COMPpsych: A computerized software information system

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This paper describes the development of COMPpsych, a computerized system to disseminate information about software dealing with all aspects of psychology. The need for such a service, the various components, and the general operation of the system are described. The system will contain a catalog of commercial and public domain software, a library of freeware, a directory of computer users, and a bulletin board.

Two years ago we began integrating computers into our undergraduate psychology curriculum. Our attempts to locate suitable software and individuals who were knowledgeable in the area proved to be very time-consuming, somewhat unproductive, and rather frustrating. We began our search by attending the 1985 annual meeting of the Society for Computers in Psychology. We expected to obtain information on available software and were particularly excited about the possibility of obtaining freeware. Instead, we found many people who seemed to be as frustrated as we were. Although there was a lot of talk about the desirability of a comprehensive listing of software, none seemed to exist. The status of the freeware was more discouraging. Although many people were developing programs for their own use and were quite frequently willing to share their products, most of these programs were still under development, had significant bugs in them, and were not supported by documentation. Often, the developers are able to use such programs by circumventing the problems, but for the naive adopter they are virtually useless. The unfortunate thing is that many of these programs may be quite exciting and, with some concentrated effort, may be developed into really valuable materials.

During the next 2 years we amassed a large collection of catalogs, fliers, and advertisements. In consulting these marketing materials, however, it was usually impossible to determine instructional value prior to purchase. Most of the software suppliers were unwilling to provide examination copies of their products. We ordered several packages and quickly discovered that there were often large discrepancies between the promise and the product.

Some of the packages had not even been developed prior to the advertising campaigns, some were delivered with units differing from those advertised, and some had major defects. None of the packages we acquired had sufficient documentation. We could probably have avoided many of our problems if we had been able to locate published reviews of the software.

The fact that we were not alone in our frustration was obvious when we attended the 1987 conference for the Teaching of Psychology. Many of those in attendance were trying unsuccessfully to find useful software as well as to locate people who were currently using software in their classes. Despite the obvious need, a central clearing-house for this information simply did not exist.

We are currently designing and will soon implement a computer-based system (COMPpsych) for distributing information about psychology-related software. The remainder of this paper is a progress report on the current status of the project.

General Description of COMPpsych

COMPpsych will be housed at the State University College of New York at Oswego and will be accessible through electronic networks such as BITNET, ARPANET, and UUCP. It will also be directly accessible to anyone with a microcomputer and a modem through normal telephone linkage. The system will provide four major services: (1) a reference catalog to provide descriptive information about available software, (2) a library of freeware for downloading, (3) a directory of software users, and (4) a general bulletin board service for sharing information among users. COMPpsych will provide beginners with easy access to information on available software. Advanced users will be able to keep abreast of current developments in their areas of specialization. The system will facilitate communication among people working in the same areas, and hopefully stimulate increased produc-

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tivity, reduce redundancy, and advance the use and quality of psychology software.

Systems containing some of the features we are implementing have recently been developed for other disciplines. For example, NETLIB is a clearinghouse for mathematical freeware (Dongarra & Grosse, 1987), and Isaac (Information System for Advanced Academic Computing) will serve as a clearinghouse for information about the use of IBM-compatible software and hardware in higher education. COMPsych is unique in that it concentrates on one discipline, will provide a full range of services, and will be comprehensive in that it will cover all hardware systems.

The Software Catalog

The central component of COMPsych will be a topically organized catalog listing available software of interest to psychologists. We anticipate that this will include software for instruction, statistical analysis, on-line control, and psychological assessment. The catalog will include commercial products, as well as those available in the public domain. Each listing will contain a brief description of the program or package, taken from the available advertising for the commercial packages and from information provided by the individual developers of freeware. There will be a record of the individual or commercial contact for each listing, along with a statement of price or other requirements for acquisition of the product. For each product, where applicable, there will also be a statement of hardware requirements, programming language, necessary support software, date of development, and date of inclusion in the catalog. A final feature of this catalog will be a collection of users' comments on each program. We anticipate compiling the initial listing of commercial software for this catalog from a variety of sources, such as the software guide produced by the Academic Computing Center of Gettysburg College (1984); the CONDUIT, Life Science Associates, and COMPRESS catalogs; and published reviews of software, especially those contained in *Behavior Research Methods, Instruments, & Computers*.

Freeware Library

The second component of the system will be an actual library of freeware, identified in the catalog, that will be available for downloading. We will welcome any submissions of programs by individuals for inclusion in this library. A submitter can elect one of several options concerning his/her contribution. Individuals may choose to provide only the information necessary to list their items in the catalog and require that anyone interested in using the program contact them for more information. This would ensure the establishment of direct communication, provide the opportunity to discuss unique features, and/or facilitate the distribution of supporting documentation. A user also may submit a compiled version of the program that would allow others to use their product, but not alter it. Finally, individuals may be willing to submit their work

in a standard programming language and encourage others to use and modify it. Sharing of programs among users should result in the improvement and further development of software and significantly upgrade the quality of freeware. Currently, many people may be developing similar programs. Although these programs may be incomplete and may still contain programming defects, individuals interested in a product for a specific purpose will be able to pool their efforts and thereby produce a really efficient program rather than create redundant, and possibly poor-quality attempts, which they subsequently abandon. When submitting personally developed programs for the library, individuals will be required to provide the information necessary for the catalog, indicate the level of development of their program, and identify any known problems. Even a product with some flaws may be helpful to someone else.

User Directory

A directory of users and their areas of interest will be organized, both topically and geographically, from information provided by individuals who desire to be listed. The directory will include such information as physical and electronic addresses, current teaching and research interests, hardware systems, programming languages, particular areas of expertise, and other significant information. The availability of a directory of this sort should facilitate collaboration with others of similar interest. It will greatly simplify the task of locating individuals who are active in using computers in their psychology courses and research.

Bulletin Board

Finally, COMPsych will include a bulletin board for communication among users. This feature will be fully interactive and will allow individuals to read, copy, or add to the information already present. This bulletin board will serve as a means of disseminating information concerning new products, upcoming conferences, and other current items of interest. The bulletin board will also be available as a forum for a discussion of current problems concerning hardware, software, or courses. We suspect that some topics that are initially handled by this bulletin board will eventually be developed into discrete components of the system. This will enable the system to grow to meet the needs of the users.

General Operation

COMPsych users will have a variety of services available. They will be able to access the database and obtain a listing of available software related to their needs. This can be accessed by topical area, date of inclusion (e.g., acquisition since last log-on), hardware requirements, or other categories included in the system. Users will be able to get a listing of individuals included in the directory based on geographical location, area of interest, or another criterion. Individuals will also be able to contribute their programs for inclusion in the freeware library, download

programs they are interested in, comment on software, submit items for the bulletin board, and suggest programs for inclusion in the catalog.

Except for the use of the bulletin board, all user submissions will be reviewed before being placed into the system. Initially, the three authors will serve as the editors and will screen the contributions to ensure that they are complete and contain the required information. This will also provide a check against possible copyright infringement and the submission of inappropriate materials. Following the initial implementation of the system, we anticipate establishing a panel of editors to review submissions in their particular areas of expertise. These individuals will be able to operate out of remote locations and input their comments to the central system.

The information available through COMPSych will only be available electronically. We will not handle hardcopy. There will be two methods of access. Anyone on an electronic mail network (BITNET, ARPANET, or UUCP) will be able to contact the system with their request for information. This request will be filled, and the information will be delivered to their mailbox. Although this mode of use is not interactive, it is particularly well suited to handling submissions to the system. The other means of access will be directly through the telephone system via a modem or other communication device. We anticipate the acquisition of a toll-free number for this purpose, which will significantly reduce the costs to users.

We are currently negotiating with vendors to fulfill our hardware needs. We anticipate operating COMPSych from a dedicated microcomputer. Our primary concern is that this unit be capable of expansion to allow the system to

grow with the demands placed upon it. The software needed to support this system has been acquired and can be modified easily to meet our specific needs.

Expenses for acquisition of hardware and initial program development and cataloging of information will be covered by grants and direct contributions from vendors. In order to maintain the system, we anticipate requiring an annual fee from users, similar to that required for a journal subscription. We will offer several subscription options to individuals, based on their anticipated use of the system. Each user would indicate his/her potential use: read only; read and download; read, download, and contribute. They would receive a password suitable for that purpose and be charged accordingly. We are also considering the option of simply charging a minimal fee each time a user downloads a program. This fee may also be offset when the user makes a freeware contribution.

We anticipate initial implementation of this system early in 1988. Since this is an ongoing project that is capable of adapting to user needs, we are actively soliciting suggestions and recommendations for additional features and possible modifications. Any comments concerning this project should be sent to the senior author or directly to COMPSYCH@SNYPLABA.BITNET.

REFERENCES

- ACADEMIC COMPUTING CENTER OF GETTYSBURG COLLEGE. (1984). *Computing in undergraduate psychology: A practicum. Software guide*. Gettysburg, PA: Author.
- DONGARRA, J.J., & GROSSE, E. (1987). Distribution of mathematical software via electronic mail. *Communications of the ACM*, **30**, 403-407.