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Deliverable D 1.1
User requirements report

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Abstract As a part of the European joint project FEARLESS this report lists the development of the user needs questionnaires so that the user requirements will be defined. The user needs analysis bases on the survey of primary respectively end user and secondary user which mean friends or confidants and professional care givers.

Keyword List User needs questionnaire, user requirement, primary / end user, secondary user



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Version 1 Draft 2	28.10.2011	Results of literature research included
Version 1	31.10.2011	Minor changes



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1. INTRODUCTION

In WP1, the work package of the FEARLESS-project supervised by the University of Bamberg, the major aim is designing a tool for a standardized analysis of user needs and preferences.

In the present report, we will give a short overview about the parts of work to be done within this first work package until month 10th, with a special focus on the proceedings until month 4th. The first work package includes the designing of a standardized interview tool until August 31st, 2011. This interview has to be evaluated about its usability until October 31st, 2011. Further on until the end of work package one we plan and conduct the multi-national survey as well as report the results. The report of the results based on an analysis and interpretations of the collected data will provide a valid basis for technical specification, marketing and dissemination strategy.

2. ABSTRACT OF THE QUESTIONNAIRES, GUIDELINES AND INTERVIEW MANUAL

The following abstracts give a general survey of each questionnaire for the standardized analysis of user needs. This applies also to the guidelines of the user needs analysis (UNA) and the interview manual.

Annex1: UNA-Questionnaire for primary user

Primary user of the product designed by the FEARLESS-project will be elder(ly) people – 65+, with and without dementia – living in their own home environment. So it has to be designed with regard to end-users' fears and needs.

The questionnaire opens with a cover letter and a declaration of consent.

The cover letter informs the participants about the implementing institution, the consortium partners of the FEARLESS-project and the aim of the study. Then the declaration of consent briefs the participant about data protection and the realization of data protection. The declaration is concluded with the signature of each participant to confirm their agreement.

The questionnaire starts with the fixing of the individual key, the instruction and the personal data.

The interview tool includes

- 10 items about health aspect issues,
- 28 items about the living conditions,
- 2 items about the activities of daily living,
- 3 items about mobility,
- 6 items about social participation,
- 9 items about familiarity with technology,
- 11 items about life events,
- 11 items about critical incidents,
- 10 items about assistive technology and
- ends with the point questions and suggestions.



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There are three types of questions:

- a) open questions,
- b) questions featuring a predefined set of answers and
- c) questions featuring a rating scale.

The different versions for Italy and Spain base on the differences in the national health system. The Item G 10 is missing in the Italian version, because the Italian consortium partner TeSAN (TES) saw no need to raise this item.

This applies to the two German versions for Germany and Austria, too. The Item G 10 adopts the conditions of the German and Austrian health care system.

Annex2: UNA-Questionnaire for secondary user

This questionnaire is addressed to relatives or confidants of elder(ly) people, but also to professional care givers and rescue workers.

The questionnaire is interested in the acquisition of the personal view of relatives or confidants independently of the relatives. It targets to collect data about the same topics as the UNA-Questionnaire for the primary user.

For the description of the design and the content please see Annex1.

The questionnaire for the different professional care givers has the aim to detect the potential professional system users, but also to get their evaluation of a typical user profile, their previous experience with assistive technology and their expectations towards assistive technology. This questionnaire has been developed together with Cogvis (COG) and Vienna University of Technology (CVL).

Annex3: Guidelines of the User-Needs-Analysis (UNA)

The guideline includes the final defined size of the sample, strategies and suggestions to recruit study participants and how to acquire protect and pool data.

Annex4: Interview manual for the User-Needs-Analysis (UNA)

The manual provides information on the preparation and opening of an interview. Furthermore it gives information on the FEARLESS-consortium and the aims of the project, explains the content and the course of the interview and helps to deal with difficult situations during the interview.

3. WORKING REPORT ON DESIGNING A STANDARDIZED INTERVIEW TOOL

From July 1st until the first meeting the University of Bamberg (PSY) compiled a list of criteria a user oriented requirement analysis for the FEARLESS-Project has to allow for e.g. inter-individual differences, resources and deficits, cross-cultural differences and attitudes towards visual sensors. Furthermore a proposal for the kick-off meeting has been made which included the data will be collected, e.g. biographical, situational and ambient. Also research was done which relevant clinical and personality



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scales will be important to assess the user needs via extensive literature retrieval using WebOfScience, PsycInfo and by asking experts in the field. The assumptions are based on the current state of psychological model construction and the following literature:

- Fundamental findings in the field of psychology of aging / psycho-gerontology
Lehr, U., Thomae, H. (2000). *Psychologie des Alterns*. Wiesbaden: UTB Quelle & Meyer.
Thomae, H. (1983). *Alternstile und Altersschicksale*. Bern: Huber.
Gruss, P. (2007). *Die Zukunft des Alterns*. München
Bundesministerium für Familie, Frauen Senioren und Jugend (1998): *Wohnen im Alter. Zweiter Altenbericht*. Bonn
- Fundamental findings in the field of technical assistant systems for elder(ly) people, specifically on assistive technology
N. Noury, P. Rumeau, A.K. Bourke, G. ÓLaighin and J.E. Lundy "A Proposal for the Classification and Evaluation of Fall Detectors", *BioMedical Engineering and Research (IRBM)*, 29(6): 340-349, 2008.
- specialized literature on the topic "fall prevention", "health-related fears", "self-efficacy" and mobility of elder(ly) people
Deshpande N., et al.: Psychological, physical, and sensory correlates of fear of onsequent activity restriction in the elderly: The InCHIANTI Study. *Am J Phys Med Rehabil*. 2008 May;87(5):354-62.
Deshpande N., et al.: Activity restriction Induced by fear of falling and objective and subjective measures of physical function: a prospective cohort study. *J Am Geriatr Soc*. 2008 Apr;56(4):615-20.
Deshpande N., et al.: Interpreting fear of falling in the elderly: what do we need to consider? *Journal of Geriatric Physical Therapy*. 2009;32(3):91-6.
Krause, N. (1986). Stress and coping: Reconceptualising the role of locus control beliefs. *Journal of Gerontology*, 41, 617-622

Based on this research work the framework of the questionnaire was constructed and was presented as proposal on the kick-off meeting in Vienna.

3.1. DEFINING THE FRAMEWORKS OF THE QUESTIONNAIRES

At the kick-off meeting of all partners in Vienna the following guidelines for the user needs analyses (UNA) for primary users were defined.

- the UNA-Questionnaires may serve as a questionnaire and an interview guide
- size and composition of the primary end-user sample
- size and composition of the secondary user sample like relatives or confidants and professional care takers



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- strategies to recruit participants of the study
- guidelines how to use the questionnaire for data acquisition
- how to ensure that the data are protected and sure

The *Austrian Workers' and Samaritans' Association Vienna (SAM)* and the *Medical University of Vienna (MED)* decided a reinforced cooperation for developing the questionnaire.

3.2. TIMETABLE OF THE SEQUENCE OF OPERATIONS

In the following you will find the timetable of the sequence of operations what have been done until October 31st, 2011 for completion of the UNA tool:

- August 18th: MED and SAM have received and reviewed a preliminary version of the UNA-questionnaire
- Since August 18th: PSY has conducted pretests in order to evaluate the usability of the UNA-Questionnaire
- The pretest consisted of a personal interview. So this preliminary personal contact with the possible study participants allows a concentrated personal discussion. But also such aspects, whether the language is understandable or the interviewee might feel overwhelmed or over awed, could be clarified. Another important point the length of the interview has been figured out.
- August 29th: PSY has received feedback on preliminary UNA-Questionnaire from SAM
- September 12th: The pretest conducted by PSY was completed
- The revision of the first UNA-questionnaire in accordance with feedback provided by SAM as well as pretest results by PSY was finished
- The proposals for modification based on expert discussion of SAM and MED. A final video conference was attended by the project members of SAM and PSY.
- September 16th: The other consortium partners TeSAN (TES) from Italy, i2CAT Technological Center (I2C) and Linkcare Health Service (LIN) from Spain as well as Cogvis (COG) have received the revised UNA-Questionnaire in English
- MED, SAM, COG and CVL have received the revised UNA-Questionnaire in German
- Until September 30th: PSY has received feedback on revised UNA-Questionnaire from MED, SAM, LIN, I2C, TES, CVL and COG
- October 7th: PSY has completed the final UNA-Questionnaire for primary users in German and English



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- October 19th: The reappraised and revised UNA-Questionnaires for primary users and relatives have been delivered
- October 21st: The translation of the UNA-Questionnaire into Italian and Spanish / Catalan by TES, LIN and I2C has been started

The final versions of the UNA-Questionnaire specifically constructed for primary user (including end users) and for secondary users (relatives or confidants and professional care givers) are attached to the annex.