GT-RV

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ÉCOLE NATIONALE D'INGÉNIEURS DE BREST

UK VR-SIG

First French-British International Workshop on Virtual Reality

" *VIRTUAL ENVIRONMENTS* "

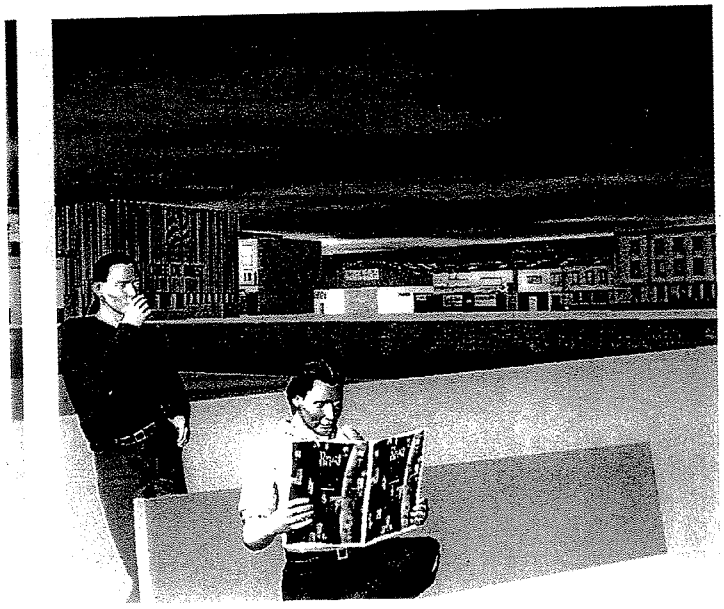
July 11-12, 2000 - Brest France

PROCEEDINGS

Editors: Jacques Tisseau, Gérard Subsol

8th Workshop of the French Virtual Reality Group, GT-RV
(PRC ALP-AFIG, I3, ISIS / French Ministry of Education, Research and Technology)

1st Collaborative Workshop of the UK VR-SIG
With the scientific support of INRIA, the French National Institute for Research in Computer Science and Control



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SUBSOL

The French Working Group on Virtual Reality

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Coordinators of the GT-RV

The French Working Group on Virtual Reality (GT-RV in French) was created at the beginning of 1994, with the support of the CNRS (National Center of Scientific Research), the Ministry of Education and Research, and the INRIA (National Institute for Research in Computer Science and Control). At this time, Virtual Reality was becoming a very popular research topic—publication of numerous scientific papers, development of new interfaces—with a very high media coverage. The GT-RV aimed to create a flexible structure in which all the French research academic and industrial teams can exchange.
Today, more than 30 academic and industrial research teams from all regions of Fance participate and interact with the GT-RV through:

- an electronic newsletter called REVERIES that is sent to more than 160 subscribers. In each issue (112 were already published), one can find news about Virtual Reality events in France and over the world (meeting program, software or document availability, job announcements, interesting Web links, etc.).

- workshops and meetings. Each year, the GT-RV organizes a workshop on Virtual Reality. The three first ones in Sophia Antipolis (1994), Grenoble (1995) and Rennes (1996) were small researchers meetings. Since the 1996 meeting in Toulouse, proceedings have been regularly published with an electronic version available of the GT-RV Web site. A selection of papers presented at the 1998 and 1999 workshops have been published in French and international journals (Traitement du Signal and International Journal of Design and Innovation Research). Since the 1998 meeting in Issy les Moulineaux, the GT-RV has invited Virtual Reality worldwide specialists to give invited lectures and was honored to welcome Profs. Grigore Burdea (Rutgers University, USA), Koichi Hirota (University of Tokyo), Roy Kalawsky (Loughborough University, UK), Daniel Thalmann (EPFL, Switzerland). The last two meetings, in Laval (1999) and Brest (2000), were real international workshops with an international scientific committee and proceedings in English.

  The GT-RV organizes also thematical meetings that focus on more specific research topics as Cooperation between Image Analysis and Synthesis (1999), Virtual Reality and Cognition (1999) and Augmented Reality (2000).

- the Web site http://www.inria.fr/epidaure/GT-RV/ where electronic versions of the REVERIES issues and the presentations of the last workshops are available. Any request can be addressed to gt-rv@sophia.inria.fr.

The GT-RV is running thanks to the support of several academic and industrial patners, but is an open structure that everybody can freely subscribe.
The GT-RV is a structure open to everybody and free. It can exist thanks to the work of many voluntary persons and the support of institutional and industrial partners. In particular, we would like to thank very much the École Nationale d'Ingénieurs de Brest, the Communauté Urbaine de Brest, the Conseil Régional de Bretagne, the Conseil Général du Finistère, the partners of the WestServer project ('Ecole Nationale d'Ingénieurs de Brest, École Nationale Supérieure des Télécommuncations de Bretagne, Compagnie des Signaux and Technopole Brest-Iroise) for the organization and the foundings of this First French-British International Workshop on Virtual Reality.

The UK Virtual Reality Special Interest Group

The UK Virtual Reality Special Interest Group (UK VR-SIG) was formed by Robin Hollands from Sheffield University and Sean Clark from Loughborough University with vital last minute help from Chris Hand from De Montfort University. The group's aims are provide a communications network for all Virtual Reality researchers and users in the UK. It aims to encourage the creation of active local VR groups, whilst at the same time maintaining national coherence. Two VR workshops are planned each year to provide a forum for presenting breakthrough technology and research.

As part of the UK VR-SIG initiative an Internet accessible electronic database has been set up which will contain up to date information about on-going research and projects within the UK, as well as providing information about VR products and services. Electronic mailing lists have been also set up to provide a mechanism for distributing information about Virtual Reality events and an electronic newsletter. A discussion electronic mail list will also be created in the near future.

At present, membership of the UK VR-SIG is free, the only limitation on membership is that all members must be active VR researchers or users, or potential VR researchers or users. Benefits of joining include being added to the electronic mailing list, contributing to the group workshops, being introduced to your local VR group, and collaborating on exciting group projects.

Organization Committee

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General Presentation

Virtual Reality tries to immerse the user into a synthetic world with a maximum of interaction. This world can be just reduced to a manufactured object in the case of a CAD application but can be also a real environment, i.e. a complex of physical, chemical, and biotic factors (including living entities). The Virtual Environment can be natural (a landscape) or artificial (an industrial complex). Virtual Reality can give access to environments that are impossible to reach in the real world, as they are too deep (submarine environment), too far (extra-planetary environments) or too hazardous (a nuclear plant). Moreover, a Virtual Environment can be unrealistic because physic laws have been modified or because it is an abstract world to interact with concepts (for example, multidimensional data visualization).
This international scientific workshop, organized conjointly by the French Virtual Reality Working Group (PRC ALP-AFIG, I3, ISIS - CNRS / French Ministry of Education, Research and Technology) and the UK Virtual Reality Special Interest Group will gather researchers from the academic and industrial communities to expose new methods, to show the latest scientific results, and to exchange ideas and information about the using of Virtual Reality for creating and interacting with Virtual Environments, what ever they are.
The workshop will address, in particular, the following topics:

- How to acquire data from reality ?
- How to create a virtual environment ?
- How to model the geometry, physical, and mechanical behaviour ? how to model in real time ? How to include "life" in the environment ?
- How to interact with virtual environment ? Which of the senses -vision, hearing, touch- and which interfaces to use ? What are are the ergonomical constraints ? How to interact in real time ?
- How to augment reality with the virtual environemnt ? How to integrate it into a real environment ?
- How to create and interact in groups with a virtual environment ?
- Does the virtual environment correctly simulate the reality ?
- What are the applications of virtual environments ?

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