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Building co-operative bibliographic databases in European bioethics: A contribution from EU New Member States

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ABSTRACT

The paper presents a web-based application, developed as a part of the Eurethnet database network, which is being used by project partners from EU New Member States to collect bibliographic records from bioethics domains. The application development was focused mainly on records compatibility with other Eurethnet databases, support for all European character sets, minimalisation of network traffic, and security issues. The time window available for the system development was very small and this problem was solved with our own software for automatic application generation.

1. Introduction

The ethical implications of work in life sciences and biotechnology are increasingly gaining importance—and this is reflected in the growing number of documents, mainly research and legal, on these topics. However, it appears that information tools which should provide access to these documents are not sufficiently effective. It has been demonstrated by Fangerau [1] that information concerning articles from medical ethics journals is scattered among bibliographic databases, with no databases providing a full and coherent reference set. In fact, Fangerau ranked these databases by their medical ethics coverage and found that the top 10 databases combined still only covered 45.2% of the medical ethics journals. Further analysis described in [1] showed that the most popular bibliographic databases are regionally biased with European journals having less representation than North American journals. This situation is undoubtedly much worse for journals published in European Community New Member States and even more if they are published in local, non-English languages.

To "increase the public awareness of bioethical issues on a European-wide basis and fulfil the pressing need for a cross-national and cross-cultural dialogue", and to foster the visibility of documents describing the achievements of European bioethics, the international network Eureth.net was established [2,3]. The project, which was co-ordinated by the Department for Medical Ethics and History of Medicine, University of Götingen (Prof. Claudia Wiesemann), was funded under the auspices of the European Community's Fifth Framework, Quality of Life and Management of Living Resources Programme. The original consortium was composed of 18 partners from 9 European countries. The work in the consortium is focused on six main tasks: developing and maintaining the databases Euroethics and Endebit, developing value-added information products, establishing the Thesaurus Ethics in the Life Sciences, developing the Documentary Standards, and providing an Internet portal.

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Euroethics and Endebit are bibliographical databases, covering European production of bioethical documents. Euroethics [4,5] includes data about documents on medical ethics and is a continuation of the European Community's BIOMED-2 programme Euroethics Health Network (1996–1999). It is managed and hosted by Karolinska Institute University Library (KIB) in Sweden and collects records from various national databases. Endebit [6] covers documents on ethics in biotechnology and is likewise collecting records from partnering institutions. It is managed and hosted by the Interdepartmental Centre for Ethics in Sciences and Humanities (IZEW) at the University of Tübingen, Germany. A search engine targeting both databases simultaneously is also in use [7]. Value-added information products are compiled by various project partners. Among them are selected bibliographies on pressing ethical topics, news services, lists of web pointers to ethical resources, etc. The work on Thesaurus Ethics in the Life Sciences (TELS) [8] was started before, but finished inside the framework of the Eureth.net project, where it serves as the primary source of terms used for indexing in the project's databases. This trilingual (German, English, and French) thesaurus was developed by a consortium led by the German Reference Centre for Ethics in the Life Sciences (DRZE). The Documentary Standards, the framework of rules that describe the structure and data in bibliographic records, were compiled under the leadership of KIB and IZEW.

At the beginning of 2003, eight new members from six EC New Member States plus Bulgaria (hereafter referred to as the NMS partners) were invited to join the Eureth.net consortium and thus potentially broaden the cultural diversity of ethics topics represented in project's information products. To collect bibliographic data for Euroethics and Endebit databases from NMS partners, the same procedure was foreseen as has been used with the original consortium members. The idea was to identify national bibliographic databases and library catalogues with ethics coverage, download relevant records along with structure descriptions, send them to Euroethics and/or Endebit administrators, who would then convert them according to the project's Documentary Standards and upload them to final databases. However, it gradually became evident that not many relevant bibliographic databases or catalogues existed in the NMS, or were accessible to new partners in these NMS countries. Time was pressing, with the project due to close by the end of 2004 and various possibilities were discussed to collect the data from NMS. For instance, NMS partners were willing to start databases from scratch, but they were lacking appropriate database software and no funds could be allocated for this kind of computing expenses within the project's budget. An analysis of cheap personal bibliographic software showed that none suited all requirements. Among such requirements were the adaptability to Documentary Standards, standardised support for various character sets and the possibility of including the thesauri used in the project.

In spring 2004, it was decided that open-source tools and web-based technology would be used to develop a centralised database and data entry application enabling the NMS partners to enter data online. The task of system development and maintenance was entrusted to the Institute of Biomedical Informatics (IBMI), Faculty of Medicine, Ljubljana, Slovenia.

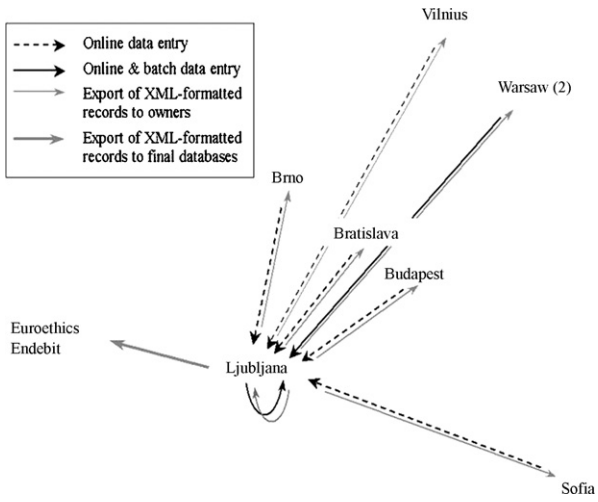

Fig. 1 – Roles of different players involved in the collection of bibliographic data from NMS countries. Finalised records are eventually exported to Euroethics and Endebit databases.

2. System description

The system reported here is part of the Eureth.net network of databases, which serve as a pan-European repository of bibliographic data from medical and biotechnological ethics domains. While the procedures for collecting records in two prominent Eurethnet databases, Euroethics and Endebit, are performed in a well-defined and consolidated environment, which includes the transfer of records from various national databases; the different situation in the European Community's New Member States calls for a different approach. The system, simply referred to as "Data entry application for NMS partners", serves as an intermediary between creators of records and Euroethics and Endebit databases.

Fig. 1 shows the overall structure of the data collection system. Eleven institutions are involved: IBMI, Ljubljana, as a developer of the data entry application for NMS partners and a host of the resulting database (hereafter referred to as NMS database), KIB and IZEW as hosts of Euroethics and Endebit databases, respectively, and eight centres active in ethics domains. Seven of them contribute the bulk of bibliographic records.[1] Five of these seven centres are entering data into the NMS database using only the online part of the application, while other two centres also contribute downloads from their local databases. Downloads are converted using the batch functionality of the system and included into the NMS database. Records are exported periodically in a well-

[1] These centres are: Centre for Human Ecology and Bioethics, Cardinal Stefan Wyszynski University, Poland; Warsaw University, Institute of Philosophy, Department of Ethics, Poland; Department of Medical History and Ethics, Vilnius University, Lithuania; University Centre for Bioethics, Brno, Czech Republic; Department of International Integration and University Policy, Medical University of Sofia, Bulgaria; National Medical Ethics Committee, Ljubljana, Slovenia; IBMI, Ljubljana, Slovenia.