

Accessible and Assistive ICT



VERITAS

Virtual and Augmented Environments and Realistic User Interactions Io achieve
Embedded Accessibility DesignS

247765

Project Video 2

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Abbreviations List

| Abbreviation | Explanation |
|----------------------|---|
| VUMS | Virtual User Modeling and Simulation |
| VUMS cluster | Project cluster including GUIDE, MyUI, VICON, VERITAS working on Virtual User Modeling and Simulation of impaired users |
| Beneficiaries | End users / customers with special needs who benefit from products designed with VERITAS tools |

Executive Summary

This document is an accompanying document for the second VERITAS project video, which is the actual Deliverable. The video targets a wider audience and summarizes VERITAS in five minutes. It is distributed via the World Wide Web. In particular it can be streamed from the VERITAS website (www.veritas-project.eu) via YouTube.

The video addresses the activities of all four subprojects of VERITAS and gives an overall overview of the project, its activities and results. Its content can be outlined as follows:

- European inclusion policy and accessibility problems for impaired and elderly persons;
- The need of simulation tools for designers and developers to design inclusive products;
- Project profile of VERITAS including project type and partnership;
- The idea behind the VERITAS simulation approach and tools;
- Modeling impaired users, white paper and standardization activities of the VUMS project cluster;
- Need of data acquisition via the VERITAS multi-sensorial platform for parameterization of use models and examples of measured parameters;
- The two approaches of VERITAS - simulation and product experience and their benefits;
- VERITAS application examples from the domains »automotive« and »smart living spaces« to illustrate the two approaches;
- The five application domains of VERITAS;
- Pilot tests with designers demonstrated by examples;
- Pilot tests with beneficiaries;
- Positive conclusion on outcome: improved accessibility – recommendation to use VERITAS simulation tools in the future;
- Limitations of design for all because of individuality and hint on personal coping beyond technology.

The video gives a concise summary of the project. It is suited for a faceted audience including people with hearing and visual impairments. It is less suited for young children and persons with cognitive and perceptive limitations.

1 Introduction

VERITAS produced a first video in month 24. A second video was scheduled for month 47 of the project. This report accompanies this second video.

The video is part of the dissemination activities of the project. It belongs to workpackage 4.3 “Dissemination” and is part of the Activity A4.3.1 “Dissemination plan, material and portal”.

The objective of the video is to disseminate VERITAS results to a wider audience. It supplements the first video with results achieved after the second project year and is more result oriented. It is designed to replace the first video as a first teaser.

Like the first video is targeted to be distributed as streaming media content via the internet. It shall be intelligible to all and should not require special knowledge. Due to the density of content and complexity of concepts children younger than 12 or people with severe cognitive impairments are not a central target group. Hearing and vision impaired people shall be both able to benefit of the video.

1.1 Concept

Target duration of the video is 5 minutes to ensure suitability for internet on the one hand and to present a comprehensive impression of VERITAS on the other hand.

After motivating the need for VERITAS simulation tools to achieve inclusion in Europe, the video presents the project partnership and the main idea behind the project: testing products by simulating (impaired) users using user models, task models and product models. Then it follows the workflow of the project:

- Modelling impaired people;
- Measuring their parameters with the multi-sensorial platform;
- Providing tools for simulation;
- Providing tools for product experience;
- Testing the tools with designers;
- Verify VERITAS-designed products/applications with beneficiaries.

Positive conclusions are drawn and use of VERITAS tools for designers and developers is recommended. Limitations are mentioned as well.

The video mixes different original media including video, photo, presentation slides, and animated presentation slides. A consistent soundtrack is used mixing spoken information with background music. Both video and the audio component of the video shall be intelligible without the other.

The 2nd video refers to the 1st video using the same title / opening and closing sequence to assure recognition and communicate project identity. Furthermore the same background music is used.

1.2 Sources

The video relies on material produced by the project partners during their pilot tests. Three other sources were used:

- Intro and background audio from VERITAS video 1 (D4.3.3a);
- Footage from Euronews, Futuris programme, including a report about VERITAS (see <http://www.youtube.com/watch?v=XUg990uZjEo>);
- External footage SOVD Sozialverband Deutschland from <http://www.sovd-tv.de/> for motivation.

Background audio was taken from the first video. Narrative material was originally written and recorded for this 2nd video.

1.3 Technical Realisation

The video was cut with Blender 2.68 (www.blender.org). Audio recordings and processing was done with Audacity 2.05 (www.audacity.de). Both software packages are Open Source.

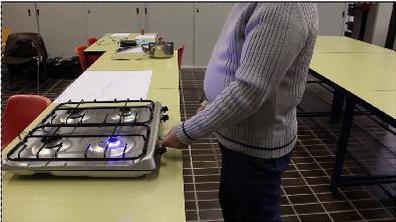
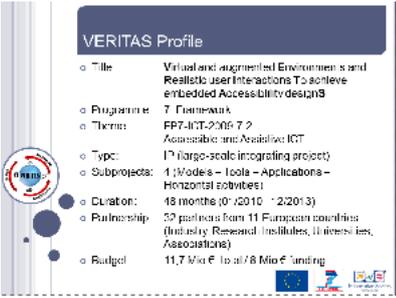
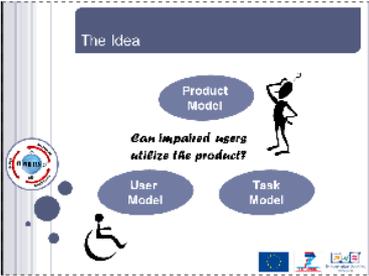
Overall length of the video is 315 s.

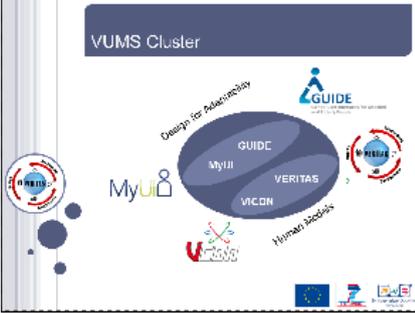
The video resolution of the original cut is full HD (1280 x 720 px). Originally rendered frame rate is 30 Hz.

Other data of the original cut:

- Video format: H.264;
- Video Encoding: MPEG4 at bitrate 6000;
- Audio Codec: AAC at bitrate 192.

2 Script

| Scene | Speaker Text | Cumulated duration |
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| <p>Wheelchair user leaving home, experiencing accessibility problems</p>  | <p>Europe follows an inclusive policy. All citizens shall be able to participate in all areas of life. This includes access to markets and products However many goods and services aren't accessible.</p> <p>Their design excludes users who deviate from the average. In particular those with impairments, they may be inborn, due to diseases, accident or aging.</p> | <p>37 s</p> |
| <p>Parkinson patient using gas hob</p>  | <p>This does not only include transportation and public facilities but also other products, like this gas hob.</p> <p>Design for all leads to better products. But to date many designers and developers only have a limited understanding what users with impairments do really need.</p> | <p>50 s</p> |
| <p>VERITAS profile slide</p>  | <p>This problem was tackled by VERITAS, a large European integrated project within the 7th framework programme. 32 partner from industry, research and user organisations participated to contribute to an inclusive Europe</p> | <p>65 s</p> |
| <p>VERITAS Idea – animated slides</p>  | <p>The basic idea of VERITAS is to provide developers and designers with tools, allowing to verify their products by means of simulation in early stages of the development process.</p> <p>User Models and Task models are used to analyze Products. The simulation then answers the question: Can impaired users utilize the product? If not the product model has to be changed to achieve accessibility.</p> | <p>93 s</p> |

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| <p>VUMS cluster and 3 VUM slides</p>  | <p>In a joint effort VERITAS and three other projects: VICON, GUIDE and MYUI developed a structure for modeling users with their special needs. So the projects were able to describe users with perceptual, motor and cognitive impairments in a common way and could exchange their user models via an internet repository.</p> <p>A common white paper was created to stipulate standardization of user models and disseminated to various standardization bodies.</p> | <p>128 s</p> |
| <p>Footage on measurements with seensorial platform (Futuris)</p>  | <p>Designing for all means to be able to model really everybody. Therefore user models must be able to match a variety of impairments.</p> <p>Parameters for the users models are partly found in literature. Because of gaps and missing data these had to be measured by the project itself.</p> <p>VERITAS partners measured for instance forces, gait parameters and joint mobility for various impairments with the VERITAS multi-sensor platform.</p> | <p>157 s</p> |
| <p>Footage on simulation approach (Futuris)</p>  | <p>Two different approaches were followed in VERITAS to provide designers with the tools they will need for inclusive product design: simulation and product experience.</p> <p>In pure simulation everything happens inside the computer. A piece of software analyzes the proposed design by carrying out pre-defined interactions with the virtual product based on a virtual user model. The designer gets a summary and hints, which accessibility problems were detected.</p> | <p>185 s</p> |
| <p>Fraunhofer IE Lab Immersive Set-up for Smart Living Spaces for product experience approach</p>  | <p>In the product experience approach, the designer can interact himself with the product and is provided a computer-generated product experience from an impaired users point of view.</p> <p>In this example Virtual Engineering technology is used to design accessible smart and conventional homes. Virtual Reality allows for experiencing in particular vision and hearing impairments and mobility restrictions.</p> | <p>210 s</p> |

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| <p>Gas hob tremor simulation</p>  | <p>Another product experience application in the living spaces area is a simulation of tremor. This symptom is typical for Parkinson patients.</p> | <p>223 s</p> |
| <p>Simulation platform screen videos</p>  | <p>VERITAS worked on applications in 5 domains:</p> <ul style="list-style-type: none"> - Automotive - Smart living spaces - Workplace design - Infotainment and games, and - Personal healthcare and wellbeing | <p>232 s</p> |
| <p>Pilot test with Designer in immersive Environment</p>  | <p>In order to verify the tools VERITAS conducted pilot tests with designers and people with impairments.</p> <p>Designers from all five application domains tested the VERITAS tools.</p> | <p>242 s</p> |
| <p>Pilot test with Designer with Parkinson simulation</p>  | <p>Here again the gas hob application. The designers in the pilot test reported vivid and impressive insights in the needs of elderly users with Parkinson disease.</p> | <p>256 s</p> |

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| <p>Footage from pilots with beneficiaries</p>  | <p>Product redesigns using the VERITAS tools were also tested with the targeted beneficiaries of VERITAS, elderly people and other people with impairments. The results showed that using VERITAS tools leads to improved accessibility compared to the baseline situation. Designers and developers should employ them certainly in the future.</p> | |
| <p>Footage on coping behaviour</p>  | <p>They also showed that designing for all has limitations. The individuals are unique and so are their abilities. Frequently people with impairments suffer from multiple conditions. Not every combination can be considered in the design process. But on the other hand it is beyond the imagination of simulation engineers how people with severe impairments can compensate and master their lives independently.</p> | |

3 Conclusion

The video was successfully produced and published for streaming via the website www.veritas-project.eu and at YouTube <http://www.youtube.com/watch?v=amzacpHsZb8> .

The 5 minutes target for web presentation was reached.

All VERITAS steps could be included and fully covered by original VERITAS media. Only for motivation and final remarks external resources were used. References are given in the video.

The objective “intelligible for all” was achieved. Even blind and people with hearing loss will have a benefit from the video. While the audio information is quite comprehensive deaf users will experience less comprehensive information but can even get a reasonable idea of VERITAS because slides with written information and subtitles were used.