



PROJECT RESULTS

Paving the way

for co-operative development of
Virtual and Augmented Reality applications

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In the past, the lack of a truly supportive Virtual and Augmented Reality (VAR) development environment meant that it was no easy task to create VAR applications. The Co-VAR project has changed this situation by producing a basic Co-Operative VAR architecture as well as a platform for VAR application developers, content providers and those who use VAR applications.

existing multimedia. However developing a VAR application takes a lot of programming, teamwork and configuration. The overall task is made easier with Co-VAR tools that can be integrated into other tools and applied in all application domains in which VAR is used.

By conceptualising a Co-operative VAR (Co-VAR) architecture that can be used by platform developers, the Co-VAR project targeted the domain



The rapid emergence of VAR
Various market studies (e.g. OVUM, Computer Graphics World) show that the development of 3D, and specifically of Virtual and Augmented Reality (VAR), is about to accelerate. Practical applications of Co-VAR are not restricted to the games and military world. They are also found in a range of business processes: visual simulation and training, sales and marketing, business visualisation, document management, manufacturing and design and edutainment (education combined with entertainment).

Co-operation is key
It is important to stress that VAR is already integrated into much

of Complex Systems Engineering. It successfully achieved its initial objective of constructing the VAR development platform in such a way that application developers can produce VAR applications in co-operation with content providers and those who use the applications.

The Co-VAR platform
During the Co-VAR project, several tools and designs were created that can be integrated with others in a variety of application domains, such as sophisticated tools for communication and co-ordination, and a platform-independent procedural data library framework.

Classification of VAR component characteristics that can be relevant in a development project resulted in a new ontology. A relational visualisation concept was proposed, with accompanying proof of concept. Furthermore, research results were achieved on items such as shadows and social interactions, bringing significant added value to the quality



CO-VAR (ITEA 99019)

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Partners

- AISoftw@are
- Barco Projection Systems
- Bikit VZW
- Calibre
- Merlin
- Sealife Center Belgium
- Strass
- Vartec

Countries involved

- Belgium
- France
- Italy
- The Netherlands
- United Kingdom

Start of the Project

June 2000

End of the project

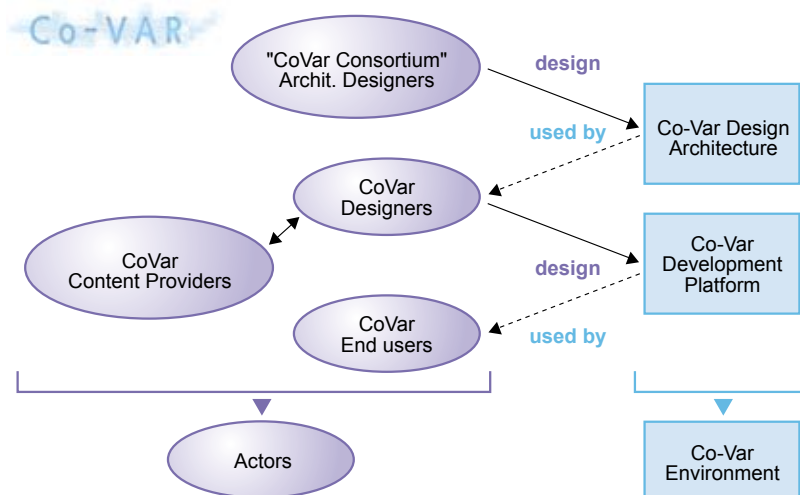
October 2002



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of a professional platform. From a market point of view, these items fit within the 3D behaviour-editing niche. A Co-VAR platform was created into which these tools can be integrated, thereby reducing

application. Special attention was paid to the visualisation of this indexing information, for which different views were developed, such as co-ordination, co-operation and task views. A study of meta-



Overview of global Co-VAR workflow

the programming needed when developing a VAR application. The results were applied to a real-world use case in a repeatable fashion, both for stand-alone and web-based applications.

Powerful new features

As a result of a review of existing strategies, powerful new features were added to the indexing tools, such as automatic on-line user modelling, interactive user profiling, and through continuous matching between *a priori* and *a posteriori* characteristics. Five *a priori* user profiles were created using a Co-VAR thesaurus, which itself was created according to ISO-norm 2788. The results make it possible to index multi-lingual messages written in natural language in a distributed environment.

Furthermore, the ability to process natural languages has been coupled to indexing commonly used files, such as PST files generated in Outlook 2000. This led to the development of a mail-agent that combines theoretical research results with their practical

data and its counterpart in the MPEG standards will lead to new opportunities for future applications.

Enhanced peripherals

Peripherals such as projection systems, which are an essential part of the Co-VAR environment, were upgraded. These peripherals can be integrated into the Co-VAR platform with less programming input, giving the final product a faster time-to-market.

Major project outcomes

Dissemination

- 23 publications
- 16 conferences and workshops
- 21 exhibitions

Improving system performance by enhancing key parameters resulted in the development of new passive stereo glasses. Major general GUI problems were identified, resulting in a list of design principles for future GUIs. Recommendations for mapping specific users and their tasks to particular advanced interface techniques were made more explicit.

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