FOster the Comprehension and USe of Knowledge intensive technologies for coding and sharing 3D media content

Coordination Action
8 partners
duration 2008 - 2010

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Technology today

- the reduction of 3D hardware costs makes it now possible to think of 3D on the desktop
- 3D acquisition devices are becoming more and more commonplace (*laser scanning, photogrammetry*)
- computer networks may now rely on fast connections at low cost
- 3D printers are now able to produce not only mock-ups but even end products

rendering, acquiring, transmitting, “materializing” 3D data is now feasible also in unspecialized contexts

From traditional multimedia to 3D content

- gradual shift of paradigm from physical to virtual prototypes
- 3D is the upcoming wave of digital media
- different categories of users (professionals in other domains or simple users)
- shift in the way people see and navigate the Internet (e.g., Second Life, GoogleEarth, etc.)

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the Internet could very well be on its way to shifting from a text-based environment to a visually oriented 3D world

How to...

...organize, process, share, use and re-use, navigate, this large amount of complex content ?

data and knowledge expressed by 3D media is simply useless if it cannot be accessed, retrieved and easily re-used and re-purposed

... **the data grave!**

Embedding 3D into the semantic web

- key role of **knowledge technologies** for the formalization of:
  - semantic content of 3D models
  - rules of scientific workflows
  - expertise & best-practices in SM
- the adoption of KT in Shape Modelling facilitates the development of Semantic Web services for the use of 3D processing tools within and across scientific domains

Tools for coding, extracting, sharing and retrieving the semantic content of 3D media are still far from satisfactory

FOCUS K3D builds on AIM@SHAPE

- FP6 NoE AIM@SHAPE: the 1st big effort towards the coupling of shape modelling with knowledge technologies
- 4 years (2004-2008), ≥ 5.7 Mio €, 13 partners
- tangible results: the Digital Shape Workbench with its Shape Repository
  - models with certified properties
  - documentation of models and tools via ontologies
  - promotion of benchmarking

http://www.aimatshape.net/

FOCUS K3D goals

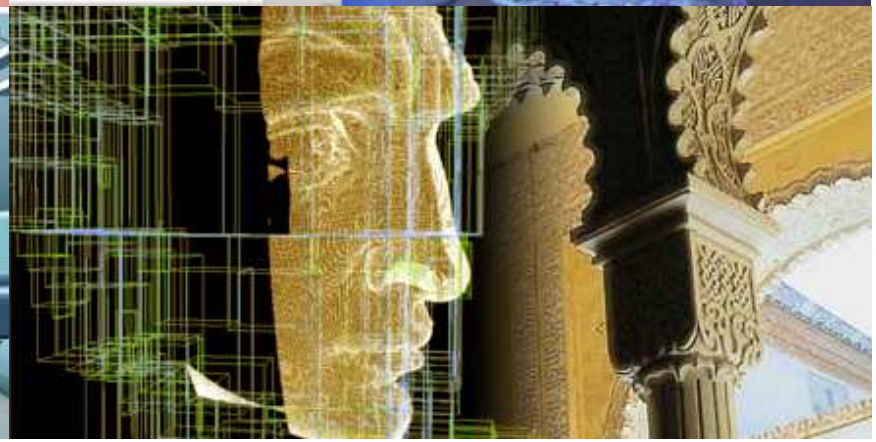
- **Requirements of the user communities**
  - how and why they create and process 3D content
  - how they deal with 3D content knowledge
- **Current practices and analysis of the needs for advanced 3D content modelling and processing**
  - building on the FP6 NoE AIM@SHAPE, evaluate how usable/useful semantics-oriented techniques can be in the different applied domains
  - what kind of services users need to handle the 3D knowledge workflow pipeline
- **Research roadmaps**
  - which research problems are still open in 3D content and knowledge modelling and processing
  - how to personalise solutions in the application domains
- **Openness to a larger audience**

Application Working Groups (AWG)

Medicine & Bioinformatics

CAD/CAE & Virtual Product Modelling

Gaming & Simulation

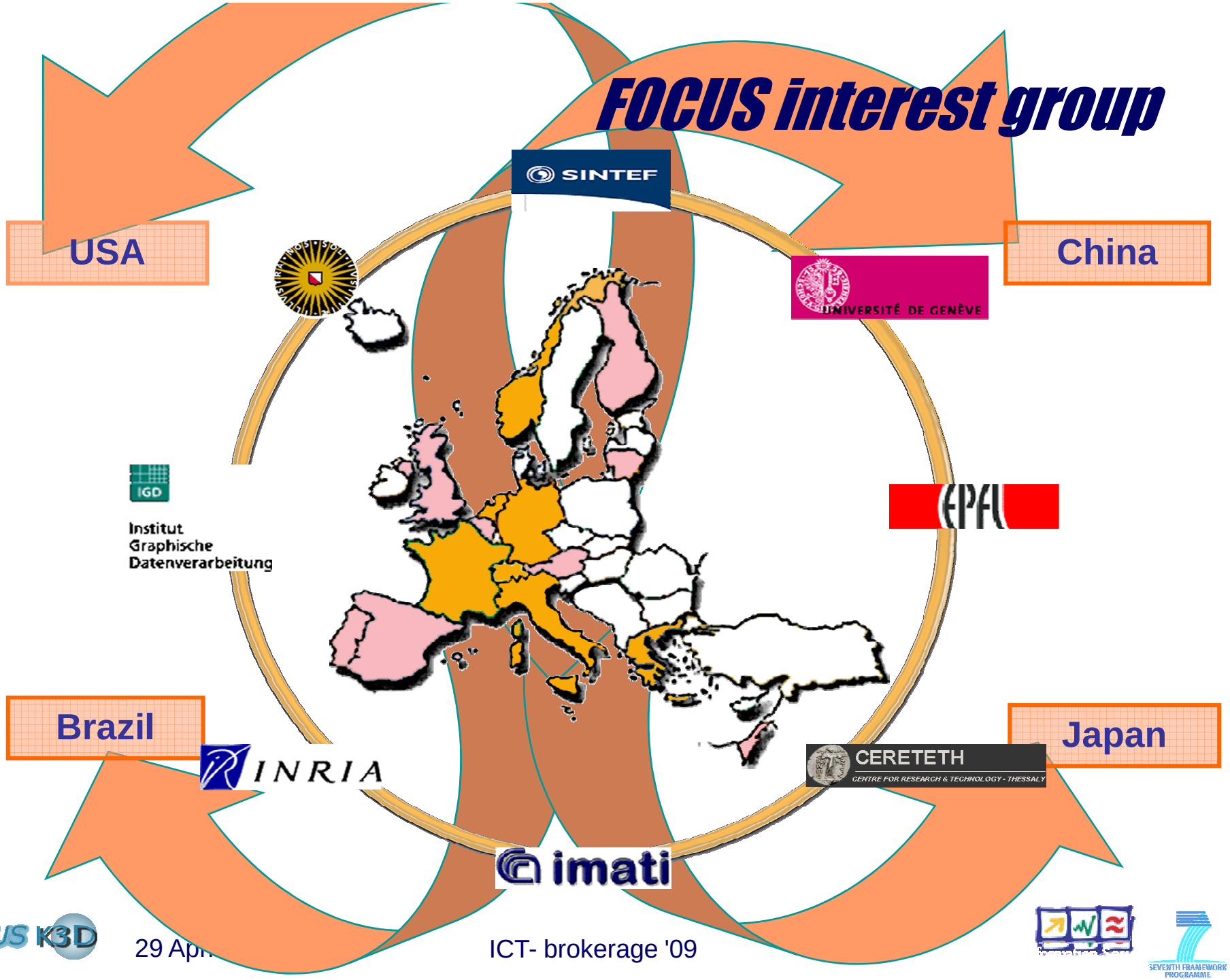


Archaeology & Cultural Heritage

Strategy

- Application Working Groups (AWGs)
  - User's communities, one for each application area (≠ profiles: developers, creators, publishers, ..)
  - questionnaires to better understand and evaluate the current methods and practices in 3D modelling and knowledge capture
  - meetings and workshops to present and discuss open problems in terms of 3D modelling and analysis as well as knowledge capturing and management
- Methodological Working Group (MWG)
  - assessment of the current practices and proposals for research roadmaps
  - To set up ad hoc strategies for a profitable collaboration with the different communities

FOCUS interest group



Thematic Workshops

- **Workshop on Flexibility in Biological Recognition** (18-20 March 2009), organized by INRIA Sophia Antipolis - Mediterranee, France, http://www-sop.inria.fr/manifestations/fmr2009/index_en.shtml.
- **Workshop on Anatomical Models**, organized by INRIA and IMATI at INRIA Sophia-Antipolis, France (16-17 June 2009), http://www-sop.inria.fr/geometrica/events/wam.
- **Workshop on 3D Advanced Media in Gaming and Simulation** (3AMIGAS), in conjunction with CASA, organized by UU June 16 2009, http://www.cs.uu.nl/events/3amigas/
- **Go-3D – Workshop on challenges in 3D content for Virtual Product Modeling** (31 August, 1 September 2009), organized by Fraunhofer IGD Rostock (http://www.go-3d.de/veranstaltungen/go-3d-2009/call-for-paper.html
- **Workshop on 3D knowledge technologies for Cultural Heritage Applications**, organized by CERETETH (Manolis Vavalis, Marios Pitikakis, Michela Spagnuolo), in Vienna, week 9-12 September 2009

Join FOCUS K3D

- How to join:
  - Contact us through the web portal
    www.focusk3d.eu
  - or mail to
    - The AWG leaders:
      - Med&Bio: Frederic.Cazals@sophia.inria.fr
      - CAD/CAE/PM: Andre.Stork@igd.fhg.de
      - G&S: Wolfgang.Huerst@cs.uu.nl
      - CH: Marios.Pitikakis@cereteth.gr
    - The Project Coordinator:
      - Bianca.Falcidieno@ge.imati.cnr.it

Good Practices (Viking Laws)

1. **be brave & aggressive**
   - be direct, grab all the opportunities, use varying methods of attack, be versatile and agile, attack one target at the time, don't plan everything in detail, use top quality weapons
2. **be prepared**
   - keep weapons in good conditions, keep in shape, find good battle comrades, agree on important points, choose one chief
3. **be a good merchant**
   - find out what the market needs, don't promise what you can't keep, don't demand overpayment, arrange things so that you can return
4. **keep the camp in order**
   - keep things tidy and organised, arrange enjoyable activities which strengthen the group, make sure everybody does useful work, consult all members of the group for advice