INFORMATION MANAGEMENT FOR THE TENTH TRIENNIAL CIB CONGRESS

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KEYWORDS

Database, information management, information retrieval, microcomputers.

ABSTRACT

A computerized system was implemented at the National Bureau of Standards, Center for Building Technology for the purpose of managing information for the CIB 10th Triennial Congress. This system assisted the Congress director and the various committees in monitoring responses to Congress announcements, call for papers and registrations. This paper discusses the various technologies investigated, constraints and requirements considered in the development of the system, and the operating environment.

The development and computerization of the system will benefit future Congress directors and committees by describing the system as well as to facilitate the transfer of information in computer readable form.

Gestion des informations concernant le 10è congrès Triennal du CIB

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Mots Clefs:

Base de données, Gestion des informations, Micro ordinateurs, Recherche des données.

Résumé:

Un système informatique pour la gestion des informations du 10è congrès du CIB, a été implémenté au National Bureau of Standards, Center for Building Technology. Ce système assiste le directeur du Congrès ainsi que les divers comités qui gèrent les réponses faites aux annonces, appels de publications et inscriptions. Cet article discute des diverses technologies envisagées et des contraintes considérées dans le développement de ce système ainsi que de son mode opératoire.

INTRODUCTION

The use of computers for processing data facilitates the efficient management and reporting of information. This paper describes the design of a computerized system for the management and reporting of various data sets for the CIB.86 10th Triennial Congress. For example, development of a computerized system to process Congress attendees and participant information provided an effective method of information dissemination, tracking, and reporting for Congress directors, committees, and Congress attendees.

SCOPE OF THE SYSTEM

During the planning phase of the CIB.86 Congress, a decision was made to utilize computer technology to enhance information processing. As a result of this decision, all phases of the Congress were automated including planning, information dissemination, abstract processing, manuscript processing, registration, and abstract retrieval. These phases are presented in Figure 1.

Potential attendees and participants were identified in the planning phase. Information in the form of names and addresses were used to develop the "point of contact" element of the data base. Information was disseminated to these contacts in the form of Congress announcements, and call for papers. Figure 2 identifies the sources which formed this initial and important data base component. Currently, more than 14,000 contacts reside in the database contact file. This will be a valuable resource for future Congress activities.

During the abstract phase, responses to Congress announcements and two calls for papers from interested Congress participants were entered into the data base. This material identified potential Congress authors. More than seven hundred responses were received from persons who were interested in submitting abstracts. The computer played an important role in this phase by providing statistics to the Congress Management, Program and Information Committees, and automatic forms generation for the mailing of abstract instructions. The computer was also instrumental in the maintenance of the data base by allowing administrative staff to query the system and obtain answers quickly. The second part of the abstract phase involved the data entry of information from submitted abstracts. The computer was used in this process to generate forms for the review process, and for maintaining recommendations from reviewers regarding the appropriate Congress sub-theme, session number, and session format. Through the use of the computer, information could be

obtained within minutes. This significantly assisted in the aligning and forming of Congress technical sessions. Upon completion of the review process, computer generated form letters of acceptance (including manuscript instructions) and rejection of abstracts were mailed to authors.

Receipt and review of manuscripts for the Congress paralleled the steps very closely to the abstract phase (e.g. receipt, review, acceptance and rejection). Additional computerized procedures were developed to produce form letters requesting manuscript changes from authors, and requests for information on author's attendance, generation of an index for the Congress Proceedings, and additional reporting facilities, such as country distribution of authors, sub-theme and session reports.

Registration processing for the Congress involved the recording of registration forms containing attendee's address, tour information, and payments received. Periodic reports of registration lists were distributed to Congress Management to aid in the planning of tours, and the scheduling of facilities. This data base component was used to form a distribution list of attendees for the Congress.

The final phase of information processing involved an automated facility to aid Congress attendees in retrieving abstract information while at the Congress. This facility served as a demonstration of the feasibility and usefulness for such a service to attendees. Interested persons were allowed to query a computer system by entering one or more predetermined "topical areas" relating to the Congress proceedings and obtain information about the paper, such as author, abstract text, and sub-theme and session number.

USE OF COMPUTER TECHNOLOGY

Developments in the area of microcomputer systems since 1983 has brought to the office environment powerful and flexible computing capabilities. Many of these technologies were used in information processing for the Congress. These include; microcomputer workstations, optical character readers, relational data base management systems, personal computer local area networks, and laser printing devices. The ability to integrate these devices into a cohesive environment provided a low cost, yet effective, automated system. A diagram identifying the major components of the information processing environment is presented in Figure 3.

DATABASE DESIGN

The CIB.86 Congress database management system was developed in a relational database system environment. Since the information could be easily divided into separate entities (e.g. abstract phase, manuscript phase, registration), efficiency was achieved by structuring information in tables representing the different phases. To link information contained in each table, two key fields were established. First, a unique number (name-key) identifying each participant or attendee was established for the tables containing Contact, Abstract and Manuscript information. A unique key (id number) to identify each abstract and manuscript was placed in the Abstract, Manuscript, and Abstract Text tables. Figure 4 identifies the tables and their linkages. Subsets of the database could easily be generated by "joining" elements of tables together, forming new table entities. This process improved the reporting capabilities and processing efficiency by reducing the amount of information required for activities such as sorting and generating summary statistics.

DATABASE MANAGEMENT

The database management functions for the Congress entailed two major activities. The first involved the manipulation of computer stored information and the maintenance of files containing correspondence. This work was performed by administrative staff assigned to the support of the Congress activities. Approximately 2.3 staff years were required for this function between February 1985 through September 1986. It is estimated that an additional 2 staff persons would have been required to process Congress information without the use of the automated system. Additional resources were also needed for database design, testing, data entry and reporting during the various phases, particularly during peak periods for processing abstracts and manuscripts. This work required one-half of a staff year, obtained from available computer staff.

The second major activity related specifically to computing functions. These activities involved the selection of computer hardware, computer software and support of these resources. Assistance from in-house computer staff was obtained for these functions. An estimated one-fourth staff year was required.

DATABASE RETRIEVAL

Database retrieval for the Congress was provided for operating staff, congress management and working committees. A key element in the retrieval process was the ability to obtain reports quickly. Examples of these reports included:

- name and address reports
- country distributions for attendees and participants
- sub-theme and session number reports
- progress reports on abstract and manuscript processing
- registration reports for tours
- work copy reports for operating staff
- abstract retrieval for congress attendees

Internal reports were developed using specifications from Congress management and on an as-needed basis for the operating staff. Typically, these would include author, title, and the status of abstract and manuscript reviews.

More formal reports identifying country distribution of attendees/authors were distributed to representatives from other countries interested in assessing their country's participation in the Congress. These reports contained specific attendees/authors addresses and manuscript status.

The final retrieval process to be described involved the development of a capability to allow Congress attendees to view information relating to authored papers on a computer screen at the Congress. Each abstract published in the Congress proceedings was read into the computer using an optical character reader, stored in the database, and assigned a "topical area" enabling it to be retrieved. These topical areas identified each paper as belonging to the specific Congress sub-theme and technical session. A screen display or printed report containing author, title, and full abstract text could be obtained through the retrieval process. This process was developed to aid the attendee in obtaining a quick view of selected papers from the Congress proceedings.

SUMMARY

An automated database management system developed for processing information for a technical conference has been briefly described in this paper. The advantages of this automated system were; reduced staff time to process information was required ; reporting mechanisms were improved; enhanced services to Congress attendees was possible, and important data for future CIB Congress activities was preserved.

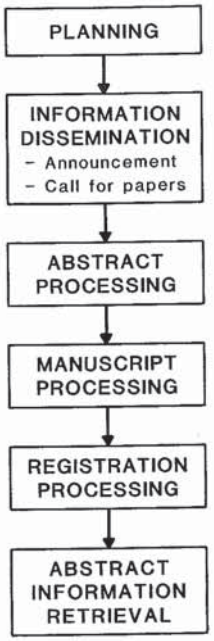

Figure 1: CIB.86 Information Processing Phase

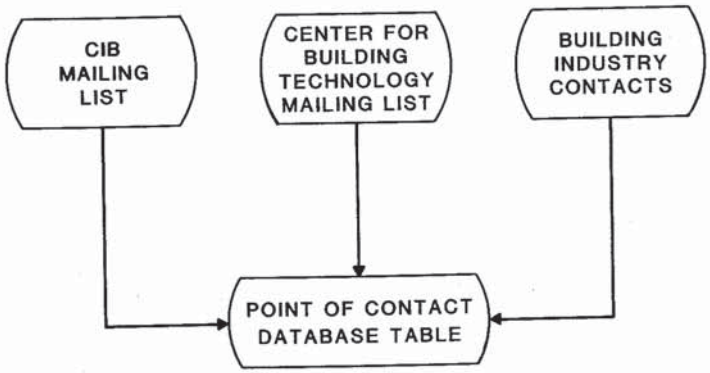

Figure 2: Point of Contact Information Sources

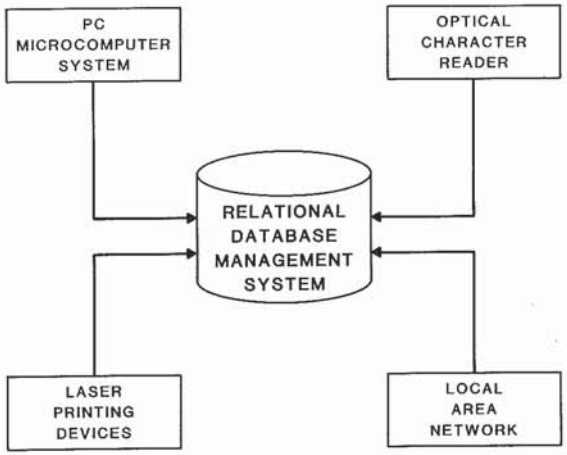

Figure 3: Information Processing Environment

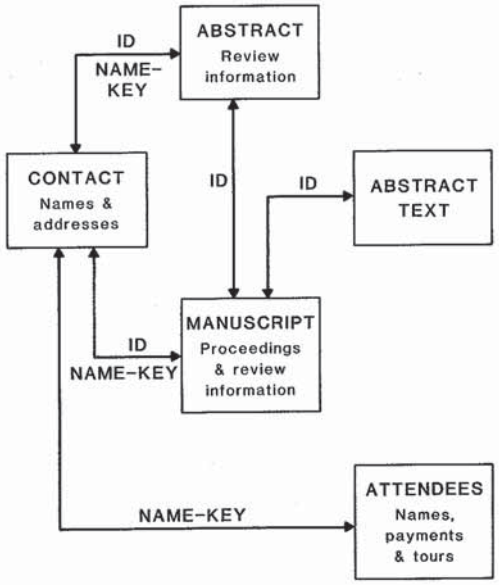

Figure 4: CIB.86 Database Tables