



VDAK midterm LS 2022, časť 1: pojmový model komunikácie významu a použiteľnosti

- I. **(Komunikácia, 10 minút/bodov).** Vyberte si alternatívu A alebo B.
  - A. Opíšte alebo načrtnite pre Vás najzaujímavejšiu položku kultúrneho či prírodného dedičstva alebo vzdelávaciu hru, ktorej by ste venovali svoj čas, šikovnosť alebo obdiv. Objasnite aj prečo, resp. ktorú inú ste v príprave zamietli, a aký má alebo môže mať význam pre vybrané cieľové skupiny (škola, obec, kraj, svet).
  - B. Uveďte alebo nakreslite 10 príkladov na komunikáty alebo komunikačné situácie z oblasti semiotiky, rétoriky, psychológie vnímania alebo inej príbuznej vedy. Boduje sa (1 bod) aj opis vlastnej skúsenosti FLOW alebo jedinečného nedorozumenia alebo dosiaľ nepomenovaný jav, resp. taký, ktorý nevíete klasifikovať.
- II. **(Použiteľnosť, 10 minút/bodov).** Zvoľte si jednu známu vec, službu, aplikáciu alebo portál a zapíšte jej/jeho vlastnosti štruktúrované pomocou 10+ pojmov z metodiky **Elements of UX** (J.J.Garrett, 2000). Súbor 12 možností: Candle, Google Search, dvere na posluchárni, Web umenia, Slovakiana, Europeana, WHC, mobil, Powerpoint, Street View, Google Earth, USB.
- III. **(Metodika, postup/architektúra/funkčný blok, 10 minút/bodov).** Vyberte si alternatívu A, B, C, D, E. Opíšte A. architektúru multimediálneho systému, B. funkčný blok pre počítačovú grafiku, C. data state reference model, D. web design, E. iný metodický postup (aj neodprednášaný).
- IV. **(Štandardizácia, kódovanie, vlastnosti formátov, 10 minút/bodov).** Opíšte Vám známe normy alebo formáty kódovania grafickej informácie a ich vlastnosti.

\* \* \*



Fig. 5. Original photo by Pavel Breier, photographed by Marek Zimanyi (left). Cruse scans used for exact interior reconstruction (center). Probable light distribution, as seen from the north side of the synagogue [7] (right).

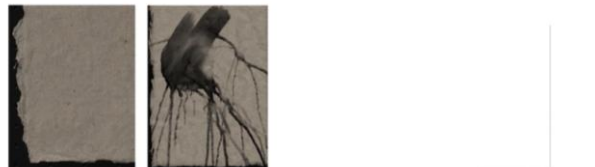


Fig. 6. Scanned empty handmade paper Yucca and the detail of its use with Rebelle software.



// Metodika Natale

<http://www.dedale.info/objets/medias/autres/indicate-handbook-on-virtual-exhibitions-and-virtual-performances-751.pdf>



Slovak University of Technology in Bratislava  
Faculty of Mechanical Engineering  
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Proceedings

ADAPTIVE SCANNING OF DIVERSE HERITAGE ORIGINALS  
LIKE SYNAGOGUE INTERIOR, EMPTY RARE PAPERS  
OR HERBARIUM ITEMS FROM THE 19<sup>th</sup> CENTURY

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**Abstract.** We create the digital twins using the hi-tech CRUSE CS 220ST1100 contactless scanner, providing high precision both in geometry and radiometry. We survey many sharpness functions and we report results of experiments examining how to manually focus the scanner, applying the Fourier transform. We have created the exact representation of interior of a non-existing building, and we also wanted to achieve as true colors as possible of a collection of rare blank handmade papers. Further, we have analyzed requirements for documenting Herbarium data. We discuss selected uncertainty and educational issues within this context.

**Keywords:** digitization, Fourier transform, 3D modeling, virtual reality

*Mathematics Subject Classification:* 68U05, 68U07.



Fig. 1. Cruse Manual Focus Dialog: unfocused picture (left), focused picture (right).

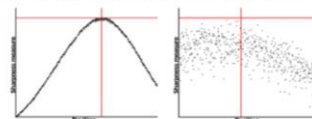


Fig. 2. Graph of sharpness function (left), detail of the graph with noise (right).

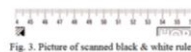


Fig. 3. Picture of scanned black & white ruler.



Fig. 4. Unfocused,  $h=0.0\text{cm}$  (left); unfocused,  $h=1.4\text{cm}$  (center); focused,  $h=0.0\text{cm}$  (right).

// CRUSE 2019

[http://www.cidoc2014.de/images/sampleddata/cidoc/papers/H-2\\_Natale\\_Minelli\\_et-al\\_paper.pdf](http://www.cidoc2014.de/images/sampleddata/cidoc/papers/H-2_Natale_Minelli_et-al_paper.pdf) // MOVIO 2014

Finding the Best... <https://www.mdpi.com/1424-8220/23/4/2303/htm>

// CRUSE 2023

**1.1 Exposition, exhibition**

Exhibitions are an expression of the activities of cultural institutions, and they partly or wholly represent the promotion of the legacy these institutions preserve. Through these activities, users and cultural contents are put in contact, sometimes leading to commercial exploitation.

The term **exposition**, in its broadest sense, indicates the rational process through which one attempts to divulge a concept or topic by explaining its logical content or linking it to other concepts or topics that help highlight its meaning.

The terms **exhibition** and **show** indicate events with a specific venue and time, during which the public can enjoy a series of objects, paper and/or multimedia documents, books, paintings, sculptures, and other items, related to each another and organized according to logical, thematic, spatial, historic, and/or authorial criteria, and made accessible either permanently or temporarily, through one or more narrative routes, with scientific, didactic, and/or promotional goals.

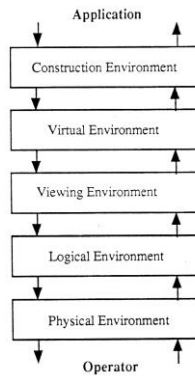
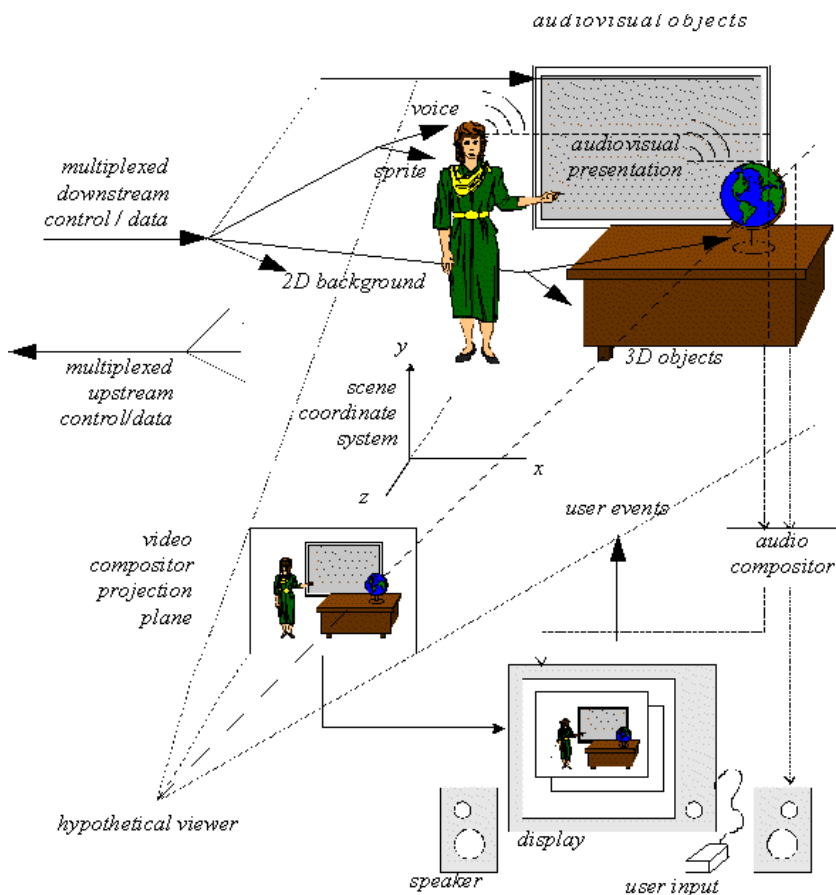


Figure 2 – Computer graphics environments *MMOobject Presentation, PREMO*

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## MPEG-4 Goal and Requirements

- ISO/IEC 14496, 1999, people need video & audio with internet and interaction
- technique of objects compositing, based on VRML, streamed audio & video, real objects and UR
- MPEG-4 format, MPEG-J enables for applets to support complex behaviors
- requirements: encoding, scalability, compression/quality, error handling, facial animation, 3D sound, music richness beyond MIDI, content description (metadata), objects multiplexing MPEG-2, H.223, scene composition, programmable content, interaction protocol
- format for complete exchange of application between client and server
- URL and transport protocol
- content representation independent from delivery (disc, net, broadcast)
- quality specification and authorized users support

## MPEG-7 24 Content Descriptors

- formally named "Multimedia Content Description Interface"
- supports some degree of interpretation of the information meaning
- developed by broadcasters, electronics manufacturers, content creators and managers, publishers, intellectual property rights managers, telecommunication service providers and academia
- ...
- MPEG-7 descriptions do, however, not depend on the ways the described content is coded or stored
- MPEG-7 Multimedia Description Schemes (DSs) are metadata structures for describing and annotating audio-visual (AV) content... a standardized way of describing in XML
- **Color 7 - space, quantization, dominant, scalable, layout...**
- **Texture descriptors 3 - homogenous, browsing, edge histogram**
- **Shape descriptors 3 - region shape, contour shape, shape 3D**
- **Motion 4 - camera, trajectory, parametric motion, action**
- **Others 2 - localization, face**
- **Audio 5 - signature, instrument, melody, indexing, spoken**
- **In total, 10 radiometric, 9 geometric, 5 others**
-

## MOVIO // entities, relations, attributes

The MOVIO kit has different components and services:

- CMS MOVIO, the open source content management system for the realisation of the virtual exhibitions; it can be accessed via web and as microsite via mobile devices using both the Apple and Android operative systems;
- MOVIO APP, to access the virtual exhibition through mobiles;
- MOVIO HUB, the catalogue of the real and digital exhibitions, a native mobile APP connecting all MOVIO instances;
- Online wiki tutorials and training courses on the use of MOVIO and the implementation of the guidelines for realizing virtual exhibitions (the manuals are in English and Italian, the video recordings are in English).

## KEY STAKEHOLDERS

- Staff from GLAM-organisations
- Collection managers
- Curators
- Marketing team
- Heritage mediators
- Tourism organisations
- Educators
- Students
- The general public
- Researchers

## ONTOLOGY

The Ontology Builder is the back-end tool for managing the entities, the relations and attributes connecting the entities (to which the curator may associate documents, images and other media).

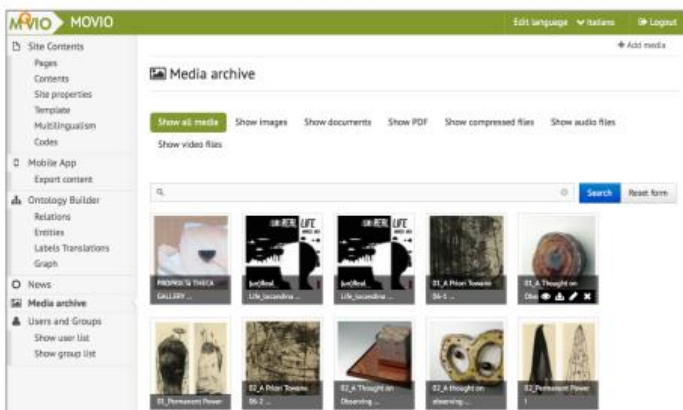


Figure 3: MOVIO back-end, the media archive (images, courtesy Theca Gallery, Lugano). BACK-END DATA STORAGE AND MANAGEMENT.

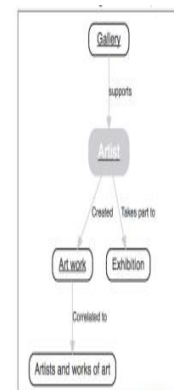


Figure 4: Example of how a simplified conceptual map can be created through the Ontology Builder in MOVIO SCMS.

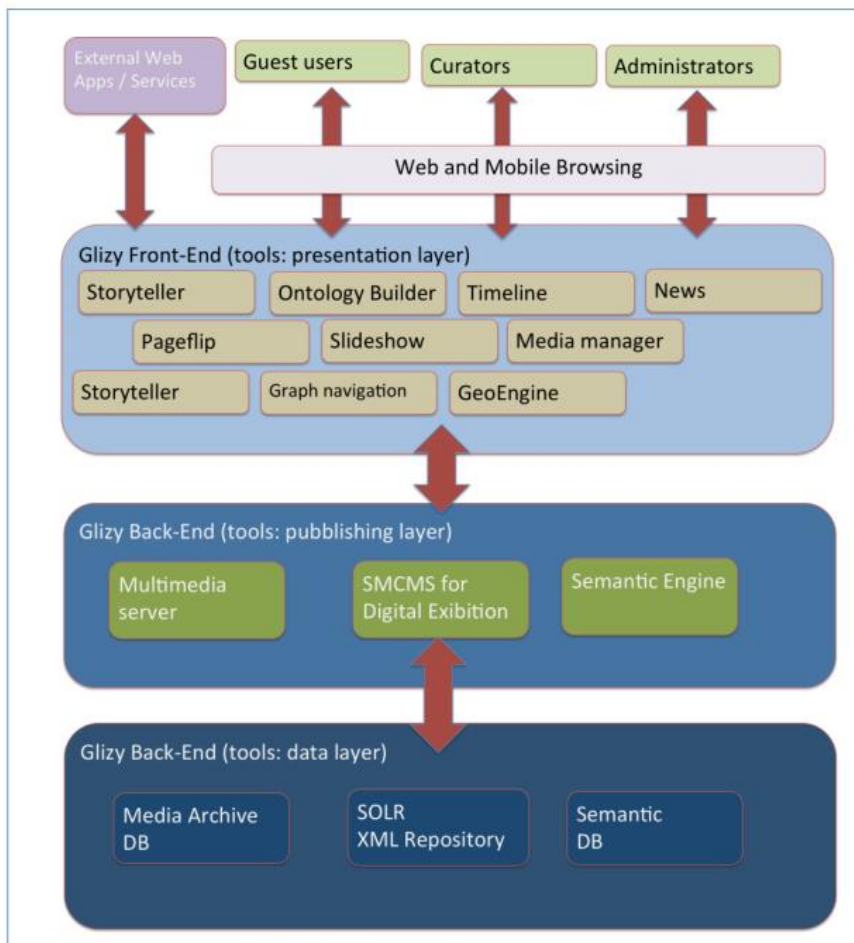


Figure 9: MOVIO conceptual architecture, Glizy framework.



Figure 8: a collaborative marketing vision. Many GLAMs instances of MOVIO are channelled together through a dedicated platform called HUB.