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E-Culture Net

European Network of Centres of Excellence for Research and Education in Digital Culture

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1. Introduction

At the time of the Memorandum of Understanding (MOU) for Multimedia Access to Europe's Cultural Heritage (1995-1998), the European Commission began plans for a Network of Centres of Excellence in Digital Culture. This idea was formalized with the opening of the MEDICI Framework (Vienna, October 1998). While not directly funded at that time, a small group of universities (Maastricht, Bologna, Madrid, Scuola Normale, and Cologne) developed the idea. By the beginning of 2001, this group had grown to include 28 institutions, five European networks and two International networks. As of 1 July 2002, this group of 35 members,[1] known as E-Culture Net, became a thematic network under the 5th Framework Programme (IST-2001-37491) working to establish an European Network of Centres of Excellence in the 6th Framework Programme (FP). In September a website was launched: http://www.mmi.unimaas.nl/eculturenet/index.htm.

E-Culture Net has representatives in fifteen EC member states who are working together in developing the vision of the network. E-Culture Net brings together those directly engaged in research and education.[2] E-Culture Net has three action lines:

1) research matrix;
2) Distributed European Electronic Resource (DEER)
3) European Masters and Doctoral Programmes.

2. Research Matrix

Traditionally, as Marshall McLuhan made us aware through his dictum about the "the medium is the message," each medium had its own production life cycle. Hence, the process of making a manuscript and its life-cycle were very different from the production life-cycle of a book, a film or a television programme. Accordingly, professional organizations, groups, networks and projects were typically constituted along mono-

medial lines.[3] In the digital age, the life cycles of manuscripts, books, films, televisions, videos are all potentially related.[4]

Needed is a new research matrix that covers the whole spectrum of the knowledge production life-cycle ranging from technologies and infrastructure, content creators, content holders, content brokers, context creators, content and context communication, to applications and implications. The creation of such a research matrix is the first major goal of E-Culture Net.

To achieve this goal a very pragmatic approach is being taken. Both a macro-level and a micro-level set of categories have been identified.[5] Fortunately, during the 5th Framework Programme (FP), the European Commission sponsored a number of specialized networks both in specific branches of technology (e.g. neural networks, agents) and with respect to various cultural domains (e.g. preservation and access, history). In areas where such networks exist, they are invited to send representatives to e-culture net. To date seven such specialized European networks have joined.

Meanwhile, members of E-Culture Net, be they 1) memory institutions (libraries, museums, archives), 2) universities, research institutes, or 3) corporations and Small and Medium Enterprises (SMEs) are also invited to contribute to this research matrix. By bringing together these three main actors: industry; universities/autonomous research organizations and cultural organizations, the plan is to arrive at a new survey of solutions, standards, projects, conferences, literature, research ad trends that allows the creation of research topics and roadmaps for future research. The research matrix will enable new integration and help to understand potentials for new employment and e-creativity in the knowledge economy.

3. Distributed European Electronic Resource (DEER)

E-Culture Net's research matrix is preparing a Distributed European Electronic Resource (DEER) that serves two main functions:[6] 1) a distributed repository of European digital cultural resources, with a portal to make them accessible to all the people of Europe; 2) a forum for communication between researchers, content creators, the commercial sector, and users: a virtual agora for European culture. In a first phase, Dr. Suzanne Keene (University College, London) is creating a framework for the DEER; Professor Dr. Manfred Thaller (University of Cologne) is responsible for preliminary content and Professor Lily Diaz (Media Lab, Helsinki) is designing interfaces for the DEER. Meanwhile, Professors Arturo Colorado and Isidro Moreno (Complutense, Madrid) are exploring broadband pilots for the DEER.

The DEER will function at different levels. At the simplest level it uses the regular Internet to provide researchers, students and everyday users with access to electronic resources. At the same time, a number of these resources have high-level versions. Some come from cultural institutions where paintings are being scanned at up to 30 Gigabytes per image and where books are being scanned at up to 767 Megabytes for a single page, thus producing half a terabyte for the latest version of the *Gutenberg Bible* alone. Others

come from research institutes, which are creating digital reconstructions of monuments, archaeological sites, ancient cities, cultural landscapes and even cultural routes such as pilgrimage routes (e.g. Santiago da Compostella) and silk routes. Such digital products already range from hundreds of megabytes to terabytes in size and are likely to increase greatly in the next decade.

The EC's GEANT programme is creating the necessary infrastructure to make gigabit and terabit connections a reality. E-Culture Net's partners plan to work with GEANT in defining a series of broadband pilots whereby these new products can be made more generally accessible. The vision of a European Research Area (ERA) is that by connecting key content, industry and research institutions, one can arrive at a nexus of places that provide access to the best results in the European arena and bring a critical mass of connectivity necessary for new insights leading to future research, innovation and employment. E-Culture Net is extending the existing vision for an E-Science Grid to create a parallel Grid for Culture, which might be achieved by a series of integrated projects. In a first stage four such projects are proposed (Appendix 1).

4. European Masters and Doctorates

The third action line of E-Culture Net is to use the research matrix and the Distributed European Electronic Resource (DEER), for the development of new European Masters and Doctoral Programmes. The research matrix provides students with a better overview of what convergence means at both a macro- and a micro-level. The DEER provides them access to the full range of resources created by the new media. In the preliminary phase, Professor Benedetto Benedetti (Scuola Normale, Pisa), building on post-graduate courses at Volterra and the Palazzone in Cortona is preparing for a European Masters Course. Professor Francesca Bocchi (University of Bologna), who established one of the first European Doctorates in computing and art history, is exploring requirements for doctorates within the network.

5. Developments

In addition to a group of core academic members, there will also be national memberships, which include cultural organizations, industry and Small and Medium Enterprises (SMEs). Professor Frederic Andres (Laval Mayenne Technopole and National Institute of Informatics, Tokyo), is giving thought to the structure of these national networks. Professor Gerhard Budin (University of Vienna) is working on membership in the Newly Accessed States (NAS), with advice from Nadezdha Brakker (Centre PIC, Moscow). Professor Giorgos Giannoulis (Foundation of the Hellenic World, Athens), is helping with Mediterranean countries.

In the first four months of the project E-Culture Net received formal letters of intent from an additional 65 European institutions. Informally, there are indications that that number could double in the next four months.

Even with its Newly Accessed States (NAS), Europe represents only 5% of the world population. To achieve a wider view, E-Culture Net has established links with a number of International networks in digital culture including UNESCO Almaty, and the NII's Digital Roads Project.[7] Most of our cultural models are still Europe-centric or Asia-centric. We need new models of culture, which acknowledge the contributions of these traditions, and place them in a global context. Here, Russia, which is one of the traditional bridges between East and West and at the same time mother to an extremely rich heritage of its own, is of great interest to a Europe that is looking eastwards. E-Culture Net warmly welcomes its Russian partners.

Appendix 1. Tentative Titles of Proposed Integrated Projects:

1) DILIGEANT

This integrated project on DIgital LIbraries in a GEANT context builds on 1) efforts for multi-lingual catalogues and directories via a French/German project, Accès Multilingue pour le Patrimoine (AMP); 2) efforts of the Semantic Web meets Knowledge Organization for Large-Scale Information Integration (SEMKOS) consortium. In a second phase it will integrate 3) ideas in the United Kingdom for digital libraries as a significant component in their E-Science grid and link them with 4) a quest for a coherent policy for digital libraries in Germany; The wide range of partners brings new integration of knowledge from memory institutions and assures new integration of scientific and cultural knowledge. The presence of an important GIS component in AMP prepares the way for future integration of historical cartography.

2) ACE

A second project provisionally addresses the domain of Augmented Cities and Environments (ACE). It again brings together the efforts of at least four different communities: 1) those working on historical reconstructions of cities such as Bologna (NUME) and London; 2) new developments in GPS implied by the introduction of the Galileo satellites, represented by the Network of excellence for a European Platform for Integration of Space Technique Applications and GEo-data (EPISTAGE) and their proposed SCIGAL project which has serious implications for tourism; 3) new developments in mobile technology which include an integration of UMTS, GPS, and GIS for both tourism and entertainment and 4) new ludic applications of these technologies for e-games and e-entertainment as envisaged by the artnouveau and I-CAST groups.

3) CO-CREATE

A third project addresses the challenges of e-creativity. In the automobile and aerospace industries new combinations of personal and collaborative design are used to arrive at new products. In the creative industries, most electronic tools are intended for a specific kind of design (e.g. home products, or architecture) and often entail a single medium, word processing, image editing, film editing, sound editing, video editing, television

editing etc. While there are many multi-media tools, we still need tools to integrate creation, editing and production across the range of media. We have tools in different languages. We still need tools that function multi-lingually across different languages and cultures. This integrated project combines efforts from 1) collaborative work; 2) design; 3) virtual and augmented reality and 4) the creative industries.

4) PACE

A fourth proposed project links Personal and Collaborative E-learning. It integrates 1) mobile technologies for personal access to enduring knowledge from memory institutions via virtual reference rooms; 2) collaborative knowledge spaces; 3) accessibility and 4) knowledge management technologies as described in the Building Resources for Intelligent Knowledge Sharing (BRICKS).

Together these four projects offer a new integrated approach to knowledge. DILIGEANT focusses on access to enduring knowledge of memory institutions. ACE offers more systematic access to historical and contemporary knowledge of the built environment integrating both UMTS, GPS and GIS developments for both fixed and mobile use. CO-CREATE addresses the realms of both collaborative and personal knowledge and uses access to existing knowledge from DILIGEANT and ACE to produce new knowledge and e-creativity. PACE develops new tools for using these resources for e-learning and e-research.

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Notes

[1] See: http://www.mmi.unimaas.nl/eculturenet/FoundingMember.htm

[2] It thus complements other networks, which focus mainly on policy and standards (e.g. MINERVA) or diffusion of results (e.g. Cultivate, Digicult, Pulman, TRIS).

[3] Book groups such as the International Federation of Library Associations (IFLA). See: http://www.ifla.org had very little to do with film groups such as the Association of Film Commissioners International (AFCI). See: http://www.afci.org/index2.asp.

[4] As a result, organisations such as the International Television Association (ITVA) have become transformed into the Media Communications Association-International (MCAI). See: http://www.itva.org. In addition, there are new integrating bodies such as the Co-Ordinating Council of Audiovisual Archives Associations (CCAAA). Organised with the International Federation of Television Archives. See: http://fiatifta.org/newsletters/2002/2002-02/ccaaa.shtml.

Cf. the Standing Council of European Audiovisual Archives (SCEAA).

[5] See: http://www.mmi.unimaas.nl/eculturenet/KPLC.htm; .
See: http://www.mmi.unimaas.nl/eculturenet/more.htm#_Toc23229327

[6] In the past, all EC projects theoretically had a dissemination plan. Some results of EC projects were typically available on websites of individual projects and were further reported in the newsletters and reports of Cultivate, Digicult, E-Culture, DICE and more specialized groups such as El-Pub. These dissemination methods had two shortcomings. First, they lacked permanence. Hence, results from many projects from the 3rd and 4th FP are no longer available. Second, in the absence of a coherent vision of interoperability of contents, they lacked integration.

[7] "European Networks of Excellence and Japanese/UNESCO Silk Roads," *Tokyo Symposium for Digital Silk Roads, UNESCO, National Institute of Informatics, National Center of Sciences, Tokyo, 11-13 December, 2001*, Tokyo: National Institute for Informatics, 2002, pp. 135-145; European Networks of Excellence and Global Digital Culture," *EVA-Beijing*, Abstracts, Tsinghua University, Beijing, April 2002, pp. 72-75.