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Guest-editor's preface

Workshop on hypermedia and hypertext standards

A workshop on hypermedia and multimedia standards was held 22–23rd April 1993 in Amsterdam sponsored by the CEC and organised by Johan van Halm and Associates, with assistance from the University of Strathclyde (Dept. of Information Studies).

The workshop was held within the framework of the OII (Open Information Interchange)[1] initiative of IMPACT 2 which seeks to improve awareness of information coding standards and promote their use in the electronic services market. The workshop covered both standards related to the coding of the structure of documents such as HyTime, ODA hyper extensions and MHEG, and standards for content coding such as MPEG, JPEG and DVI. Speakers represented all the major groups concerned with the development and application of these standards.

The workshop was chaired by Prof. Charles Oppenheim of the University of Strathclyde and the appr. 70 participants came from all EEC countries, the USA and Japan.

The workshop featured highly authoritative speakers from a variety of countries representing virtually all standard "blood groups", who were setting out the aims and scope of the standards and standard families concerned.

It became clear that "standards" represent a tremendous commercial value, confronting "official" standards making bodies, like ISO and CCITT, with strong competition from emerging industry-promoted standards. Industry does not want to wait for the long time-consuming and "compromising" process of these official bodies.

We need a new "mechanism" and orderly development of making standards, which takes into account *de facto* standards set by industry. The audience identified as other major issues:

- more orientation towards (end)user needs, such as for navigation, through the standards, access, awareness, etc.;
- the need for a common terminology;
- mechanisms to identify the right standard;

- methods to combine different standards;
- interworking and interchanging capabilities;
- separation of functional description and transfer syntax; and
- avoidance of further overlaps in the future.

No one is served by the battle between SMGL and ODA documents, or by eventually upcoming battles in the area of page description standards.

The "Proceedings" cover, beside a general introduction regarding the CEC and its OII initiative by Geoffry Stephenson, nearly all aspects of document handling standards, where a "document" can be any combination of print, sound and video (multimedia and hypermedia).

The "content" standards relate to text (characters, fonts), pictures (drawings, images, animation, film, TV) and compression (line art – JBIG, greyscale – JPEG, moving image/audio – MPEG). The "Structure" standards deal with text (SGML, ODA), multimedia (PREMO, SMSL, Quicktime) and hypermedia (HYTIME, MHEG and Hyper ODA). Referring to this brief summing up we may imagine a lack of overview, interrelationship and orderly development, as well as a considerable amount of confusion. OII tries to cope with this by promoting awareness and use of media-independent coding standards for information interchange in the electronic information services market.

One of the tools to cope with many of the problematic issues is the "Multimedia and Hypermedia: Model and Framework" as presented in the keynote speech by Lawrence Welsch of NIST, who heads the group responsible for coordinating US multimedia standardisation activities.

The model identifies:

- functionality that is required by multimedia and hypermedia objects and hypermedia compound documents;
- interfaces, protocols, services, content notations, languages, supporting formats and encodings;
- hypermedia/multimedia issues which are: application specific, domain specific, or part of the base level hypermedia and multimedia technologies; and
- barriers to interoperability and portability for multimedia applications.

The model allows the relationship between various aspects of multimedia and hypermedia systems to be identified and understood. As an example, the model identifies features such as:

- presentation, i.e., the user system interface;
- database, i.e. the storage, access and retrieval of information;
- communication architecture and network, e.g., protocol/service;
- formats on interchangeable storage media, i.e., physical, file structure; and
- multimedia/hypermedia abstract information structure, i.e., the definition of the information nodes and the relationships among those nodes.

Other speakers included J. Fromont of CCETT (France), a leading centre for R&D in online multimedia applications who reported on the latest developments in the standardisation of scriptware for controlling the user interaction with online

information systems (AVI): Angela Scheller of GMD Fouks (Germany), who described the work to extend ODA to the area of hypermedia, and Martin Bryan of the SGML Centre (UK), who gave a presentation of the way in which the existing standards (SGML, ODA, etc.) are intended to fit into the emerging pattern of hypermedia standards that are being developed by ISO and CCITT. Other speakers covered specific content standards and research and industrial applications of the standards, as well as industry standards like Video.

Major conclusions were, that the (artificial) boundaries between structure and contents standards should not be maintained;

- None of the standards is able to fulfill all the requirements;
- Development of new standards should be in contrast to extensions to existing ones; and
- Overlapping functionality exists.

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