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VICON

Virtual User Concept for Inclusive Design of Consumer Products and User Interfaces

Deliverable Report

D4.4: Focus Group Report – 1st Draft

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Deliverable abstract	This document will contain a report of the evaluation of the Virtual User Model in close cooperation with the beneficiaries (people aged 65 years and older).

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PU	Public	**X**
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
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1 Introduction

The document will contain a detailed report of the analysis of products with beneficiaries (people over 65 years of age who have mild to moderate vision, hearing or manual dexterity impairment).

One of the functions of the Virtual User Model will be to evaluate computer-based (CAD) drawings of product designs at the early stages of and throughout the product design process. The effectiveness of this function will be assessed in task 4.3, by comparing the ability of the VICON system to identify accessibility/usability issues in a CAD sketch or drawing versus identification of accessibility/usability issues through real life user testing with beneficiaries.

The products that are tested in the beneficiary evaluation will correspond to the CAD drawings that are tested in the virtual lab.

2 Methodology

2.1 Identification of products

The first step in this task was to identify products that can be evaluated both in the virtual and in the real world. It was therefore necessary for the industry partners to provide products and corresponding CAD drawings. The products currently included in the evaluation are summarised in Table 1.

Table 1: Summary of Products for Beneficiary Evaluation in T4.3

Product	**Source**	**Model**	**Image**
Remote Control	Arcelik	Grundig (Codes: TP9187R; 11029390)	
Remote Control	Arcelik	Grundig (Codes: RC2134602/01; 3139 238 19331; 72011 714 4800; CP06 51035 G 010860	

Remote Control	Arcelik	Grundig (Codes: YF1187R; 11021729)	
Mobile Phone	Doro	Doro 332gsm	

2.2 Recruitment of beneficiaries

Beneficiaries (older users of consumer products) will fall into four main groups; those with a moderate impairment in one of vision, hearing or manual dexterity and those with mild to moderate impairments in more than one of vision, hearing and manual dexterity. All beneficiaries will be aged 65 years or older. We will aim to include 6 -12 people with each of these combinations in order to identify key usability issues and provide sufficient evidence. Beneficiaries will be recruited were possible from previous field trials (T1.3). New beneficiaries (ages 65 years and older) may also be recruited if deemed necessary. The final number of beneficiaries and the number of testing locations is in the planning stage and will be finalized before starting the tests.

2.3 Evaluation of designs

Two parallel evaluations are currently being planned: (1) beneficiary testing with real products and (2) virtual testing of CAD drawings within the VICON system. The results of these two tests will be compared to assess the success of the VICON system in identifying accessibility issues by evaluating CAD drawings. Evaluation (1) is described here.

A preliminary accessibility evaluation of the products listed in Table 1 (mobile phone and remote controls) has been conducted by the author, in order to identify accessibility issues with the current design of each product. On the basis of these accessibility issues, a list of appropriate tasks have been identified for each product, which, if executed during a user test of that product, would ensure that the user would encounter the accessibility issues. The user testing methodology has therefore been developed around the pre-identified accessibility issues.

As it is necessary for the evaluation with beneficiaries to be comparable to the VICON evaluation of the CAD drawings, the user testing methodology is currently being developed in close partnership with the technical partners who will be conducting the virtual evaluations.

As the results of each test (real life and virtual) will be compared, it is necessary NOT to reveal the results of the preliminary accessibility evaluation to the technical partners. The results of the evaluation will not be revealed to the technical partners until the virtual evaluation is complete. The list of tasks for each product, however, can be revealed.

This list of tasks are provided in Table 2 below. On the basis of these complex tasks, a series of subtasks will likely be required to reduce the complexity of the tasks so that they can be comparable to the virtual evaluation. This is currently being discussed with the technical partners. An example of the subtasks is provided in Table 3.

Table 2: Summary of Products for Beneficiary Evaluation in T4.3 and corresponding complex task list for each product.

Product	**Source**	**Model**	**Image**	**Tasks**
Remote Control	Arcelik	Grundig Codes: TP9187R 11029390		• Turn the TV or • Turn the volur • Select channe • Select the nex • Press record • Select menu b • Press pause • Mute the TV • Change the ba

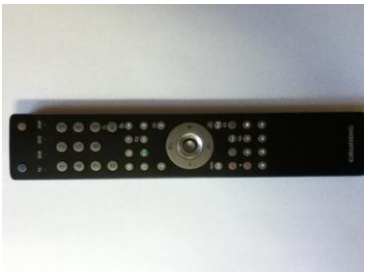
Remote Control	Arcelik	Grundig Codes: RC2134602/01 3139 238 19331 72011 714 4800 CP06 51035 G 010860		• Turn the TV or • Turn the volur • Select channe • Select the nex • Press record • Select menu b • Press pause • Mute the TV • Change the ba
Remote Control	Arcelik	Grundig Codes: YF1187R 11021729		• Turn the TV or • Turn the volur • Select channe • Select the nex • Select menu b • Mute the TV • Change the ba
Mobile Phone	Doro	Doro 332gsm		• Turn phone or • Write a text (a • Dial a phone n • Receive a pho • Lock and unlo • Receive a text • Charge phone • Insert/remove • Insert/remove

Table 3: Example of subtasks for a remote control and a mobile phone, which will be carried out during the user testing with beneficiaries and compared to the results of virtual testing of the corresponding product CAD drawings.

Product	Complex Task	Subtasks	User action

Remote Control	Turn the TV on/off	Look at the remote control	Vision
		Read and identify the on/off button	Vision
		Press the on/off button	Manual Dexterity
		Identify success of the task (e.g. the TV has been successfully turned on and off and the user is aware that the task has been achieved (user is asked to report audible, tactile, visual cues))	Vision Manual Dexterity Hearing
Remote Control	Turn the volume up/down	Look at the remote control	Vision
		Read and identify the volume up/down buttons	Vision
		Press the volume up/down buttons	Manual Dexterity
		Identify success of the task (e.g. the volume level has successfully been changed and the user is aware that the task has been achieved (user is asked to report audible, tactile, visual cues))	Hearing Manual Dexterity Vision
Remote Control	Select channel 517	Look at the remote control	Vision
		Read and identify button 5	Vision
		Press button 5	Manual Dexterity
		Identify success of the task (e.g. the volume level has successfully been changed and the user is aware that the task has been achieved (user is asked to report audible, tactile, visual cues))	Hearing Manual Dexterity Vision
		Read and identify button 1	Vision

		Press button 1	Manual Dexterity
		Identify success of the task (e.g. the volume level has successfully been changed and the user is aware that the task has been achieved (user is asked to report audible, tactile, visual cues))	Hearing Manual Dexterity Vision
		Read and identify button 7	Vision
		Press button 7	Manual Dexterity
		Identify success of the task (e.g. the volume level has successfully been changed and the user is aware that the task has been achieved (user is asked to report audible, tactile, visual cues))	Hearing Manual Dexterity Vision
Remote Control	Change the battery	Identify the battery compartment	Vision
		Open the battery compartment	Manual Dexterity
		Identify how the battery is removed	Vision
		Remove the battery	Manual Dexterity
		Replace the battery	Manual Dexterity
		Replace the battery compartment cover	Manual Dexterity
		Identify that the cover has been successfully closed (user is asked to report audible, tactile, visual cues)	Hearing Manual Dexterity Vision
Mobile Phone	Dial a phone number	Look at the remote control	Vision
		Read and identify button 0	Vision
		Press button 0	Manual Dexterity
		Identify success of the task (e.g. the volume level has successfully been changed	Hearing Manual Dexterity Vision

		and the user is aware that the task has been achieved (user is asked to report audible, tactile, visual cues))	
		Read and identify button 8	Vision
		Press button 8	Manual Dexterity
		Identify success of the task (e.g. the volume level has successfully been changed and the user is aware that the task has been achieved (user is asked to report audible, tactile, visual cues))	Hearing Manual Dexterity Vision
		Etc.	
Mobile Phone	Receive a phone call	Hear the incoming call alert and identify the alert as an incoming call	Hearing
		Identify the answer call button	Vision
		Press the answer call button	Manual Dexterity
		Identify success of the task (e.g. the volume level has successfully been changed and the user is aware that the task has been achieved (user is asked to report audible, tactile, visual cues))	Hearing Manual Dexterity Vision

3 Analysis

[A description of the analysis of end products with beneficiaries will be presented here. The new deliverable due date is at the end of Month xx (end of xx 2012).]

4 Results and Discussion

[The results of the analysis of end products with beneficiaries will be presented here. The new deliverable due date is at the end of Month xx (end of xx 2012).]