιστείτε ως δημόσιος ασθενής.

Αν, για οποιοδήποτε λόγο δεν μπορείτε να επωφεληθείτε των υπηρεσιών δημόσιας υγείας, η νοσοκομειακή περίθαλψης και θεραπεία θα αναληφθεί από τη δομή φροντίδας που οδηγεί αυτές τις δοκιμές.

13. Συναίνεση

Έχω διαβάσει, ή διαβάστηκε για μένα σε μια γλώσσα που καταλαβαίνω το έγγραφο, και καταλαβαίνω τους σκοπούς, τις διαδικασίες και τους κινδύνους αυτού του ερευνητικού έργου, όπως περιγράφεται μέσα σε αυτό.

Δίνω άδεια για τους γιατρούς μου, άλλους επαγγελματίες υγείας, νοσοκομεία ή εργαστήρια να δώσουν πληροφορίες στην Φροντίδα Ζωής σχετικά με τη νόσο και τη θεραπεία μου, που είναι απαραίτητες για το έργο αυτό. Αντιλαμβάνομαι ότι αυτές οι πληροφορίες θα παραμείνουν εμπιστευτικές.

Είχα την ευκαιρία να κάνω ερωτήσεις και να είμαι ικανοποιημένος με τις απαντήσεις που έχω λάβει.

Συμφωνώ ελεύθερα να συμμετάσχω σε αυτό το ερευνητικό έργο, όπως περιγράφεται.

Κατανοώ ότι θα μου δοθεί ένα υπογεγραμμένο αντίγραφο αυτού του εγγράφου να το κρατήσω.

Όνομα συμμετέχοντα (τυπωμένο)

Υπογραφή

Ημερομηνία

Όνομα μάρτυρα υπογραφής συμμετέχοντα (τυπωμένο)

Υπογραφή

Ημερομηνία

Δήλωση ερευνητή *: Έχω δώσει προφορική εξήγηση του ερευνητικού έργου, των διαδικασιών του και των κινδύνων του και πιστεύω ότι ο συμμετέχων έχει κατανοήσει την εξήγηση.

Το όνομά του Ερευνητή (τυπωμένο)

Υπογραφή

Ημερομηνία

* Ένα ανώτερο μέλος της ερευνητικής ομάδας πρέπει να παρέχει την εξήγηση και την παροχή πληροφοριών σχετικά με το ερευνητικό πρόγραμμα.

Σημείωση: Όλα τα μέρη που υπογράφουν τη φόρμα συγκατάθεσης πρέπει να βάλουν ημερομηνία στην υπογραφή τους.

14. Με ποιον μπορώ να επικοινωνήσω;

Το άτομο που μπορεί να χρειαστεί να επικοινωνήσετε εξαρτάται από τη φύση του ερωτήματός σας. Ως εκ τούτου, παρακαλούμε να λάβετε υπόψη τα εξής:

Για περισσότερες πληροφορίες ή ραντεβού:

Αν θέλετε περισσότερες πληροφορίες σχετικά με αυτό το έργο ή αν έχετε οποιαδήποτε ιατρικά προβλήματα που μπορεί να σχετίζονται με τη συμμετοχή σας στο πρόγραμμα (για παράδειγμα, κάποια ανεπιθύμητη ενέργεια), μπορείτε να επικοινωνήσετε με τον κύριο ερευνητή ή οποιοδήποτε από τα παρακάτω άτομα:

Όνομα:

Ρόλος: κύριος ερευνητής (και 24-ωρη ιατρική επαφή)

Τηλέφωνο:

Όνομα:

Ρόλος:

Τηλέφωνο:

Για παράπονα:

Αν έχετε οποιαδήποτε παράπονα σχετικά με οποιαδήποτε πτυχή του έργου, τον τρόπο με τον οποίο διεξάγεται ή οποιεσδήποτε ερωτήσεις ως συμμετέχον στην έρευνα γενικά, τότε μπορείτε να επικοινωνήσετε με:

Όνομα:

Θέση:

Τηλέφωνο:

APPENDIX V

Ethical Committee approval at FZ.



APPROVAL OF THE RESEARCH ETHICS COMMITTEE

I hereby confirm that the APHOI KOUMANAKOU & SIA EE - "FRONTIDA ZOIS" Research Ethics Committee has reviewed and approved the study design of the research project entitled: **Robots in assisted living environments: Unobtrusive, efficient, reliable and modular solutions for independent ageing (RADIO)**, H2020-PHC-2014, GA 643892.

The Research Ethics Committee is constituted by Mrs. Ioanna Chalimou – pathologist, Mrs. Eleni Reppa – Chief Nurse, Mr. Dimitris Theodoropoulos – Social worker, and Mr. Georgios Koumanakos – Ex. manager of the company. The committee has also reviewed and approved the informed consent form for the pilot trials in Greece.

At the meeting held at Patras in March the 2nd, 2016.


"ΦΡΟΝΤΙΔΑ ΖΩΗΣ"
ΑΦΟΙ ΚΟΥΜΑΝΑΚΟΥ & ΣΙΑ Ε.Ε.
ΥΠΗΡΕΣΙΕΣ ΦΡΟΝΤΙΔΑΣ ΗΛΙΚΙΟΜΕΝΩΝ
Π.Ε.Ο. ΠΑΤΡΩΝ - ΠΥΡΓΟΥ 115, ΒΡΑΧΑΝΙΚΑ ΠΑΤΡΩΝ
ΤΗΛ. 2610 222612, FAX: 2610 240243
ΑΦ.Μ. 998362136 - Β' ΔΟΥ ΠΑΤΡΩΝ

Georgios Koumanakos
Legal representative – Ex. manager

APPENDIX VI

Data recording form to be filled by RAs during FHAG pilot for each participant.

DATA RECORDING QUESTIONNAIRE

CASE NUMBER

1		
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Code 0 = No
Code 1 = Yes
Time in seconds
Gray boxes do not code

Variables for Sub scenario Assessment 0: D1 Training Day

T0a Assessment 0 SubscenarioRound 1

V1a Bed Transfer occurs, detected by Research Assistant (RA),

V2a Bed Transfer occurs, detected by RADIO

V3a Time elapsed for bed transfer by RA (seconds)

V4a Time elapsed for bed transfer by RADIO (seconds)

V5a Chair transfer occurs, detected by RA

V6a Chair transfer occurs, detected by RADIO

V7a Time elapsed for chair transfer by RA

V8a Time elapsed for chair transfer by RADIO

V9a Pill intake occurs by RA

V10a Pill intake occurs by RADIO

V11a Time elapsed for 4 meters walk inside SCRSA by RA

V12a Time elapsed for 4 meters walk inside SCRSA by RADIO

Variables for Sub scenario Assessment 0: D1 Training Day

T0b Assessment 0 SubscenarioRound 2

V1b Bed Transfer occurs, detected by Research Assistant (RA),

V2b Bed Transfer occurs, detected by RADIO

V3b Time elapsed for bed transfer by RA (seconds)

V4b Time elapsed for bed transfer by RADIO (seconds)

V5b Chair transfer occurs, detected by RA

V6b Chair transfer occurs, detected by RADIO

V7b Time elapsed for chair transfer by RA

V8b Time elapsed for chair transfer by RADIO

V9b Pill intake occurs by RA

V10b Pill intake occurs by RADIO

V11b Time elapsed for 4 meters walk inside SCRSA by RA

V12b Time elapsed for 4 meters walk inside SCRSA by RADIO

DATA RECORDING QUESTIONNAIRE

CASE NUMBER

1		
---	--	--

Code 0 = No
 Code 1 = Yes
 Time in seconds
 Gray boxes do not code

Variables for Sub scenario Assessment 1: D2 Study Day

T220a Assessment 1 SubscenarioRound 1

V221a Bed Transfer occurs, detected by Research Assistant (RA),

V222a Bed Transfer occurs, detected by RADIO

V223a Time elapsed for bed transfer by RA (seconds)

V224a Time elapsed for bed transfer by RADIO (seconds)

V225a Chair transfer occurs, detected by RA

V226a Chair transfer occurs, detected by RADIO

V227a Time elapsed for chair transfer by RA

V228a Time elapsed for chair transfer by RADIO

V229a Pill intake occurs by RA

V210a Pill intake occurs by RADIO

V211a Time elapsed for 4 meters walk inside SCRSA by RA

V212a Time elapsed for 4 meters walk inside SCRSA by RADIO

Variables for Sub scenario Assessment 1: D2 Study Day

T220b Assessment 1 SubscenarioRound 2

V221b Bed Transfer occurs, detected by Research Assistant (RA),

V222b Bed Transfer occurs, detected by RADIO

V223b Time elapsed for bed transfer by RA (seconds)

V224b Time elapsed for bed transfer by RADIO (seconds)

V225b Chair transfer occurs, detected by RA

V226b Chair transfer occurs, detected by RADIO

V227b Time elapsed for chair transfer by RA

V228b Time elapsed for chair transfer by RADIO

V229b Pill intake occurs by RA

V210b Pill intake occurs by RADIO

V211b Time elapsed for 4 meters walk inside SCRSA by RA

V212b Time elapsed for 4 meters walk inside SCRSA by RADIO

DATA RECORDING QUESTIONNAIRE

CASE NUMBER

1	
---	--

Code 0 = No
Code 1 = Yes
Time in seconds

Variables for Sub scenario Lunch: D2 Study Day

T2a Lunch Subscenario Round 1

V21a Pill intake occurs by RA

V22a Pill intake occurs by RADIO

V23a Time elapsed for 4 meters walk inside SCRSA by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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V24a Time elapsed for 4 meters walk inside SCRSA by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

V25a Chair transfer occurs, detected by RA

V26a Chair transfer occurs, detected by RADIO

V27a Time elapsed for chair transfer by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V28a Time elapsed for chair transfer by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

V29a Time elapsed for 4 meters walk inside SCRSA by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V30a Time elapsed for 4 meters walk inside SCRSA by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

V31a Armchair transfer occurs, detected by RA

V32a Armchair transfer occurs, detected by RADIO

V33a Time elapsed for armchair transfer by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V34a Time elapsed for armchair transfer by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

V35a Bed Transfer occurs, detected by Research Assistant (RA),

V36a Bed Transfer occurs, detected by RADIO

V37a Time elapsed for bed transfer by RA (seconds)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V38a Time elapsed for bed transfer by RADIO (seconds)

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V39a TV watching, detected by RADIO

V40a TV watching, detected by RADIO (RA),

V41a GUI use before living the apartment

V42a GUI detecting no presence

Variables for Sub scenario Lunch: D2 Study Day

T2b Lunch Subscenario Round 2

V21b Pill intake occurs by RA

V22b Pill intake occurs by RADIO

V23b Time elapsed for 4 meters walk inside SCRSA by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V24b Time elapsed for 4 meters walk inside SCRSA by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V25b Chair transfer occurs, detected by RA

V26b Chair transfer occurs, detected by RADIO

V27b Time elapsed for chair transfer by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V28b Time elapsed for chair transfer by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V29b Time elapsed for 4 meters walk inside SCRSA by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V30b Time elapsed for 4 meters walk inside SCRSA by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

V31b Armchair transfer occurs, detected by RA

V32b Armchair transfer occurs, detected by RADIO

V33b Time elapsed for armchair transfer by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V34b Time elapsed for armchair transfer by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

V35b Bed Transfer occurs, detected by Research Assistant (RA),

V36b Bed Transfer occurs, detected by RADIO

V37b Time elapsed for bed transfer by RA (seconds)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V38b Time elapsed for bed transfer by RADIO (seconds)

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V39b TV watching, detected by RADIO

V40b TV watching, detected by RADIO (RA),

V41b GUI use before living the apartment

V42b GUI detecting no presence

DATA RECORDING QUESTIONNAIRE

CASE NUMBER

1		
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Code 0 = No
Code 1 = Yes
Time in seconds

Variables for Sub scenario Outpatient visit: D3 StudyDay

T4a Outpatient's Visit Subscenario Round 1

V66a Activaton via GUI occurs by RA

V67a Activation via GUI occurs by RADIO

V68a Time elapsed for 4 meters walk outside SCRSA by RA

V69a Time elapsed for 4 meters walk outside SCRSA by RADIO

V70a Patient in OP, detected by RA

V71a Patient out, detected by RA

V72a Activaton via GUI occurs by RA

V73a Activation via GUI occurs by RADIO

V74a Time elapsed for 4 meters walk to SCRSA by RA

V75a Time elapsed for 4 meters walk to SCRSA by RADIO

V76a End of the study (desactivation GUI)

Variables for Sub scenario Outpatient visit: D3 StudyDay

T4a Outpatient's Visit Subscenario Round 1

V66b Activaton via GUI occurs by RA

V67b Activation via GUI occurs by RADIO

V68b Time elapsed for 4 meters walk outside SCRSA by RA

V69b Time elapsed for 4 meters walk outside SCRSA by RADIO

V70b Patient in OP, detected by RA

V71b Patient out, detected by RA

V72b Activaton via GUI occurs by RA

V73b Activation via GUI occurs by RADIO

V74b Time elapsed for 4 meters walk to SCRSA by RA

V75b Time elapsed for 4 meters walk to SCRSA by RADIO

V76b End of the study (desactivation GUI)

Following evaluation of functional status with this questionnaire the following tests will be carried out on each patient by the Research Assistant.

- .- Self perceived Quality of Life (for LTCF clients only, second round)
- .- in-depth semistructured questionnaire on obtrusiveness
- .- usability measures (USU, ASQ and PIADS)

APPENDIX VII

Data recording form to be filled by nurses during FZ pilot for each participant.

DATA RECORDING QUESTIONNAIRE

CASE NUMBER

1		
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Code 0 = No
Code 1 = Yes
Time in seconds
Gray boxes do not code

Variables for Sub scenario Assessment 0: D1 Training Day

T0a Assessment 0 SubscenarioRound 1

V1a Bed Transfer occurs, detected by Research Assistant (RA),

V2a Bed Transfer occurs, detected by RADIO

V3a Time elapsed for bed transfer by RA (seconds)

V4a Time elapsed for bed transfer by RADIO (seconds)

V5a Chair transfer occurs, detected by RA

V6a Chair transfer occurs, detected by RADIO

V7a Time elapsed for chair transfer by RA

V8a Time elapsed for chair transfer by RADIO

V9a Pill intake occurs by RA

V10a Pill intake occurs by RADIO

V11a Time elapsed for 4 meters walk inside SCRSA by RA

V12a Time elapsed for 4 meters walk inside SCRSA by RADIO

Variables for Sub scenario Assessment 0: D1 Training Day

T0b Assessment 0 SubscenarioRound 2

V1b Bed Transfer occurs, detected by Research Assistant (RA),

V2b Bed Transfer occurs, detected by RADIO

V3b Time elapsed for bed transfer by RA (seconds)

V4b Time elapsed for bed transfer by RADIO (seconds)

V5b Chair transfer occurs, detected by RA

V6b Chair transfer occurs, detected by RADIO

V7b Time elapsed for chair transfer by RA

V8b Time elapsed for chair transfer by RADIO

V9b Pill intake occurs by RA

V10b Pill intake occurs by RADIO

V11b Time elapsed for 4 meters walk inside SCRSA by RA

V12b Time elapsed for 4 meters walk inside SCRSA by RADIO

DATA RECORDING QUESTIONNAIRE

CASE NUMBER

1		
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Code 0 = No
 Code 1 = Yes
 Time in seconds
 Gray boxes do not code

Variables for Sub scenario Assessment 1: D2 Study Day

T220a Assessment 1 SubscenarioRound 1

V221a Bed Transfer occurs, detected by Research Assistant (RA),

V222a Bed Transfer occurs, detected by RADIO

V223a Time elapsed for bed transfer by RA (seconds)

V224a Time elapsed for bed transfer by RADIO (seconds)

V225a Chair transfer occurs, detected by RA

V226a Chair transfer occurs, detected by RADIO

V227a Time elapsed for chair transfer by RA

V228a Time elapsed for chair transfer by RADIO

V229a Pill intake occurs by RA

V210a Pill intake occurs by RADIO

V211a Time elapsed for 4 meters walk inside SCRSA by RA

V212a Time elapsed for 4 meters walk inside SCRSA by RADIO

Variables for Sub scenario Assessment 1: D2 Study Day

T220b Assessment 1 SubscenarioRound 2

V221b Bed Transfer occurs, detected by Research Assistant (RA),

V222b Bed Transfer occurs, detected by RADIO

V223b Time elapsed for bed transfer by RA (seconds)

V224b Time elapsed for bed transfer by RADIO (seconds)

V225b Chair transfer occurs, detected by RA

V226b Chair transfer occurs, detected by RADIO

V227b Time elapsed for chair transfer by RA

V228b Time elapsed for chair transfer by RADIO

V229b Pill intake occurs by RA

V210b Pill intake occurs by RADIO

V211b Time elapsed for 4 meters walk inside SCRSA by RA

V212b Time elapsed for 4 meters walk inside SCRSA by RADIO

DATA RECORDING QUESTIONNAIRE

CASE NUMBER

1	
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Code 0 = No
Code 1 = Yes
Time in seconds

Variables for Sub scenario Lunch: D2 Study Day

T2a Lunch Subscenario Round 1

V21a Pill intake occurs by RA

V22a Pill intake occurs by RADIO

V23a Time elapsed for 4 meters walk inside SCRSA by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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V24a Time elapsed for 4 meters walk inside SCRSA by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V25a Chair transfer occurs, detected by RA

V26a Chair transfer occurs, detected by RADIO

V27a Time elapsed for chair transfer by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V28a Time elapsed for chair transfer by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V29a Time elapsed for 4 meters walk inside SCRSA by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V30a Time elapsed for 4 meters walk inside SCRSA by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

V31a Armchair transfer occurs, detected by RA

V32a Armchair transfer occurs, detected by RADIO

V33a Time elapsed for armchair transfer by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V34a Time elapsed for armchair transfer by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V35a Bed Transfer occurs, detected by Research Assistant (RA),

V36a Bed Transfer occurs, detected by RADIO

V37a Time elapsed for bed transfer by RA (seconds)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V38a Time elapsed for bed transfer by RADIO (seconds)

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V39a TV watching, detected by RADIO

V40a TV watching, detected by RADIO (RA),

V41a GUI use before living the apartment

V42a GUI detecting no presence

Variables for Sub scenario Lunch: D2 Study Day

T2b Lunch Subscenario Round 2

V21b Pill intake occurs by RA

V22b Pill intake occurs by RADIO

V23b Time elapsed for 4 meters walk inside SCRSA by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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V24b Time elapsed for 4 meters walk inside SCRSA by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V25b Chair transfer occurs, detected by RA

V26b Chair transfer occurs, detected by RADIO

V27b Time elapsed for chair transfer by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V28b Time elapsed for chair transfer by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V29b Time elapsed for 4 meters walk inside SCRSA by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V30b Time elapsed for 4 meters walk inside SCRSA by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

V31b Armchair transfer occurs, detected by RA

V32b Armchair transfer occurs, detected by RADIO

V33b Time elapsed for armchair transfer by RA

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V34b Time elapsed for armchair transfer by RADIO

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
-------------------------------------	-------------------------------------	-------------------------------------

V35b Bed Transfer occurs, detected by Research Assistant (RA),

V36b Bed Transfer occurs, detected by RADIO

V37b Time elapsed for bed transfer by RA (seconds)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------

V38b Time elapsed for bed transfer by RADIO (seconds)

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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V39b TV watching, detected by RADIO

V40b TV watching, detected by RADIO (RA),

V41b GUI use before living the apartment

V42b GUI detecting no presence

DATA RECORDING QUESTIONNAIRE

CASE NUMBER

1	
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Variables for Sub scenario dinner: D2 StudyDay

T3a Dinner Subscenario Round 1	<input type="checkbox"/>	<input type="checkbox"/>
V43a Pill intake occurs by RA	<input type="checkbox"/>	<input type="checkbox"/>
V44a Pill intake occurs by RADIO	<input checked="" type="checkbox"/>	<input type="checkbox"/>
V45a Chair transfer occurs, detected by RA	<input type="checkbox"/>	<input type="checkbox"/>
V46a Chair transfer occurs, detected by RADIO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
V47a Time elapsed for chair transfer by RA	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V48a Time elapsed for chair transfer by RADIO	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V49a Time elapsed for 4 meters walk inside SCRSA by RA	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V50a Time elapsed for 4 meters walk inside SCRSA by RADIO	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V51a Meal preparation occurs, detected by RA	<input type="checkbox"/>	<input type="checkbox"/>
V52a Meal preparation occurs, detected by RADIO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
V53a GUI interaction TV watching set turn off	<input type="checkbox"/>	<input type="checkbox"/>

Variables for Sub scenario breakfast: D3 Study Day

T1a Breakfast SubscenarioRound 1	<input type="checkbox"/>	<input type="checkbox"/>
V54a Bed Transfer occurs, detected by Research Assistant (RA),	<input type="checkbox"/>	<input type="checkbox"/>
V55a Bed Transfer occurs, detected by RADIO	<input checked="" type="checkbox"/>	<input type="checkbox"/>
V56a Time elapsed for bed transfer by RA (seconds)	<input type="checkbox"/>	<input type="checkbox"/>
V57a Time elapsed for bed transfer by RADIO (seconds)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V58a Chair transfer occurs, detected by RA	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V59a Chair transfer occurs, detected by RADIO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
V60a Time elapsed for chair transfer by RA	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V61a Time elapsed for chair transfer by RADIO	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V62a Pill intake occurs by RA	<input type="checkbox"/>	<input type="checkbox"/>
V63a Pill intake occurs by RADIO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
V64a Time elapsed for 4 meters walk inside SCRSA by RA	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V65a Time elapsed for 4 meters walk inside SCRSA by RADIO	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V66a Meal preparation occurs, detected by RA	<input type="checkbox"/>	<input type="checkbox"/>
V67a Meal preparation occurs, detected by RADIO	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
V68a GUI interaction TV watching set turn off	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V69a GUI interaction TV watching set turn on	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V70a GUI interaction TV watching set volume up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V71a GUI interaction TV watching set volume down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V72a GUI interaction TV watching set channel up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V73a GUI interaction TV watching set channel down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V74a GUI interaction TV watching set brightness up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V75a GUI interaction TV watching set brightness down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V76a GUI interaction TV watching set contrast up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V77a GUI interaction TV watching set contrast down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V78a GUI interaction TV watching set sharpness up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V79a GUI interaction TV watching set sharpness down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V80a GUI interaction TV watching set color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V81a GUI interaction TV watching set color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V82a GUI interaction TV watching set saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V83a GUI interaction TV watching set saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V84a GUI interaction TV watching set hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V85a GUI interaction TV watching set hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V86a GUI interaction TV watching set brightness and contrast up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V87a GUI interaction TV watching set brightness and contrast down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V88a GUI interaction TV watching set sharpness and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V89a GUI interaction TV watching set sharpness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V90a GUI interaction TV watching set color and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V91a GUI interaction TV watching set color and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V92a GUI interaction TV watching set saturation and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V93a GUI interaction TV watching set saturation and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V94a GUI interaction TV watching set brightness and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V95a GUI interaction TV watching set brightness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V96a GUI interaction TV watching set sharpness and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V97a GUI interaction TV watching set sharpness and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V98a GUI interaction TV watching set saturation and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V99a GUI interaction TV watching set saturation and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V100a GUI interaction TV watching set hue and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V101a GUI interaction TV watching set hue and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V102a GUI interaction TV watching set brightness and sharpness up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V103a GUI interaction TV watching set brightness and sharpness down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V104a GUI interaction TV watching set saturation and sharpness up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V105a GUI interaction TV watching set saturation and sharpness down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V106a GUI interaction TV watching set color and sharpness up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V107a GUI interaction TV watching set color and sharpness down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V108a GUI interaction TV watching set saturation and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V109a GUI interaction TV watching set saturation and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V110a GUI interaction TV watching set hue and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V111a GUI interaction TV watching set hue and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V112a GUI interaction TV watching set brightness and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V113a GUI interaction TV watching set brightness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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V115a GUI interaction TV watching set sharpness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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V117a GUI interaction TV watching set color and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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V119a GUI interaction TV watching set hue and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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V121a GUI interaction TV watching set brightness and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V122a GUI interaction TV watching set sharpness and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V123a GUI interaction TV watching set sharpness and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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V125a GUI interaction TV watching set color and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V126a GUI interaction TV watching set saturation and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V127a GUI interaction TV watching set saturation and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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V129a GUI interaction TV watching set brightness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V130a GUI interaction TV watching set sharpness and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V131a GUI interaction TV watching set sharpness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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V133a GUI interaction TV watching set color and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V134a GUI interaction TV watching set hue and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V135a GUI interaction TV watching set hue and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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V137a GUI interaction TV watching set brightness and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V138a GUI interaction TV watching set sharpness and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V139a GUI interaction TV watching set sharpness and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
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V141a GUI interaction TV watching set saturation and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V142a GUI interaction TV watching set hue and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V143a GUI interaction TV watching set hue and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V144a GUI interaction TV watching set brightness and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V145a GUI interaction TV watching set brightness and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V146a GUI interaction TV watching set sharpness and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V147a GUI interaction TV watching set sharpness and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V148a GUI interaction TV watching set saturation and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V149a GUI interaction TV watching set saturation and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V150a GUI interaction TV watching set brightness and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V151a GUI interaction TV watching set brightness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V152a GUI interaction TV watching set sharpness and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V153a GUI interaction TV watching set sharpness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V154a GUI interaction TV watching set color and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V155a GUI interaction TV watching set color and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V156a GUI interaction TV watching set hue and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V157a GUI interaction TV watching set hue and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V158a GUI interaction TV watching set brightness and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V159a GUI interaction TV watching set brightness and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V160a GUI interaction TV watching set sharpness and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V161a GUI interaction TV watching set sharpness and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V162a GUI interaction TV watching set saturation and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V163a GUI interaction TV watching set saturation and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V164a GUI interaction TV watching set hue and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V165a GUI interaction TV watching set hue and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V166a GUI interaction TV watching set brightness and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V167a GUI interaction TV watching set brightness and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V168a GUI interaction TV watching set sharpness and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V169a GUI interaction TV watching set sharpness and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V170a GUI interaction TV watching set saturation and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V171a GUI interaction TV watching set saturation and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V172a GUI interaction TV watching set brightness and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V173a GUI interaction TV watching set brightness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V174a GUI interaction TV watching set sharpness and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V175a GUI interaction TV watching set sharpness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V176a GUI interaction TV watching set color and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V177a GUI interaction TV watching set color and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V178a GUI interaction TV watching set hue and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V179a GUI interaction TV watching set hue and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V180a GUI interaction TV watching set brightness and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V181a GUI interaction TV watching set brightness and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V182a GUI interaction TV watching set sharpness and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V183a GUI interaction TV watching set sharpness and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V184a GUI interaction TV watching set saturation and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V185a GUI interaction TV watching set saturation and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V186a GUI interaction TV watching set hue and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V187a GUI interaction TV watching set hue and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V188a GUI interaction TV watching set brightness and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V189a GUI interaction TV watching set brightness and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V190a GUI interaction TV watching set sharpness and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V191a GUI interaction TV watching set sharpness and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V192a GUI interaction TV watching set saturation and hue up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V193a GUI interaction TV watching set saturation and hue down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V194a GUI interaction TV watching set brightness and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V195a GUI interaction TV watching set brightness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V196a GUI interaction TV watching set sharpness and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V197a GUI interaction TV watching set sharpness and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V198a GUI interaction TV watching set color and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V199a GUI interaction TV watching set color and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V200a GUI interaction TV watching set hue and saturation up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V201a GUI interaction TV watching set hue and saturation down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V202a GUI interaction TV watching set brightness and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V203a GUI interaction TV watching set brightness and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V204a GUI interaction TV watching set sharpness and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V205a GUI interaction TV watching set sharpness and color down	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
V206a GUI interaction TV watching set saturation and color up	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
V207a GUI interaction TV watching set saturation and color		

DATA RECORDING QUESTIONNAIRE

CASE NUMBER

1		
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Code 0 = No
 Code 1 = Yes
 Time in seconds

Variables for Sub scenario Assessment 1: D3 Study Day

T4a Assessment 1 SubscenarioRound 1

V66a Activaton via GUI occurs by RA

V67a Activation via GUI occurs by RADIO

V68a Bed Transfer occurs, detected by Research Assistant (RA),

V69a Bed Transfer occurs, detected by RADIO

--	--	--

V70a Time elapsed for bed transfer by RA (seconds)

--	--	--

V71a Time elapsed for bed transfer by RADIO (seconds)

--	--	--

V72a Chair transfer occurs, detected by RA

V73a Chair transfer occurs, detected by RADIO

V74a Time elapsed for chair transfer by RA

--	--	--

V75a Time elapsed for chair transfer by RADIO

--	--	--

V76a Pill intake occurs by RA

V77a Pill intake occurs by RADIO

V78a Time elapsed for 4 meters walk inside SCRSA by RA

--	--	--

V79a Time elapsed for 4 meters walk inside SCRSA by RADIO

--	--	--

Variables for Sub scenario Assessment 1: D3 Study Day

T4b Assessment 1 SubscenarioRound 1

V66b Activaton via GUI occurs by RA

V67b Activation via GUI occurs by RADIO

V68b Bed Transfer occurs, detected by Research Assistant (RA),

V69b Bed Transfer occurs, detected by RADIO

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V70b Time elapsed for bed transfer by RA (seconds)

--	--	--

V71b Time elapsed for bed transfer by RADIO (seconds)

--	--	--

V72b Chair transfer occurs, detected by RA

V73b Chair transfer occurs, detected by RADIO

V74b Time elapsed for chair transfer by RA

--	--	--

V75bTime elapsed for chair transfer by RADIO

--	--	--

V76b Pill intake occurs by RA

V77b Pill intake occurs by RADIO

V78b Time elapsed for 4 meters walk inside SCRSA by RA

--	--	--

V79b Time elapsed for 4 meters walk inside SCRSA by RADIO

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Following evaluation of functional status with this questionnaire the following tests will be carried out on each patient by the Research Assistant.

- .- Self perceived Quality of Life (for LTCF clients only, second round)
- .- in-depth semistructured questionnaire on obtrusiveness

APPENDIX VIII

Custom made questionnaire that will be used to assess dimensions of obtrusiveness as required in D2.6 Balancing between medical requirements and obtrusiveness.

IN-DEPTH SEMISTRUCTURED QUESTIONNAIRE ON OBTRUSIVENESS

CASE number

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Physical dimension: functional dependence, discomfort or strain, excessive noise, obstruction or impediment in space, aesthetic incongruence.

--

Usability dimension: lack of user friendliness or accessibility, additional demands on time and effort

--

Privacy dimension: invasion of personal information, violation of the personal space of home.

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Function dimension: malfunction or suboptimal performance, inaccurate measurement, restriction in distance or time away from home, perception of lack of usefulness.

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IN-DEPTH SEMISTRUCTURED QUESTIONNAIRE ON OBTRUSIVENESS

Human interaction dimension: threat to replace in-person contacts, lack of human response in emergencies, detrimental effects on relationships.

Self-concept dimension: symbol of loss of independence, cause of embarrassment, or stigma

Routine dimension: interference with daily activities, acquisition of new rituals.

Sustainability dimension: concern about affordability, concern about future needs and abilities