



## WeKnowIt

**Emerging, Collective Intelligence for Personal,  
Organisational and Social Use**

**FP7-215453**

## D8.4.2

# Video Showcase Implementation

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<b>Abstract</b>	<p>This report describes the produced videos regarding the video showcase, resulting to an audiovisual presentation of the WeKnowIt project, the approach and the project results. In particular we describe the produced versions of the video, its storyboard, the DVD structure, and the relative infrastructure that was used for the production.</p>
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## History

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## Executive Summary

This report describes the implementation of the video showcase, resulting to an audiovisual presentation of the WeKnowIt project, the approach and the project results. In particular we describe the produced versions of the video, its storyboard, the DVD structure, and the relative infrastructure that was used for the production.

In short, the video showcase starts with an introduction of the WeKnowIt project. Per research work package or intelligence layer, a short introduction of the research output is given, which is linked to the project objectives through interviews. Also within each research work package, there is a series of selected research demonstrations to highlight selected achievements. A presentation of WeKnowIt Architecture and integration is then given as an introduction into the prototypes for the two case studies developed by the WeKnowIt partners, e.g. the emergency response case study, and the consumer social group case study.

In addition, we report the DVD structure, and give further details on the implementation of the video production.

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## 1. Introduction

The purpose of the report is to report on the video showcase production containing a presentation of the WeKnowIt project, including the final results, integration efforts, prototypes for the Emergency response use case and the Consumer Social Group case study, together with the independent tools developed within WeKnowIt.

The video showcase resulted in a video DVD for which the production crew “the animonautes[digital animated images] studio”<sup>1</sup> has been subcontracted. Their task was to do the shooting of the interviews, the usage scenario and demonstrations, during the Thessaloniki consortium plenary meeting that took place on 15-16 December 2010.

A browse-able DVD has been produced, containing the different versions of the video, as well as chapters containing the independent WeKnowIt applications demonstrations (Section 2). The storyboard of the video is presented in Section 3 along with its narration. The timeline for producing the showcase DVD, and other implementation details are finally discussed in Section 4.

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<sup>1</sup> <http://www.animonautes.com/>

## 2. Description of video materials

### 2.1. ***Versions, capturing and distribution***

For the dissemination objectives of the WeKnowIt project, three standalone movies were produced by "the animonautes [digital animated images] studio", targeting different audience and medias:

1. Presentation video of the WeKnowIt project, emphasising on the main key points - duration: 7-8 min

The presentation is targeting the general public and gives the main key points in an illustrated and comprehensible way. The structure of this video was organised in a way that TV channels could include it into their science and technology programmes.

**URL:** <http://vimeo.com/22341074>

2. Dissemination video of the WeKnowIt project, including technical characteristics - duration: 15 min.

The presentation is targeting the general public and gives the main key points but also examples of the WeKnowIt deliverables/applications in an illustrated and comprehensible way. This presentation can stand alone as a complete short scientific program.

**URL:** <http://vimeo.com/22334041>

3. Video clip for press release - duration: 2-4 min.

This presentation is planned to be used as a short Info of the project and be shown into TV and online news programs.

**URL:** <http://vimeo.com/22340329>

All three presentations include:

- **life shots** (general shots, live demos from consortium partners, interviews of the researchers, group meetings etc),
- **2d and 3d animation sequences** (generic titles, animated supers, animated fillers and logos)
- **graphic design** for the menus of the DVD authoring

The narration of the presentations is in English. The original production (rushes) of the presentations is in HD 1080p (16:9 Full HD video at 1920 x 1080 pixels) resolution. All final edited versions were converted in MPEG-2 and authored using DVD architect.

## ***2.2. Composition of chapters***

The video showcase is composed of two DVDs. One DVD contains the different versions of the project videos, whereas the second DVD includes presentations of a series of independent demos that have been developed within WeKnowIt.

The user has the possibility to either opt for watching the full length of the content, in the logical succession of chapters, or she can choose for a non-linear presentation of the content, through the use of a main menu.

The first DVD contains the following chapters:

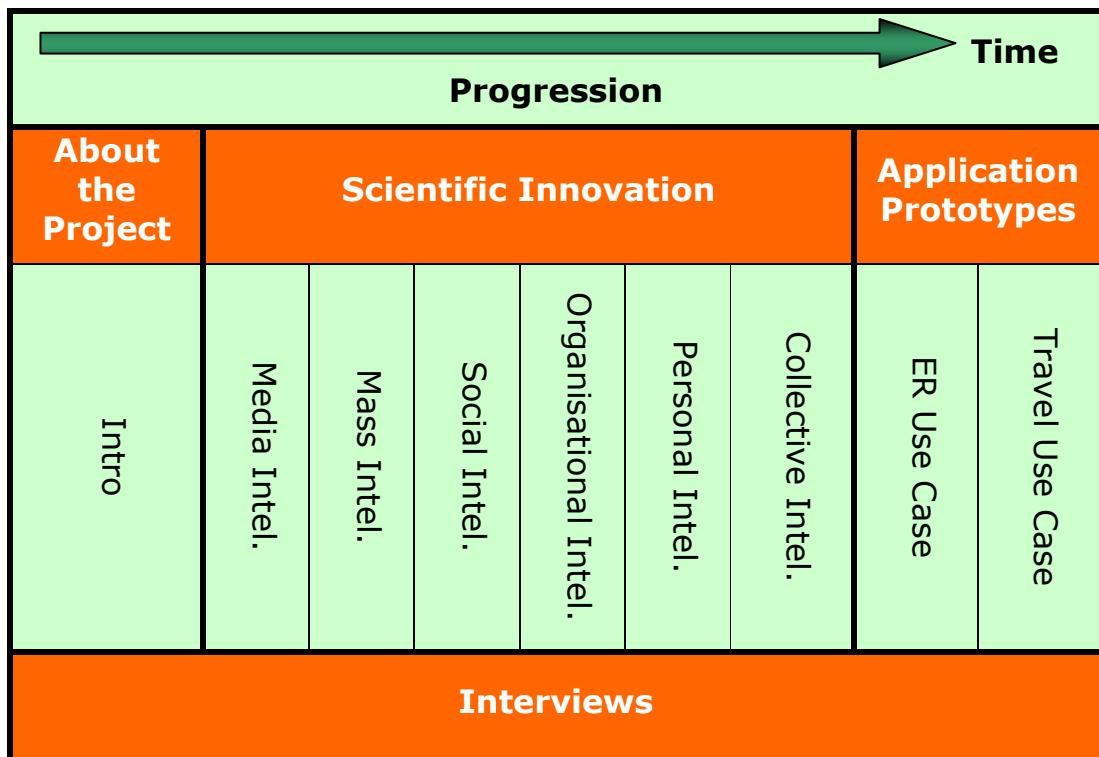
1. WeKnowIt video showcase – full version (17 min. 30 sec)
2. WeKnowIt video showcase (short) – TV version (8 min.)
3. WeKnowIt video clip – very short version (3 min.)

The second DVD contains the following chapters / WeKnowIt applications demos:

1. ClustTour (CERTH)
2. SemaPlorer (UoKob)
3. FannR (Yahoo!)
4. VIRAL (CERTH)
5. ER Logs (CERTH)
6. STEVIE (UoKob)
7. Emergency Response (USFD)
8. Travel Planner (Yahoo!)
9. Speech Recognition (BUT)
10. Mobile Guidance (TID)
11. Image Recognizer (SMIND)

The structure of the full length video is depicted in Table 1. The same structure is kept in the short TV version, with less time dedicated to the WPs research prototypes demonstrations. Finally, the video clip contains

only the general introduction, some elements of the architecture and the two use cases demonstrations.



**Table 1: Structure of video showcase**

For the DVD video showcase the following three main components (chapters) have been identified:

### **About the Project**

#### **Project introduction [2 mins]**

This section describes the general approach of WeKnowIt its scope and objectives. Several partners are interviewed and a general introduction for the broad audience is given.

### **Scientific Innovation [8 min]**

Several WeKnowIt applications from different research workpackages are presented at this point, demonstrating the visible outputs of the research, and accompanied with a narration of the objectives and achievements within each workpackage. The storyboard is enhanced with parts of the partners' interviews elaborating on the research objectives in each case.

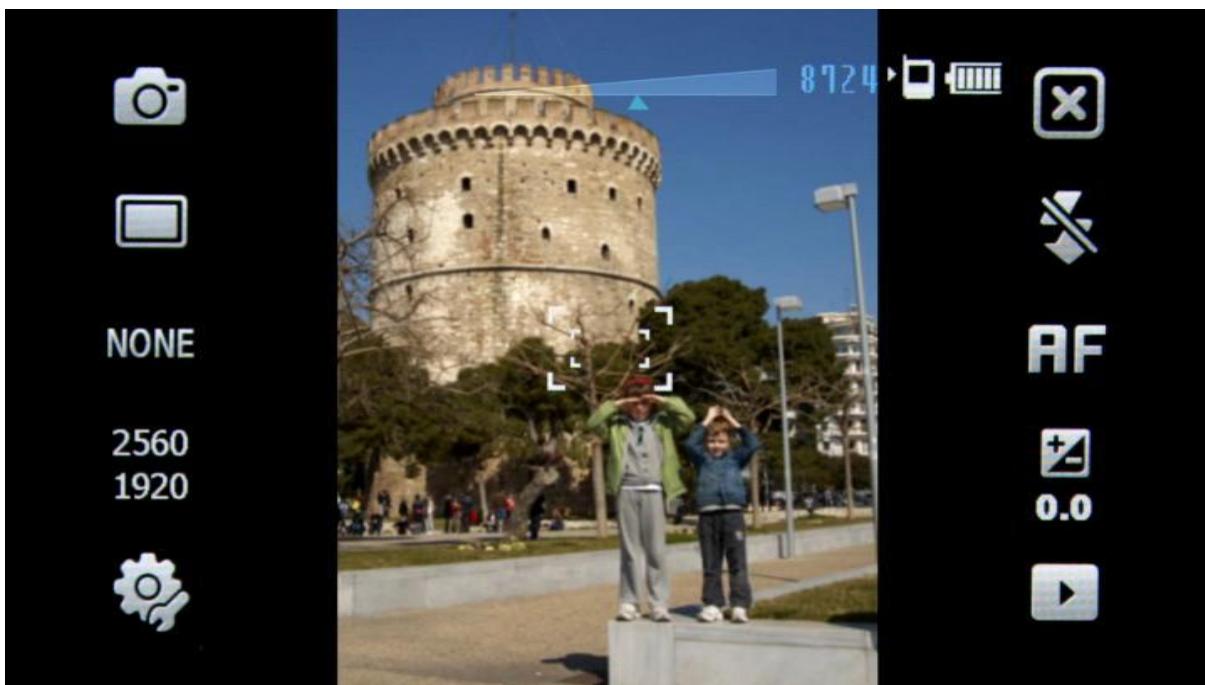
In the same scope the architecture of the WeKnowIt platform is also demonstrated in the same manner.

### **Application Prototypes [7 min]**

This part of the video presents the two use cases that have been developed within WeKnowIt. For both the emergency response case, and the consumer social group scenario, there are both functional presentations of the prototypes and interviews by user partners.

### 3. Storyboard

The story starts with a family on vacation taking a picture of a monument (White tower in Thessaloniki) with their mobile phone. This photo is then depicted as part of the massive digital media content that is available online. The narration goes on explaining the opportunity and need to extract intelligence from all this content.



Then the project is introduced and partners of the project are interviewed in order to present its objectives. The interviewees at this point are Alex Jaimes (Yahoo!) and Neil Ireson (USFD).

The story continues with the photo being tagged, geo-located and uploaded to Flickr. Different kinds of tags are given representing temporal, spatial and content related features of the photo. Each of these tag categories relates different sets of similar photos to the initial one. All these photos are then explored with the Fannr tool, new tags are suggested as well as the picture's geo-location.

Then the VIRaL tool is demonstrated which makes possible to find other photos of the photographed monument and be able to geo-locate a non-geolocated picture using visual information from these other photos. Costis Kontopoulos (VOD) is then discussing the benefits of this new technique.

The widespread of mobile phones is then discussed and is related to its use in emergency cases. Pavel Smrz (BUT) presents the speech recognition technologies of WeKnowIt that enable the recognition of emergency related terms in noisy environments. An example of speech recognition is then presented.

Text analysis methods are then presented by demonstrating the ER Log Merger application, which enables ER personnel to sort the received information.

An introduction to Mass Intelligence techniques follows and ClustTour is demonstrated. Its ability to discover points of interest and events in a city through the contribution of thousands of online photos from users is then depicted.



The role of social networks is discussed in the following elaborating in shared content and social connections analysis methods. Ansgar Scherp (UoKob) discusses the social intelligence technology of dgFOAF and the rest of UoKob's contributions to the project (event detection, collaborative POIs in a mobile phone, and core ontologies construction).

Then the organisational aspect is discussed. An introduction to the semantic web is given, and then the Event Model F and the CURIO ontology are demonstrated. Semaplorer and STEVIE applications descriptions are then given depicting how organisational intelligence helps in exploring and visualizing semantic datasets.

Then the architecture of the WeKnowIt platform is discussed by Tomasz Kaczanowski (SMIND), discussing the merging of the different WeKnowIt technologies in a single integrated platform. The notion of the Collective Intelligence as implemented in WeKnowIt is then graphically given. Pavel Smrz discusses then the added value of the combination of the different techniques that result to Collective Intelligence.

The story continues with the ER use case. Hazel Barret (SCC) discusses the ER application of WeKnowIt which has been used by the ER

emergency planning team of Sheffield City Council. She explains how the content gathered by people and ER personnel in an emergency can be of service to the public. The ER application is then demonstrated.

The CSG case study is then demonstrated. First the Travel Planner capabilities are shown along with the mobile guidance application, two applications that enable exploration and recommendation of POIs and events in cities beforehand and on the spot using WeKnowIt's Collective Intelligence benefits. Next, the mobile Image Recognizer is demonstrated, discussing its capability to recognize landmarks in a single photo taken by the user.

The story ends with Yiannis Kompatsiaris (CERTH) discussing the benefits of Collective Intelligence giving examples where it has proved efficient and useful for people.

Finally, partners are asked to describe WeKnowIt in five words. Neil Ireson, Pavel Smrz, Yiannis Kompatsiaris, Ansgar Scherp, Tomasz Kaczanowski, Alex Jaimes and Hazel Barret answer the question.

### **3.1. Narration of video showcase**

Here is the narration of the dissemination video:

*"With the advent of new technologies, computers, mobile phones, digital cameras, it is easier than ever to capture moments of our everyday life and to share these moments with family and friends.*

*Every day, all over the world, millions of photos, texts and sounds are exchanged through sharing sites and social networks. All these create an invaluable library of information, available on line, updated in real time.*

*WeKnowIt, a three years integrated project, gathers the expertise of companies and research institutes all over Europe, to develop novel techniques for exploiting the intelligence generated from user content.*

*Every piece of digital content carries information relative to its creation date or the device used. In addition, the user can enter extra information at the time that he submits the content: a set of descriptive keywords - also known as tags- the people depicted in the photo or, in case the photo doesn't already contain the information, where the photo was taken.*

*From these basic elements it is already possible to extract information, by searching content sharing the same tags or location.*

*The task of entering these tags can be tedious, therefore Yahoo research developed as part of the WeKnowIt project a prototype application, called Fannr. This tool helps users by suggesting tags or location, based on the analysis of the image submitted or its location.*

*Content often holds far more information than we can suspect.*

*A key aspect of the WeKnowIt project is to develop techniques to extract automatically knowledge, which we call Media Intelligence, from the content itself.*

*In the case of images, the process starts with the extraction of recognizable features, using image processing techniques. Once the analysis is completed, it is then possible to compare these features to attributes extracted from other photos.*

*VIRAL, the Visual Image Retrieval and Localization tool, already processed more than 1 million images from Flickr, covering 23 cities. By selecting an image, the tool searches for visually relevant images, and sorts them by similarity. These images, now part of the same group, can also share tags, geolocation or links to online resources.*

*With 75% of the world population having a mobile phone, extracting knowledge through speech analysis is essential, particularly in case of emergencies.*

*Automatic content extraction is not limited to image or audio, but can also be applied to text, coming from digital documents, SMS from mobile phone, emails, or messages from social networks or blogs.*

*These techniques were used to sort out the information received by the Sheffield Emergency Services. The "WeKnowIt Emergency Response log management tool" merges the log files generated by the ER personnel during an incident and generates automatically a single indexed file.*

*The file can then be used for analyzing the response, by sorting chronologically the data by source file, keyword, or time. The results can also be filtered to show the location of the event, or the personnel involved.*

*The information stored as meta-data along the content can also be used on a larger scale, to benefit from what is described on the WeKnowIt project as Mass Intelligence.*

*As an example, the Informatics and Telematics Institute developed Clusttour, an application to analyze patterns and trends and create groups of images, based on their visual characteristics and textual meta-data. These groups or clusters, are generated automatically by the application, and represent locations in a city. Depending on the temporal characteristics of the cluster, the number of users who contributed photos and the tags used to describe the cluster, these locations will be classified as landmarks that are automatically named, or as events, providing an indication of hotspots, where cultural, festive or social events take place in the city.*

*Every user, when connected to a social network, shares information accessible from his public profile. This data, particularly the connections with other users, called friends, can be used to determine groups and networks of people sharing the same interests, the same friends or living in the same city.*

*To organize these relationships between data, it is necessary to create structural frameworks, based on classes and domains. The WeKnowIt project developed several of these frameworks, called ontologies.*

*These ontologies can be used to develop web applications and make use of what is called a Semantic web, a web of data where the machine, and not only the user, can understand the meaning of the information.*

*The University of Koblenz developed SemaPlorer, an application that allows end users to interactively explore and visualize a very large semantic data set, coming from heterogeneous online sources, all in real-time. The user can therefore query sights, nearby places, celebrities or tags, and the application will update interactively with geolocated photos, or the location of internet users living on the area.*

*STEVIE, a mobile application, enables users to collaboratively create, share, and modify semantic points of interest. Using techniques of Data mining, the application creates clusters of these collaboratively created points of interest, and display them on an interactive map.*

*The merging of these intelligences, based on the media itself, the media as group, and the user which submits it, create the Collective Intelligence, which can be used at a personal or organizational level.*

*The first case study was developed for the City of Sheffield, to provide an application dedicated to emergency services.*

*The "WeKnowIt Emergency Response Application" collects the information, being text, images or sound, from emergency workers or general public at the scene of an emergency, or from other parties publishing information on the world wide web.*

*This information is automatically analyzed, geolocated and tagged, and then displayed in the explorer application as red points on a map. The authorities can then browse in real-time through the data, using filters, to assess the situation and give an appropriate response.*

*The second case study is oriented towards Consumers and dedicated to tourism.*

*The "Pre-travel Consumer Social Group application", integrates the tools developed by the WeKnowIt project to propose an interactive browsing application, where the traveller will be provided with information relevant to his destination, sorted as places, points of interests and events, with descriptions from online encyclopedia and corresponding photos. Part of this application is already implemented in the « Yahoo! image search » website.*

*The mobile CSG, developed by Telefonica, is also dedicated to tourists but takes advantage of the automatic positioning of the user, provided by the mobile device GPS, to present him an interactive map of its surroundings. By selecting the appropriate menus, the user will find all the relevant information about landmarks, along with their description and photos, or search for upcoming events.*

*The user will be able to check his friends' location, chat with them, or receive recommendations automatically extracted from his group or his own preferences.*

*If a tourist wants to discover the location and name of a landmark, the WeKnowIt Image Recognizer, a mobile application developed by SoftwareMind, will attempt to identify the object on picture through the 1 million Flickr images preprocessed by the VIRAL tool, determine its geolocation and its associated tags, and present the user with a complete description, using entries from online encyclopedia and maps.”*

## 4. Implementation Details

### Production Hardware and Software

The following hardware and software were used during the video production.

Hardware:

- CANON EOS 5D Mark II DSLR - Sigma 28-70mm, recording in HD 1080p
- SONY DCR VX 2000
- 3xRedHead 800watt
- Sound recorder: zoom H1
- 2 x 3D workstations : QuadCore – Nvidia Quadro GPU,4 Gb Ram – Dual screen
- 4 x rendering nodes dual CPU opteron.

Software:

- 3D animation software: Autodesk MAYA 6.5
- 2D animation software: Adobe After Effects Professional 7.0
- Video editing software: Sony Vegas 5.0
- DVD authoring software: Sony DVD Architect
- Image processing software: Adobe CS 2

### Video production company

After considering a number of companies, CERTH has decided to subcontract “the animonautes[digital animated images] studio” for the video production. Below is some further information about the company.

“The animonautes” [digital animated images] studio was formed in December 2003 in the Netherlands.

The studio was specialised in the production of communication material to support the space industry and the biotechnology sector. With a joint experience of 10 years and main client the European Space Agency (ESA) “The animonautes [digital animated images] studio had already created an extensive and specialised portfolio covering the need of artistic visualisation, reconstruction and explanation in the fields of science and technology. Part of the work of “the animonautes” has been broadcasted

by TV NEWS programmes of distinctive TV channels (e.g. CNN, BBC, France 2, TV5, Euronews, Discovery Channel, WDR), incorporated in specialised scientific TV productions and has formed an important part of the communication material of ESA (3d animations & 3d illustrations, brochures, posters, website content production).

In October 2004 the Dutch company was dissolved and “the animonautes” relocated in Greece.

During summer 2005 “the animonautes” produced 3D animations for “Macedonia and Thrace: People and History”, an immersive movie for the Planetarium of Thessaloniki Science Centre and Technology Museum (NOESIS), duration 8 min.

Since then they also produced original material for the dome of Eugenides Foundation of Athens, the stereoscopic HD Cinema of the municipality of Stagiron - Acanthou, TV Idents for the third national channel of the Greek television (ET3), interactive game’s 3D and 2D content, and 3D animations created for TV commercials and industrial documentaries for advertisement and TV production companies.

In October 2008 the animonautes company changed its legal status and became a General Partnership (Greek: O.E.). The company is registered to the Greek Chamber of Commerce under the audiovisual producers group with registration number: 101941/46.

In March 2011, they co-produced with Eugenides Foundation of Athens, “The Earth And Me”, an immersive movie for Planetariums, duration 25 min.

“The animonautes” have an extensive track record of productions into the following markets:

- Science, research and technological centres of the public and private sector in order to illustrate their work and present the results of their research field.
- Planetariums (Domes), stereoscopic cinemas, thematic parks and museums producing original material in their specific format (Dome format digital animated images, 3D “stereoscopic” computer generated images, High Definition computer generated images, Virtual Reality Applications & 3D Reconstructions of archaeological sites).
- Producers of TV programmes, scientific and industrial documentaries in need of photorealistic animations of high quality on subjects that could not be seen in other way
- Advertising companies and production companies for the production of TV commercials, TV idents, digital special effects etc.

The main services of “the animonautes” company are:

- 2D and 3D animations, including complete movies
- Digital effects
- 3D modeling and reconstruction
- 2D graphics and multimedia
- Concepts development, R&D

## 5. References

- [1] WeKnowIt, "D.8.4.1: Video showcase specification", 31 March 2010