fascinate

Format-Agnostic SCript-based INterAcTive Experience

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FASCINATE

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Coordinator: Joanneum Research Forschungs - Gesellschaft mbH (Austria)

Partners:
Joanneum Research Forschungs - Gesellschaft mbH (AT)
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British Broadcasting Corporation (GB)
Alcatel-Lucent Bell NV (BE)
Arnold & Richter Cine Technik GmbH (DE)
Universitat Politècnica de Catalunya (ES)
The Interactive Institute (SE)
Softeco Sismat (IT)
University of Salford (GB)
The Netherlands Organisation for Applied Scientific Research (NL)

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COOPERATION

www.fascinate-project.com

www.research.softeco.it/fascinate.aspx

Contacts

Marco Boero
Phone: +39 010 6026 329
Fax: +39 010 6026 350
Email: marco.boero@softeco.it

Marco Masetti
Phone: +39 010 6026 348
Fax: +39 010 6026 350
Email: marco.masetti@softeco.it

OVERVIEW

FASCINATE WILL CREATE AN INNOVATIVE END-TO-END SYSTEM AND ASSOCIATED STANDARDS FOR **FUTURE IMMERSIVE AND INTERACTIVE TV SERVICES**

FascinatE will allow users to navigate around an **ultra-high resolution video panorama**, showing live or recorded content, with matching accompanying audio.

The output will be adapted to any local or networked viewing device, from a mobile handset to an immersive panoramic display with surround sound, delivering a **true personalized multi-screen experience**.

At the **production side**, this requires new scene capturing systems, where various video signals, together with metadata describing their relative alignment, constitute a novel layered scene representation.

Such approach represents a paradigm shift in production technology, from today's format-specific view of an area selected by a cameraman to a format-agnostic representation of the whole scene.

Intelligent **network components** will tailor the transmitted data to suit the screen size and selected view for each terminal.

At the **user terminal**, novel interaction methods will allow viewers to choose either a script-driven view or to freely explore the scene themselves

Image courtesy by FascinatE Consortium

OBJECTIVES

The main objective of the project are:

- **format-agnostic scene capturing**, which will be based on a multitude of networked cameras (for scene capturing, information from closely-positioned cameras needs to be fused, requiring the calibration of relative geometry as well as of brightness and colour)
- **preparation of captured audiovisual data in order to facilitate interactivity and rendering** on different devices controlled directly or indirectly by the viewer (requiring the use of many different types of metadata and knowledge and the extraction of additional descriptive metadata)
- **creation of an efficient, powerful end-to-end delivery architecture**, where distributed signals are tailored to both the capabilities of the end device and the region of the scene to be displayed (networking aspects require innovations too, since scene-related multimedia streams and metadata need to be transported over the network)

Image courtesy by FascinatE Consortium

IMPLEMENTATION

To implement a system to achieve these objectives requires a **paradigm shift in video production**, **towards capturing a format-agnostic representation of the whole scene from a given viewpoint**, rather than the view selected by a cameraman based on assumptions about the viewer's screen size and interests.

The project is not proposing to capture a 3D representation of the scene, nor to support true "free viewpoint" rendering, as such systems, in the experience of the project partners, will be incapable of presenting really high-quality images for the foreseeable future.

FascinatE will focus on delivering **immersive high-quality images and sound** over next-generation media delivery networks, whilst allowing a **significant degree of interactivity** in the selection of cameras, shot framing and the associated audio.

FascinatE instead concentrates on an approach that will deliver **true high-quality images**, whilst allowing a **significant degree of interactivity**, and which is practical within the time frame of the project.

Image courtesy by FascinatE Consortium

By "**format-agnostic**" we mean that the resolution, field-of-view, aspect ratio, frame rate and colour depth of the captured image are chosen based on the requirements of the particular production, rather than being tailored to a particular delivery format.

Indeed, there will be no single camera with a given set of parameters covering the scene; rather, different parts of the scene will be captured with different types of camera, clustered around one or more viewpoints.

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Softeco Sismat S.p.A., Via De Marini 1 - Torre WTC, 16149 Genova (ITALY)
info@softeco.it /***www.softeco.it*** , ***research@softeco.it*** / ***www.research.softeco.it***