



## D1.4 Methodology for IADL, carer stress and IADL-related QoL analysis

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## 1. Introduction

### 1.1 Summary

This methodology aims to design a framework for the analysis of quality of life (QoL) in elderly people and caregivers through interactive systems in their home. To achieve this goal, it is necessary to analyse IADL performance and carer stress. A web tool (service-oriented software) will be implemented based on this methodology to ease the generation of questionnaires and automate the analysis procedure. Additionally, the methodology studies the relevant elements and interactions of PIA system to acquire knowledge of users' actions (awareness) that is relevant to the QoL analysis. Finally, this methodology will help to guide the evaluation procedure of QoL during trial tests.

### 1.2 General objectives

- To develop an appropriate scientific methodology for IADL analysis, carer stress analysis and end-user experience analysis as part of an IADL-related quality-of-life (QoL) framework.
- To acquire IADL related user requirements for homes, technology, user interfaces and social network; these requirements will help to design assistive systems that could improve users' quality of life.

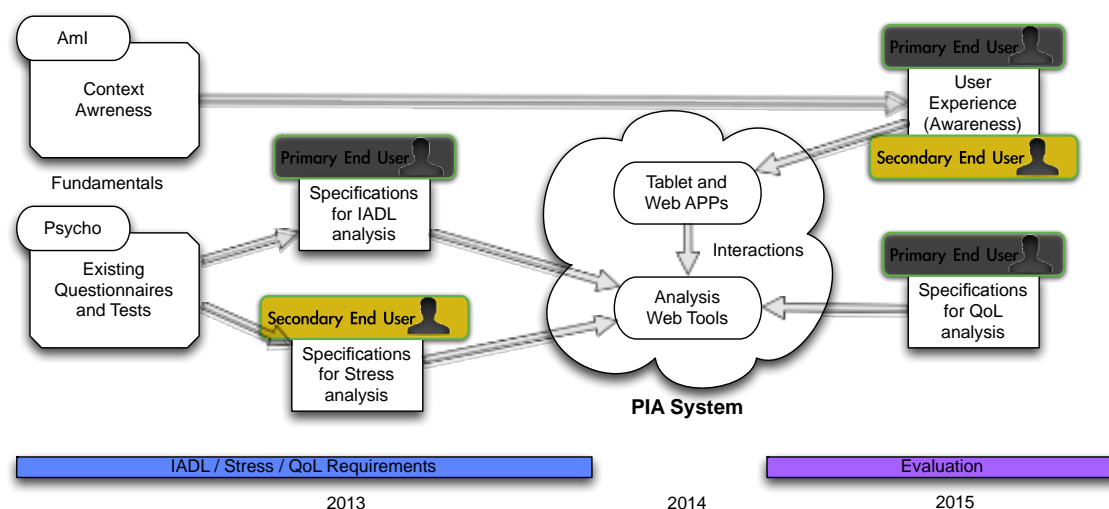


Figure 1. Methodology specification related to PIA system.

### 1.3 Specific objectives

- To define the general methodology for designing the specifications of PIA based on well-known applied science and social science methodologies.
- To develop the methodological specifications and guidelines to analyse and measure IADL thought the integration and adaptation of existing scales and test, and the creation of new ones.
- To develop the methodological specifications and guidelines to analyse and measure carer's stress thought the integration and adaptation of existing scales and test, and the creation of new ones.

- To develop the methodological specifications and guidelines to analyse and measure user experience.
- To integrate results from IADL and stress measurement to assess QoL related parameters through integration and adaptation of existing scales and tests, and the creation of new ones.

## 2. Fundamentals

### 2.1 Fundamentals of Quality of Life

This methodology aims at measuring the Quality of Life of elderly people and their carers. This will include objective and subjective indicators obtained from the implicit awareness (data gathered directly from the PIA components) and psychological questionnaires offered to secondary users, respectively.

Quality of Life is a broad concept concerned with overall well-being and aims to enable people to achieve their goals and choose their ideal lifestyle (EU, 2004). It is plausible to use the term QoL in terms of well-being evaluation taking into account the individual's perception of his/her life, cultural context, social values, and the relationships between these perceptions and expectations, goals, rules and worries. Obviously, it is also a complex concept that involves the physical health of the individual, psychological state, independence level, social relationships and other relations with main environment elements.

Firstly, we will focus the analysis of Quality of life (QoL) on the general guidelines of the World Health Organization (WHO). The WHO defines that QoL consists of six key domains (WHO, 1997):

- Physical health (energy, pains, quality of rest)
- Psychological (negative and positive feelings, self-esteem, cognition, etc.)
- Level of independence (Mobility, ADL and IADL, dependence)
- Social relationships (personal, social and sexual activities)
- Environment (skills, leisure, transport, financial, security, etc.)
- Personal beliefs (religion, spirituality)

Additionally, we are interested in specific measurements of QoL for elders and carers. More specifically, we have studied relevant literature in the dementia care domain (DQoL) (Brod, 1999). These frameworks are highly useful in the PIA project even though we do not focus on people with dementia. The DQoL aspects are:

- Physical functioning: ability to perform basic physical activities of daily life
- IADL, Performance of discretionary activities (working, hobbies, being active)
- Mobility: ability to travel out of the house
- Social interaction and relationships
- Ability to interact with the environment
- Bodily well-being: symptoms and bodily states reflecting physical comfort, discomfort
- Sense of well-being: positive and negative emotional/affective states and perceptions of self
- Sense of aesthetics: sensory awareness
- Overall perceptions: summary ratings and evaluations about one's health and overall life situation

Even though the described classifications of QoL-related elements, two main reasons establish the need to define a specific taxonomy (Section 4.1) of domains and categories related to the QoL analysis:

1. The specific characteristics and roles of PIA users: Independent elderly people living alone assisted by formal and informal carers.
2. The specifications and objectives of the PIA system that are focused on the performance of IADL.

## 2.2 Fundamentals ADLs vs. IADL

Elderly people frequently have functional problems. The evaluation of this functional condition is very useful to measure aging and provides objective data that may indicate the future health state. Typically, specialists differ between basic and instrumental activities. Both of them assess the ability to perform activities of the daily living independently.

### 2.2.1 Basic activities of daily living

Most caregivers and health professionals group the activities of daily living into the following six categories:

- **Bathing:** includes grooming activities such as shaving, and brushing teeth and hair
- **Dressing:** choosing appropriate garments and being able to dress and undress, having no trouble with buttons, zippers or other fasteners
- **Eating:** being able to feed oneself
- **Transferring:** being able to walk, or, if not ambulatory, being able to transfer oneself from bed to wheelchair and back
- **Continence:** being able to control one's bowels and bladder, or manage one's incontinence independently
- **Toileting:** being able to use the toilet

### 2.2.2 Instrumental Activities of Daily Living

Focusing on the IADL scale of Lawton and Brody (1969) the categories of instrumental activities of daily living include the following:

- **Using the telephone:** being able to dial numbers, look up numbers, etc.
- **Managing medications:** taking the appropriate medications and correct dosages on time
- **Preparing meals:** making appropriate food choices and preparing meals safely
- **Maintaining the home:** doing or arranging for housekeeping and laundry
- **Managing finances:** budgeting, paying mortgage/rent and bills on time, etc.
- **Shopping:** being able to shop for groceries and other small necessities, and transport purchases from store to home
- **Using transportation:** being able to drive or use public transportation for appointments, shopping, etc.

## 2.3 Fundamentals stress

Caregivers are people who help a disable individual with activities of daily living. It can be distinguished between formal and informal caregivers. The conciliation of personal life and the care of other person can entail problematic situations to face, and consequently, caregiving can impact in their physical, mental and emotional state. The most common consequences are stress, depression and anxiety.

Focusing on stress, it has been deeply studied in the domain of care of dependent people (Lazarus and Folkman, 1984). There are several tests and questionnaires for evaluating the

carer status regarding the variable stress such as the Informant Questionnaire (TIN) on cognitive decline in the Elderly, IQCODE (Jorm and Jacomb, 1989) or the adapted burden scale of Zarit (1983).

Regarding the personal well-being, we have considered relevant to create a questionnaire based on personal situation of carers. In these terms, we have analysed the AC-QoL test (Elwick, 2010) and the carers' stress and coping test (Narum & Transtrom, 2003).

### 3. General methodology

This proposal is based on different areas and knowledge fields. Since we are finding a methodology for IADL analysis, carer stress analysis, and QoL analysis as part of an assistive and interactive system, it is necessary to study both Human-Computer Interaction (HCI) and social sciences methodologies. Moreover, this methodology can be considered a development methodology because it lays the foundations to deploy software tools for measurement of QoL related aspects, and also this is an evaluation methodology due to the included procedures and tests to evaluate QoL.

#### 3.1 What is this methodology?

This methodology is a set of guidelines and specifications of good practices to develop interactive systems for IADL, Stress and QoL assistance and analysis. In more detail, it will include:

- A context model: identification of the whole set of objects that takes part into the development.
- A reference model: as method to make decisions and choose among different design alternatives.
- A development life cycle: description of the set of phases to achieve the goal.

#### 3.2 Methodology sub-models

Inspired in the sub-model organisation of interactive system development process proposed by Peter Warren (Warren, 2001), we have defined five sub-models:

- **Psychological and sociological model:** this model is concerned with the relevant literature and backgrounds on QoL, IADL and carer stress analysis.
- **Conceptual model:** this model will characterize parts of the reality, or more precisely, it will represent the context as an information source.
- **Task model:** this model embraces all activities related to primary and secondary users. Task model describes the logical activities that have to be carried out in order to reach users goals. It does not necessary involve interactions with the system.
- **Interaction model:** It defines how users manipulate elements of the system and receive feedback from it. The interaction model is hardly linked to the user's task and to the conceptual elements associated to those tasks.
- **Developer's model:** this model defines what the system has to do to achieve the user requirements. The developer's model obtains information from the conceptual model and the interaction model.

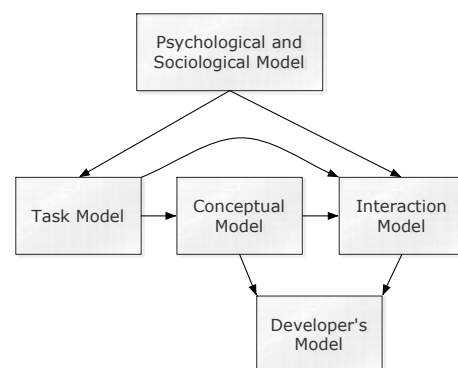


Figure 2: Methodology sub-models.

### 3.3 Methodology scope

Operational concepts:

- Quality of Life (Primary end users)
- Quality of Life (Secondary end users)

Variables:

- Direct → ADL & IADL (Only primary end users), stress
- Indirect → Social relationships, emotions, health

Indicators:

- Set of questionnaires
- Awareness analysis

### 3.4 Methodology techniques

**Questionnaires-based survey:** Secondary end users (regarding himself/herself and regarding primary users) fills out the survey on his or her own. The set of questionnaires serve to gather factual information about individuals.

**Naturalistic observation (Awareness):** Naturalistic observation involves recording subject behaviour in their natural environment. This type of research is very useful because observing users in a controlled environment (lab) would be unrealistic and could affect the subject's behaviour.

### 3.5 Methodology execution stages

1. **Observation phase:** As the scientific method states, curious observation is the start point of the research process to discover new problems, challenges and goals. In our case, the observation phase is due to identify and quantify the problems elderly people face when living alone. Following the user-centred principles of PIA, end-users will participate throughout the project being invited to interviews, focus groups and field trials, and they will contribute to the assessment of IADL support, carers stress and QoL.
2. **Planning phase:** This phase consist of (a) problem definition: carefully description of the problem to solve "a problem properly defined is often half solved" (A. Einstein); (b) goals and tasks: description of end results to achieve in solving the problem and how to each those goals; (c) background and literature: collection of significant state of art and literature regarding the problem to be solved, in our case regarding analysis of IADL, QoL and carers' stress.
3. **Design phase.** In this stage the sub-models will be developed. The objective of this phase is to obtain the methods and tools (software and theorist schemas); more specifically, it will be defined the guidelines for the analysis web tools and the set of scales and tests to analyse IADL, QoL and carers' stress.
4. **Development phase.** This phase corresponds to the web tools production and it can follow any software development method.
5. **Base-line phase.** To gather initial information about IADL, QoL and stress from the particular users (trial users or final users). It will be compared with data obtained after using PIA system. This information will be gathered using the developed web tools at the beginning of trial experimentation.
6. **Execution phase.** During the continuous use of PIA system, several questionnaires will be offered to secondary users about primary users IADL performance, QoL issues and their own stress. Additionally, PIA system will monitor the interactions of end users with the PIA applications (tablet app, web apps and social network). In this phase, it is

necessary to plan what questionnaires will be used, who has to fulfil them, and when/how will be offered.

7. **Evaluation phase.** To obtain the needed conclusions and evaluate the suitability of PIA system.

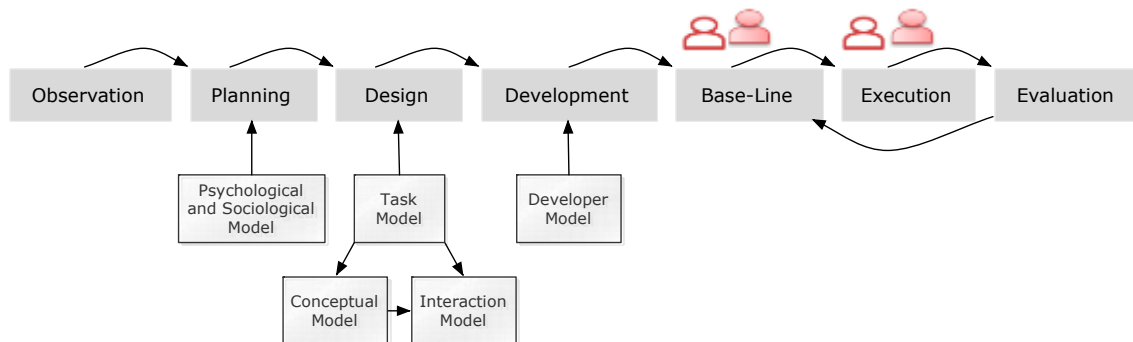


Figure 3. Methodology stages and sub-model generated in each stage.

## 4. PIA methodological specifications

### 4.1 Psychological and sociological model

In order to identify specific concepts and variables successfully, it is important to define the remarkable literature. We have defined the necessary indicators that are represented as questionnaires based on previous knowledge.

#### 4.1.1 Quality of life for primary end users

The first analysis is related to basic and instrumental daily activities. The Activities of Daily Life (ADL) are included in this classification due to their importance in the QoL concept. However they will not be analysed because the specification of the PIA project remark that exclusion criteria of people with severe disability (Deliverable 3.2). For this reasons, we are assuming that end users can successfully perform ADLs.

The proposed questionnaires for IADL analysis are inspired on several well-known tests:

- Katz scale of independence (Katz, 1983)
- Barthel scale / Maryland disability index (Barthel, 1965)
- Coop-WONCA charts (WONCA, 1990)
- Lawton and Brody scales (Lawton, 1969)

The election of indicators regarding QoL is due to different reasons. Following the definition of the WHO we are interesting in the evaluation of QoL from different perspectives related to the individual personal aspects. The variable IADL is the main indicator to take into account because of the scope of the PIA project. The variable well-being has been defined as a multi-dimensional aspect consisted of several sub-variables. Firstly, the stress of the elderly person is important because it is a physiologic reaction that is produced to face problematic situations, more specifically as consequence of problems in the performance of IADL and their consequence in the relationships with others. For that, we have also included test for social relationship measurement. Additionally, emotional state of the elderly people is a clear indicator of their behaviour and response regarding their situation of dependence. The emotional factor also can provide information about level of depression or anxiety. Finally, the subjective perception of physical and mental health is a valuable indicator of QoL.

The proposed questionnaires for emotional state are inspired on several well-known tests:



- Beck depression inventory (Beck, 1961)
- Cornell scale for depression in dementia (Alexopolous, 1988)
- Goldberg depression test

Finally, the questionnaire about wellness is based on general specifications of the WHO regarding QoL.

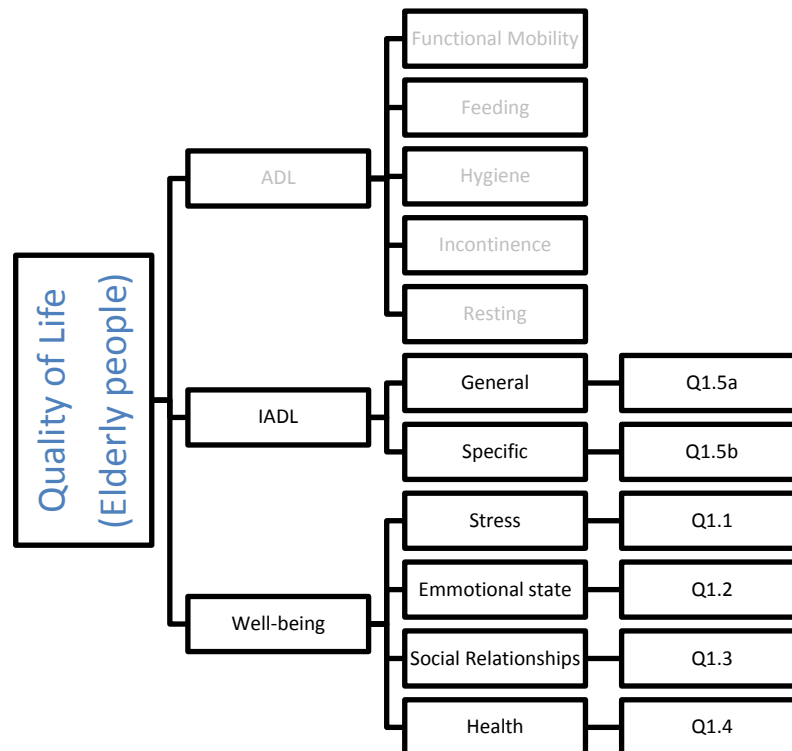


Figure 4. Taxonomy of variables and indicators of QoL for elderly people.

#### 4.1.2 Quality of Life for secondary end users

Regarding questionnaires to carers, it has been defined a similar schema of variables to measure but indicators has been adapted to the particular characteristics of this type of users. This time, the primary factor to take into account is stress. The secondary factors are: social relationships, emotions, and health.

The foundations of the analysis of QoL for secondary end users are:

- Stress in formal and informal carers
  - The Informant Questionnaire TIN (Jorm, 1989)
- Carer burden
  - Zarit Burden Interview (Zarit, 1980)
- Well-being:
  - Adult Carer Quality of Life Questionnaire (AC-QoL) (Joseph, 2012)
  - Coping with caregivers

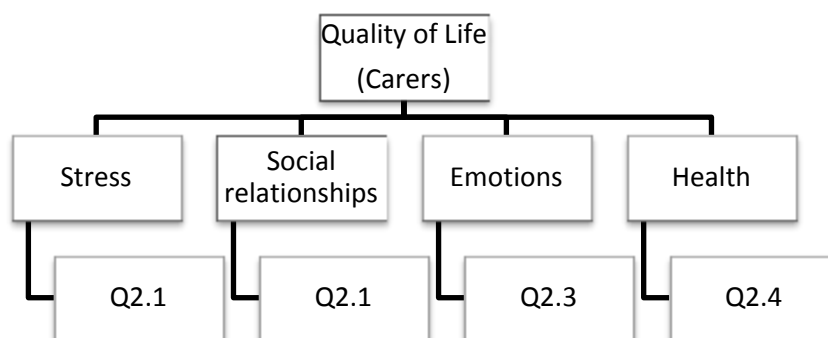


Figure 5. Taxonomy of variables and indicators for QoL in carers.

#### 4.1.3 List of questionnaires

Q1.1 Stress in elderly people

Q1.2 Emotional state in elderly people

Q1.3 Social relationships in elderly people

Q1.4 Health in elderly people

Q1.5a IADL (General activities)

Q1.5b IADL (Specific activities)

Q2.1 Stress in caregivers

Q2.2 Emotional State in caregivers

Q2.3 Social Relationships in caregivers

Q2.4 Health in caregivers

#### 4.1.4 Temporisation

Firstly, the proposed set of questionnaires is suitable to establish the baseline of participants in the field trials and being able to compare these results with latter evaluations.

Secondly, there will be two iterations of field trials in the homes of elderly people who are connected to organisations providing housing and/or caregiving. Both iterations will be run with the same participants (as long as they all still agree to remain in the trial at the end of the first iteration). These trials will be performed in United Kingdom, Germany and Norway with a duration of 5-6 weeks each iteration.

At the end of the first iteration we fully evaluate QoL through the set of questionnaires to evaluate the impact of the use of the PIA solution. Additionally, at the middle of that iteration (third week) we will hand out the Q1.5 and Q2.1 due to their importance. This evaluation will help us to understand evolution of the impact of PIA system during those 5-6 weeks.

After the first iteration, there will be few weeks (undetermined) until the beginning of second iteration. This time is suitable to analyse the impact of retiring PIA solutions for a while (post-test evaluation). For that, we will pass out the full set of questionnaires at the beginning of the second iteration.

Finally, we will repeat the procedure of QoL analysis handing out the Q1.5 y Q2.1 at third week of second iterations and the whole set of questionnaires at the end of the field trial.

All this procedure enables the transversal (along the time) and longitudinal (several variables) evaluation. The measurement of IADL performing along the PIA field trials helps to understand how the experience of using the PIA system is. The success factor will be to probe the improvement in this IADL performing in primary users. Additionally, we will evaluate how the underlying issues progresses, that is, health, social and emotional state. In a similar way, these progressive tests will help to analyse the stress evolution in secondary users. Again, the methodology includes test to directly evaluate stress and indirectly evaluate it through test regarding underlying issues.

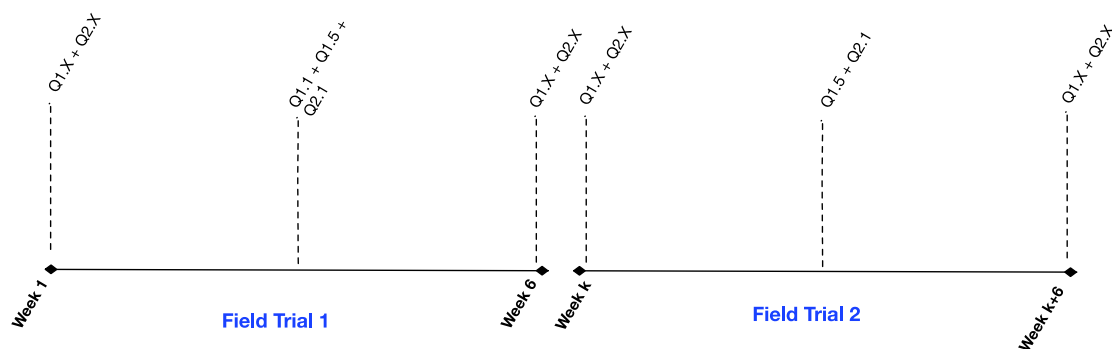


Figure 6. Analysis tool questionnaires schedule.

#### 4.1.5 Good practices

- Secondary end users should fill in their questionnaires using the web application.
- Primary users do not directly fulfil questionnaires by their own. Secondary users will interview them to answer the provided to primary user through the web application. To perform this task, they should consider:
  - People with dementia or people with memory reduction will have difficulties to remember their achievements and assess them against the three options (very often, sometimes and rarely).
  - They may also have difficulty with the understanding of time. Future, present and past becomes all to "present".
  - The provided order for questionnaires is not the order to pass out the questionnaires. The interviewer can decide the best order in each case.
  - In general, it is important to create a good relationship and communication/atmosphere to get the right answers in the interview.
  - The interviewer must be aware that due to cognitive impairment and reduced insight into illness may give false answers / excuses for why the appliance is not used or the IADL is not performed.

## 4.2 Task model

Apart from the questionnaires, we will use another kind of indicator, the awareness automatically obtained from the users' interactions. We need to carefully analyse the tasks performed by primary and secondary users will perform. We focused the analysis on those tasks that are relevant to the PIA system.

### 4.2.1 User tasks

#### Life habits and activities (Primary end users)

- Nutrition
  - Microwave, cooker, coffee machine, water heater

- Fitness
  - Kinect@
- Self and personal care / wellbeing
  - Alarm clock, medication reminder, central heating, thermostat
- Communication
  - Telephone, mobile phone, computer, tablet PC, answering machine
- Entertainment
  - TV, remote control, video/DVD, radio, HiFi/CD, SatNav, digital camera
- Housing (domestic life)
  - Washing machine, dryer, dish washer, central heating, iron, vacuum cleaner
- Mobility
- Interpersonal interactions and relationships
- Mayor areas of life
- Community, social and civic life



Irrelevant to PIA

#### Carer's activities

- Help primary user
- Supervise primary user

#### Researcher's activities

- Hand out surveys
- Analyse data

#### System tasks

- Manage multimedia
- Manage questionnaires
- Generate statistics

### 4.3 Conceptual model

The conceptual model identifies those elements of the context of PIA system that are relevant for evaluating QoL. It includes the actors involved into this system and their roles and responsibilities. Moreover, the conceptual model includes the activities identified for each task contained in the task model. Finally, the conceptual model describes artefacts included in PIA system to a better understanding of the whole project.

#### 4.3.1 Actors, roles and responsibilities

- **Actors:** Primary user (older person), secondary end user (relative, nurse, physician), external entity (producers of appliances), user organisation (Asker Municipality)
- **Roles** (secondary users) with **responsibilities:**
  - Carer (formal and informal)
  - Media manager (create, upload and tagged clips)
  - Technician (configure home, place sensors, web administrator)
  - Social worker, IADL expert

### 4.3.2 Activities

#### Researcher

- Register and login (F)<sup>1</sup>
- Manage tests and questionnaires (F)
- Display IADL/carer stress/QoL analytics (F)

#### Primary end user activities

- Select Contact function (contact carer from tablet) (F)
- Sensor-based video playback (F)
- Voice-based interaction for video playback (F)
- Control video (selection/stop) (F)

#### Secondary end user activities

- Register and login (F)
- Segmentation and sequencing into basic actions
- Get instructions/help (F)
- Get test-related notifications on PIA web (F)
- Manage videos
  - Get templates and guidelines
  - Video Recording (F)
  - Edit video meta-data (F)
  - Upload video (F)
  - Browse/play video (F)
  - Manage video sharing (F)
  - Display results of video analysis (F)
- Social activities
  - Comment/discuss videos (F)
- Display IADL/carer stress/QoL analytics (personal results) (F)

#### System

- Save / Load questionnaire
- Save / Load block
- Save / Load item
- Save / Load user
- Generate view of questionnaire
- Save responses of questionnaire
- Generate statistics
- Save / Load videos
- Save / Load metadata
- Save / Load comments

#### Artefacts

- **Hardware:** Tablet, sensors (NFC, RFID, GPS, BT), cameras and smartphones, web servers.
- **Software:** video libraries (in the cloud or locally stored in the tablet), web application, social network, mobile app to upload videos (secondary), mobile app to show videos

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<sup>1</sup> (F) Identified functionality (D1.2: Requirements and system design)

(primary), Web Administration, Application Programming Interface (API), SmartTracker (link tags with information). Statistical package to analyse usage.

- **Interactive SW elements:** confirm button, help button, check list (as short clips)
- **Media:** Video clips, text documents, audio.
- Environmental artefacts:
  - Environments: laboratory homes and real homes (test beds)
  - Furniture: Washing machine, shower, etc. (see primary user activities)
  - Marks: instrument pack (NFC)

#### 4.4 Interaction model

The interaction model includes diagrams with the consecution of actions of the user while performing a task with PIA system, the analysis of those actions by the system, and the nature of the response.

##### 4.4.1 Perform an IADL activity and obtaining help

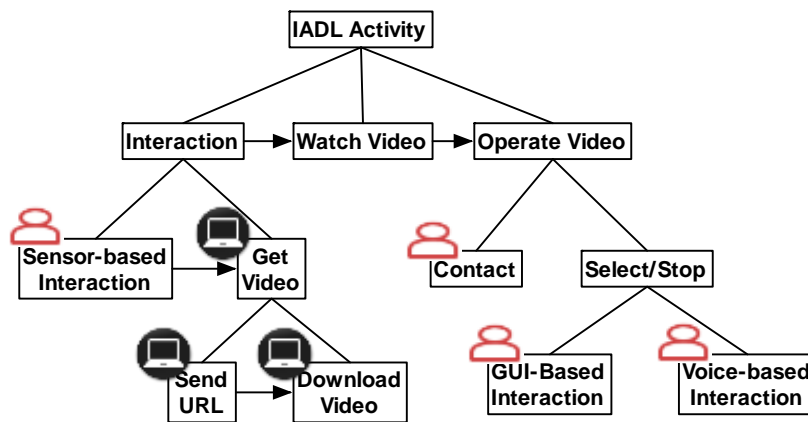


Figure 7. Interaction model for obtaining help on IADL activities.

\*Note the importance of provide just one at a time.

##### 4.4.2 Managing videos

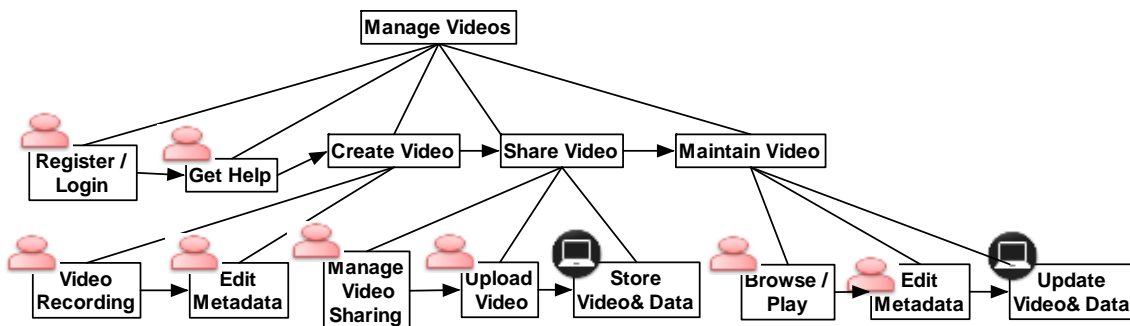


Figure 8. Interaction model for managing videos.

### 4.4.3 Managing surveys

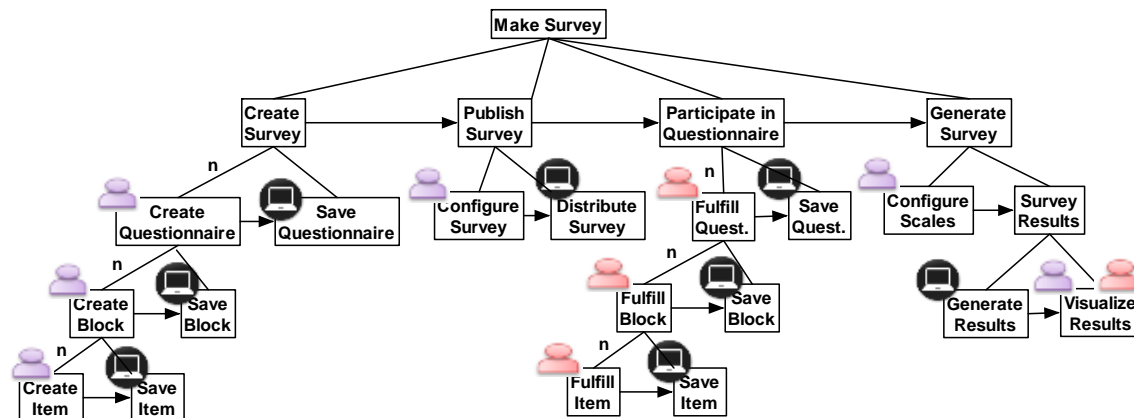


Figure 9. Interaction model for managing surveys.

## 4.5 Developer's model

### 4.5.1 Acquired actions

Web app and android app will provide information to the analysis tool to measure IADL/stress/QoL parameters in a quantitative manner. Thus, it is necessary to gather relevant data from the use of the first applications. These data come from the actions taken by the users (carers and elders) when they use the applications. Additionally, the gathered data from PIA actions (e.g. play a video or "touch" a NFC tag) include implicit information as Awareness. In this case, the Awareness provides us a valuable mechanism to enrich the analysis of the measures showed in Table 1.

Action code	Name	Description	Target app.
AC0	Create account	Create a new PIA user account	web
AC1	Edit account	Edit a PIA user account	
AC2	Delete account	Delete a PIA user account (if it is possible by the user)	
AC3	Login	The user is logged in the web app	
AC4	Add video	Uploading of a specific video to the web platform	
AC5	Share video	Sharing of a video with other users	
AC6	Play video	The user plays a video	
AC7	Rate a video	The user rates a specific video	
AC8	Comment a video	The user adds a new comment on a video	
AC9	Archive a video	The user archives a video	
AC11	Link	The user presses an element which links to an external source (e.g. an external link to analysis tool)	
AC12	Play video tablet	A video starts automatically (or the user presses the play button)	mobile

AC13	Touch NFC tag	The user touch a NFC tag with the NFC tablet
AC14	Home button	The user presses on the home button of the app
AC15	Help button	The user presses on the help button of the app
AC16	Replay button	The user presses on the replay button
AC17	Exit button	The user presses on the exit button of the app

For that all, the fields of a PIA input are the following:

- User ID: identifier of the user
- Device ID: identifier of the source device
- Action ID: identifier of the action (see Table 2)
- Description: Additional field for detailed description, for example, about the action
- Datetime: Datetime field which represents when the action occurs

#### 4.5.2 Data for questionnaires and tests

Questionnaire				
Name	Description	Created by	Aspect	Scale
<b>Text</b>	Text	Researcher	[AIDL, stress, QoL]	Variable

Assigned Test						
Questionnaire	Publication	Deadline	Completion	Assigned to	Result	Progress
<b>Numerical</b>	Date&Time	Date&Time	Date&Time	Primary User	Variable	0-100

Item				
Quest	Block	Body	NumResponses	Type
<b>Numerical</b>	Text	Text	Numerical	Test Types

Response				
Quest	Item	ID	Body	Correct
<b>Numerical</b>	Numerical	Numerical	Text	T/F



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## Appendixes

### A.1 Primary users questionnaires

#### Q1.1 Stress

Stress				
	Very often	Some-times	Never	Observations
I can do whatever I set out to do				
I do not take the initiative				
My situation oppresses me				
I am in a irritable mood				
I think to leave everything				
I feel like doing nothing				
I am stressed				
I enjoy life				

#### Q1.2 Emotional status

Emotional status				
	Very often	Some-times	Never	Observations
I am in a bad mood				
I feel sad				
I feel happy				
I feel anxiety for my situation				

#### Q1.3 Social relationships

Social relationships				
	Very often	Some-times	Never	Observations
I am part of a group of friends				
I enjoy being with people				
I want to talk with no one				
I have good relationship with my family				
I feel lonely				

#### Q1.4 Health

Health				
	Very often	Some-times	Never	Observations
I forget things				
I have troubles to sleep				
I feel exhausted				

I have lost weight				
I feel without energy				

### Q1.5 IADL

General IADL				
	Not needs help	Some-times	Always needs help	Observations
Dressing				
Pet care				
Communication				
Mobility				
Housework				

Specific IADL				
	Not needs help	Some-times	Always needs help	Observations
Washing machine				
Telephone				
Dryer				
Dish washer				
Microwaves				
Oven				
Coffee machine				
Water heater				
Cooker				
Alarm clock				
Medication reminder				
Central heating				
Thermostat				
Mobile phone				
Computer				
Tablet PC				
Answering machine				
TV				
Remote control				
Video/DVD				
HiFi / CD				
Sat Nav				
Digital camera				
Iron				
Vacuum cleaner				
Which appliance are the 5 most important for you (primary user)?				
Which appliance are the 5 most important for you (secondary user)?				

## A.2 Secondary end users' questionnaires

### Q2.1 Stress

Stress				
	Very often	Some-times	Never	Observations
I can hardly do my tasks				
I feel depressive				
I feel that my family depends on me				
I am worried about money				
I feel that my life is in a second place				
I feel annoying				
I have no control of my life				
I feel frustrating with whatever I do				
I feel stressed out				
I think to leave everything				

### Q2.2 Emotional status

Emotional status				
	Very often	Some-times	Never	Observations
I feel unhappy				
Things make me feel good				
I feel lonely				
I feel anxiety				
I am able to face new situations				
I am glad with what I do				
I have no interest for things				

### Q2.3 Social relationships

Social relationships				
	Very often	Some-times	Never	Observations
I think that nobody understands me				
People support me emotionally				
My social life changes				
I think that I do things fine				
I feel appreciated				
I feel isolated				
I receive help when I need it				

**Q2.4 Health**

Health				
	Very often	Some-times	Never	Observations
I feel without energy				
I am mentally weak				
I am physically exhausted				
I have problems to rest or feed myself				
I have health problems				
I use medicines for resting, feeding, pain, etc.				