

CURRENT AWARENESS SERVICE AT THE INDIAN INSTITUTE OF SCIENCE*

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INTRODUCTION

THE exponential growth, in the past decade or so of the rate of scientific and technological progress as well as the number of research workers has led to what is generally called the information explosion. This information explosion has resulted in a steep increase in the number of relevant and important journals and reports in any particular subject field. The browsing time required for a scientist to extract information, relevant to keep abreast of the required field, from the large volume of literature, through conventional means will be unacceptably large. This problem is circumvented by resorting to modern techniques of computerised information retrieval from commercially available information data bases such as INSPEC, BIOSIS, GEOREF etc. Realising the importance of the computerised current awareness service, the University Grants Commission has started the *Universities Centre for Science Information* at the Indian Institute of Science for the scientists working in Indian Universities. The experience of the authors in implementing in-house, the requisite software on DEC-1090 for the INSPEC data base, is presented briefly in this paper.

INSPEC DATA BASE

The INSPEC data base is a bimonthly tape service covering the areas of Physics, Electrical, Electronics, Computers and Control. Each tape has about 3000–6000 records. Each record gives information about an article starting with its title, authors, issue of the journal, index terms, journal name and authors' affiliation. The abstract of the article is also part of the record. The data is recorded in the industry standard IBM format.

USER PROFILE

In order to arrive at the precise topics of relevance, the information regarding the research program pursued, keywords, journals and authors often referred by the user are collected through a detailed questionnaire

sent to the users. From this information, each user's profile is created and an entry made in the user data base. The user profile can make use of logical AND, OR and NOT relationships between specified index terms, in order to ensure a precise definition of the profile. A sample profile of one of the users is given in table 1.

Table 1 *A typical user profile entry*

Name of the user: Dr. V. H. Kulkarni
 Address: Department of Physics,
 University of Bombay,
 Bombay 400 098.

Total number of search keywords: 11

Input profile as logical expression:
 ((Radar Applications) and (Sea Water)) or
 ((Radar Applications) and (Ocean Waves))
 or ((Radar Applications) and (Tides)) or
 ((High Frequency Effects) and (Radar
 Cross-Sections)) or ((Radar Equipment)
 and (Radar Cross-Sections)) or (Null Key)

CURRENT AWARENESS SOFTWARE

The IBM compatible INSPEC tape is first converted into the DEC format using one of the system utilities. A FORTRAN program scans the records characterised by a sequence number and generates two files *viz.* the search file and the print file. The search file contains the index terms, authors and journal names for each record. The print file has the complete information including the abstract. The two files are linked by the sequence number of the records. The entries in the user profile data base are matched against each of the entries in the search file by a COBOL program. Hashing of the strings to be matched is resorted to in order to effect a faster and more efficient search strategy. Whenever an appropriate match is encountered, the corresponding sequence number of the record is entered against the user. The selected record numbers of each of the users is then passed on to another subroutine which generates the print out of all the details of the articles of relevance including the author's name, affiliation, journal title and issue, abstract etc. Care has been taken so that the printed

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outputs are presented in a pleasant and easy to digest format.

FEEDBACK FROM THE USER

The success of the current awareness service depends to a large extent on the feedback obtained from the users. This will aid in ensuring that the user gets all he wants and nothing irrelevant. This is achieved by sending the users a print out of his profile entry with all the Boolean connectives besides the relevant abstracts. The user in turn informs the Centre of the relevance of the abstracts he received and this feedback is then used to tune his profile entry. Our experience has been that

most users are able to settle on their exact requirement in utmost two or three trials.

CONCLUSIONS

The software that has been developed is fairly versatile and most of the data bases could be run using this, provided a few subroutines are rewritten. Presently, this is being tried out in the case of BIOSIS, GEOREF and GEOARCHIVES with encouraging results. There are presently about 100 users in Physics from the Indian Universities and the number is steadily increasing.

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