TRENDS IN COMPUTER INFORMATION SYSTEMS

A CAREER IN COMPUTER INFORMATION SYSTEMS TODAY HAS BECOME QUITE DIFFERENT FROM THE SAME CAREER FIVE YEARS AGO. UNTIL THE EARLY 1980S A STUDENT WHO GRADUATED FROM A COMPUTER PROGRAM WAS INVARIABLY aiming for a job in computer programming. With the advent of personal computers and other advances in computer software, this career path is changing significantly.

While computer programming as a profession is still important in business, there are many new opportunities opening up in the Information Systems area. Employment opportunities for current graduates range from programming to systems analysis, personal computing advisor, data entry, and management trainee. This trend points to a significant revision to the types of courses a student can expect to take in an Information Systems program.

Today's graduate is expected to be much more familiar with the operation of the company and the use of data to achieve the company's goals. Because the Information Systems department is central to the operation of the company, a career in this field positions the graduate in a job that offers exposure to many of the corporate operations, thus making possible many opportunities for advancement.

A recent article in *Computing Canada* indicates a continuing demand for computer professionals. The article quoted a study by the Technical Service Council (TSC) in Toronto. A report which covers the time period from April 30, 1986 to July 31, 1986 shows systems analysts and computer programmers to be among the most in-demand positions in business.

Community colleges are keeping abreast of these needs (see editorial in this issue) and have developed programs which address the variety of emerging career paths. At the same time they provide a strong foundation in information systems.

Humber College, for example, offers a three year program in Computer Information Systems (CIS) with an optional profile in Information Systems Administration. Furthermore, those students who qualify may opt to complete this program in co-op format and experience two four-month work term semesters. The business experience gained is a valuable asset toward achieving the student's major goal – finding a job upon graduation.

In summary then, the proliferation of computers in business has created great diversification in information systems careers. There is more involved in computer careers than programming.   < >

EDITORIAL . . .

SPLIT SCREEN – A NEWSLETTER OF INFORMATION SYSTEMS – HAS BEEN DESIGNED TO KEEP YOU ABREAST OF THIS EVER-CHANGING, DYNAMIC FIELD: A FIELD WHICH HAS BECOME SO NECESSARY FOR THE SURVIVAL OF TODAY'S businesses, both large and small.

The use of computers in business has come a long way in the last thirty years – further even than the most imaginative of us could have dreamed in the early days of UNIVAC and the IBM 650. Today, more power than was ever available in large, early computers is now resting in the personal computer found on thousands of office desks across the country.

And it is not going to stop here. Generations of computers have come and gone. And yet another is on the way. Programmers have evolved from those who hardwired circuits, through low-level assembly experts, high level COBOL and RPG programmers, to those able to develop business procedures in fourth generation languages. Now, on the horizon, are the fifth generation/artificial intelligence languages which, for all intents and purposes, will be almost the same as conversational English (or French, or Japanese).

But throughout these various stages of development, there has been a need for a personable to understand the capability of the computer as well as the business (or other) procedures for which it is to be used. This person is the Information Systems professional: the programmer, the data security expert, the teleprocessing wizard, or the specialist in microcomputer packages. Now, more and more businesses are able to take advantage of the computer

A FIRST IN NORTH AMERICA

FOCUS IS A POWERFUL FOURTH GENERATION DATABASE MANAGEMENT SYSTEM LANGUAGE ORIGINALLY DESIGNED FOR USE ON MAINFRAME COMPUTER SYSTEMS. ITS 4TH GENERATION CAPABILITIES MEANT THAT BOTH PROGRAMMERS and non programmers could use its facilities to develop applications in the business environment. When IBM announced its personal computer, Information Builders Inc. of New York began to develop a PC version of FOCUS that could be used in virtually any business environment that used an IBM PC.

Humber College saw this development of PC FOCUS as an opportunity to implement it in the 4th Generation Language Course in the Computer Information Systems programs. By using FOCUS, students would gain expertise in a leading software package for mainframe systems and at the same time enhance their knowledge of personal computing.

A major concern with the use of expensive software packages on personal computers is the copy protection of the suppliers' software. In a room full of personal computers it is a difficult administrative task to supply each student with a copy of the program and yet protect the software supplier from illegal copying of their program. To avoid this problem Humber College has installed several JANET networks (designed by WATCOM at the University of Waterloo) to supply the software to the student's computer. FOCUS is no exception, and in May of 1985 it was first installed on a JANET network in the Computer Applications Learning Center.

The software for FOCUS resides on a hard disk and is transmitted to an individual PC that a student is using. These PCs, about 30 per network, do not have floppy disk drives and so the program cannot be illegally copied.

When PC FOCUS was first installed it was not without problems. In fact, the Humber College installation was the first time in North America that PC FOCUS had been installed on a JANET network. Infobuild was very cooperative in the early stages to supply the support needed for an effective system. Initially, problems centered around the need for an activator disk on the main file server so that FOCUS could be booted from the A: drive. Using an activator disk on a network proved to be awkward and so the next step was to install an accelerator board containing a security chip. This board eliminated the need to boot from a floppy disk.

By the spring of 1986 PC FOCUS version 1.5 was available and was installed on the system during the summer of 1986. With Infobuild's support the software was now functional and being used on a regular basis in our 4th Generation Language Course. About this same time IBM announced plans to support JANET as an official educational network and so now technical support is available from both Infobuild and IBM.

The installation of PC FOCUS on JANET is unique because students have access to a real rather than a virtual disk drive. Logical space in FOCUS is actual physical space on a 30M hard disk which is something most other networks do not offer. Using FOCUS on the PC network is sometimes a slow operation, especially when more than 10 users are accessing PC FOCUS at one time. This is due to the sheer size of the software necessary to run FOCUS and that it is not unusual for as many as 25 students to be using FOCUS at one time.

With the PC FOCUS installation, students in Humber College's Information Systems program will graduate with a knowledge of an important 4th generation language. FOCUS on the PC is delivered in a manner consistent with the mainframe system and so students will be able to easily adapt to either a mainframe or PC use of FOCUS. Use of PC FOCUS to create a database requires a reasonable level of computer literacy with some concept of database terminology. For users of existing databases, FOCUS is a user friendly package and has a feature called TableTalk that greatly simplifies the use of the system for the inexperienced user. Once the basics are mastered the user may then enter commands directly to FOCUS for greater efficiency of operation.   < >

resource. And, to ensure that the resource is understood, managed, and used effectively and efficiently, this person is increasingly in demand.

The field is changing rapidly – as rapidly as the computer and its associated software develops. This newsletter will help keep you up-to-date with developments and, more importantly, with the ever-expanding associated career paths as well as the training necessary to enter this challenging and rewarding area.

Your comments, criticisms, suggestions and contributions are solicited. This is your newsletter. Welcome.   < >
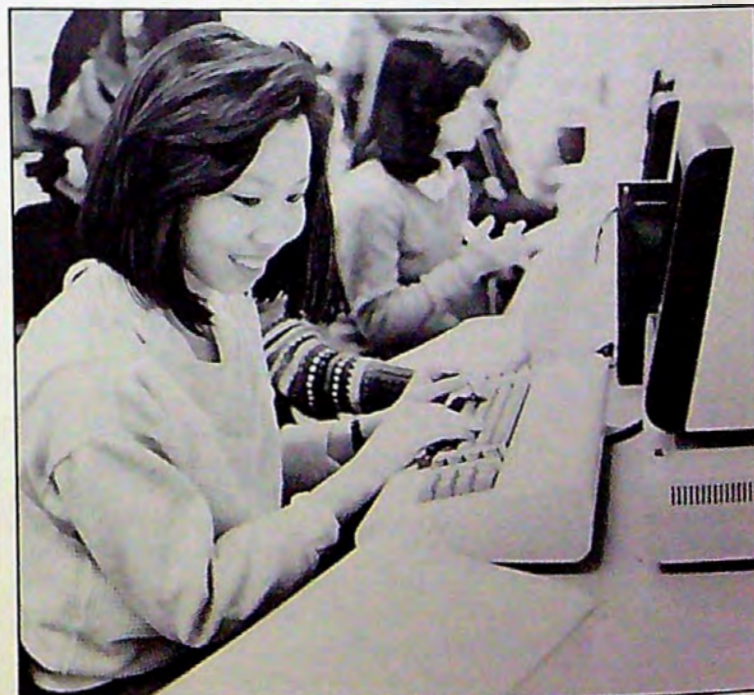
AUTOMATED ATTENDANCE SYSTEM

IN SEPTEMBER 1985, MR. JOHN BROWN, THEN VICE-PRINCIPAL AT BICKFORD PARK HIGHSCHOOL IN TORONTO, CONTACTED HUMBER COLLEGE PROPOSING THAT HE USE THE TALENTS OF SOME OF THE STUDENTS IN THE COMPUTER PROGRAMMING program to assist him with a problem. Bickford Park was using a manual system to track absenteeism, late arrivals, early departures, and skips. and Mr. Brown discovered that this process was time-consuming. He was hoping that the system could be computerized to some degree using the school's ICON computer.

Mr. Brown was put in touch with a team of three final-semester computer programming students: Dave Brown, Adrian Venuti, and Arlene Chrisztopulosz. With the blessing of the College, they set about to help him with his problem.

The original intent was to write the system in BASIC using the ICON, but a number of hardware and software constraints made that approach difficult. It was then decided to use dBASE III software and a personal computer to provide a statistical analysis of attendance patterns on a daily, monthly, and semester basis.

Currently, the Automated Attendance System is composed of fourteen different programs and approximately ten to twelve files. Reports produced include a master file report used to inform each home-room teacher of the attendance number for his/her students; a daily class attendance report listing all absent or tardy students; a daily attendance summary report featuring a synopsis of those students who missed periods during the day; as well as month-ly and semestered statistical reports.

Work began on this project in the fall of 1985 and has continued to the present time. The expected completion is scheduled for Fall 1986. The length of time taken to complete this project is due, in part, to the fact that it was undertaken while the project students were in school. So, in essence, for them the Bickford Park project was a part-time volunteer job.

At last report all parties were satisfied with the progress being made and it is hoped that the Automated Attendance System will soon be making life easier at Bickford Park High School. < >

STATE OF THE ART EQUIPMENT

EFFECTIVE INFORMATION SYSTEM TRAINING REQUIRES THE USE OF THE MOST RECENT AND UP TO DATE COMPUTER HARD-WARE AND SOFTWARE. IN THE PERSONAL COMPUTING COURSES FOR BUSINESS AND INFORMATION SYSTEMS studies, the College provides a Computer Applications Learning Lab (CALL) with approximately 150 IBM Personal Computers. These computers are used by students to learn the art of wordprocessing packages, spreadsheets such as LOTUS 1-2-3, database applications with dBASE III, and other personal computing activities.

Much career training necessarily revolves around the mainframe computer system. It is the mainframe and its applications that provides many of the professional career opportunities in the Information Systems community. Humber College's mainframe computer is an IBM 4381 with sixteen million bytes (characters) of main memory. The system uses 12 disk drives with several billion bytes of capacity, 5 tape drives, and several printers ranging from a band printer to a laser printer for high quality output. There are about 100 terminals available on this system for student use and a similar number are located throughout the College for administrative use. < >

PROLIFERATION OF COMPUTERS IN BUSINESS LEADS TO NEW CAREERS IN INFORMATION SYSTEMS

R EPRESENTATIVES FROM COMPUTER HARDWARE MANUFACTURERS, SOFT-WARE COMPANIES, THE TELECOMMUNICATIONS INDUSTRY, COMPANIES USING INFORMATION SYSTEMS, INFORMATION SYSTEMS PROFESSIONAL ASSOCIATIONS, federal and Ontario Governments and Ontario colleges met recently to identify emerging information systems careers and to discuss and recommend approaches for greater coordination of programs presented in the colleges.

One of the key recommendations proposed that a training profile be developed for the occupation identified as a Systems Software Programmer. A person in this area of information systems is responsible for the evaluation, installation, testing, customizing, and implementation of mainframe computer and microcomputer software products as well as troubleshooting software product faults where necessary. Also involved is plan-ning the capacity of a system, monitoring its performance and developing required system application programs.

The saying "a rose by any other name..." comes to mind here, and no matter what specific job title a given organization may associate with this particular function (and this will vary from one company to another), the generic term of systems analyst would still seem applicable. Such job performance objectives as identifying user requirements, conducting feasibility studies, developing system specifications and a system model, analyzing data collected, updating operating procedures, evaluating test results and so on are included in the major tasks of this professional. All tasks are consistent with those of a systems analyst. And even though the stress is on commercially-available software, modifications to these packages and even new application developments are within the domain of this activity.

What is significant is the anticipated growth in this occupation, resulting in an increase in training requirements. This has been indicated by, among other things, the 1984 report "Employment Prospects of Computer Programmers" issued by the Technical Service Council. The report shows a 134 % increase in Systems Software Programmer positions in the next five years. Significant, also, is the addition of this occupation to the list of *Occupations of National Importance* in December 1984. < >

Co-Op Education in Computing and Information Systems

MOST EDUCATORS WOULD AGREE THAT EFFECTIVE TEACHING CONSISTS OF SOME COMBINATION OF LECTURING, DEMONSTRATING AND ACTUAL STUDENT "HANDS-ON" ACTIVITIES. SOME WOULD PROBABLY GO FURTHER AND SAY THAT the best way to learn is to actually "do." In the rapidly changing field of computing and information systems "doing" is definitely a top priority.

Can you imagine, for instance, trying to learn a spread sheet software package such as Lotus 1-2-3 merely by listening to a lecturer talk about how to use it? Or even merely supplementing the lecture material with demonstrations? The only way to gain a basic understanding of Lotus 1-2-3, or any software package for that matter, is to actually work with it. And the same reasoning can be applied to most areas of learning in the information systems field — programming, systems analysis, systems design, project management and so on.

Resourcing these academic programs can become quite expensive, especially since hardware and software is quite variable, and continually changes from year to year. Because of this, most academic institutions cannot always provide the full range of facilities for student learning which are representative of the variety of operating environments available in the commercial sector. However, with the help of business and industry this problem can be addressed.

In most co-operative education programs a student spends two or more semesters actually working for a company on a salaried basis. This not only gives the student experience in what is probably a different operating environment, it also extends the "doing" aspect of the "listening – demonstrating – doing" process previously referred to. No matter how well a college course is designed, nothing can replace the actual on-the-job experience that a co-op work term can provide to the student who actually works with real problems rather than those simulated in the case-study environment which is typical of many college courses.

Even though performing, for example, a Lotus 1-2-3 exercise or applying it in a case study environment at college is definitely a worthwhile learning tool, actually using the package on the job during a work-term is an invaluable and rewarding aspect of a student's training.

Following completion of a co-op program a student will often find a full-time job offer awaiting him from his co-op employer. Even if this is not the case, the college graduate from such a program has experience as well as a college education to add to his resumé, thus making him or her available to apply to a greater number of job postings including those which specify "previous experience necessary."

From the employer's viewpoint there are several benefits to be derived from participating in a co-operative program. Objectives achieved are both short and long term. In the short term there is the employment of productive employees on a work term coupled with the opportunity to contribute to the training of future professionals, while in the long term it enables more efficient recruitment of full-time professionals pursuant to planning needs.

This also lowers the cost of recruitment for both temporary and permanent employees. The hiring risk is reduced since observation of performance is superior to academic grades or references in determining the potential of a prospective employee. Work term students may also be given short term assignments for which it would be impractical to hire full-time employees. This also permits regular staff to devote their time to projects more commensurate with their talents. Finally co-op students provide temporary assistance for peak periods, vacations and the completion of projects which are "on the shelf" due to lack of personnel.

Another advantage inherent in this process is the continuous feedback between college and employer. This enables programs to remain current to the needs of business and industry. As previously mentioned, this is critical in the area of computing and information systems. In addition, co-op employers enhance their corporate image since the co-op student serves as a goodwill ambassador for his/her employer. Thus co-operative education is beneficial to everyone concerned; the employer, the student, the college, and in the long run, the community.

Co-op programs in computing and information systems at Humber College fall into two categories — a two year stream and a three year stream. The two year program, Computer Programming Co-op, is available to an applicant who has at least two years work experience (in any field), or two or more years of university. The three-year program, Computer Information Systems is available to secondary school graduates. Both programs require that the student maintain an academic average of at least 70% to qualify for a work term. All work-term placements are handled by the college student placement department.

What do students and employers have to say about the co-op experience?

David Wood, a current student at Humber, found that it provided a basis for relating academic studies to the real
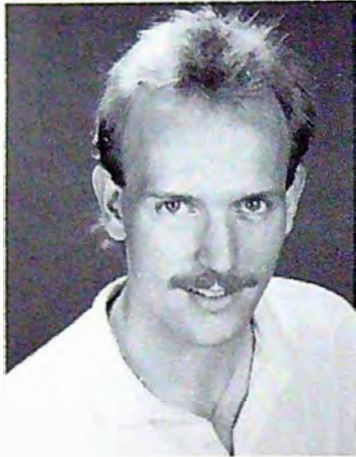
David Wood

world. He stated that "theory out of a book is difficult to relate to a real environment. The practical experience I gained from my first work term not only helped me put into perspective courses I had previously taken, it also helped to better understand the courses I am now taking following my work term."

David spent his first work term in the global securities area of the head office of the Canadian Imperial Bank of Commerce. He was involved with writing maintenance applications and producing reports using Easytrieve Plus (in an IBM/XA environment). In doing this he acquired experience in handling users' requests, examining current files and analyzing problems through to implementation. David will be returning to CIBC for his second work term.

Patty Mellen, another Humber student, was also at CIBC for her first work term. Patty worked in Data Centre Operations, part of the Systems Division. She was exposed to various software applications including DCF (Document Composition Facility), Easytrieve

Patty Mellen

Plus, Graphics Data Manager, Displaywrite 3 and electronic mail, all in a DOS mainframe environment. Patty experienced a change of supervisors during her work term and often found herself in the position of trainer as well as trainee.

Rick Welch, senior analyst in performance, planning & control of Data Centre Operations at CIBC feels that co-op students are an ideal resource for short term project work. "It provides us with an excellent method of looking at potential employees and evaluating their capabilities," he explained.

Rick was one of Pat's supervisors and remarked that she did an excellent job. Pat will also be returning to CIBC for her second work term.

CNCP employed **Shawn Chadwick**, another Humber co-op student. Shawn found that learning a new programming language on the job was simple once he had gained an understanding of COBOL programming from his course work. He was involved in maintaining parts of the telex billing system for customers of CNCP, and used COBOL and EARL (Easy Access Report Language). Shawn also gained experience in writing documentation and dealing with end-users on occasion. He was able to expand his knowledge of JCL (job control language) since the one used at CNCP was different from Humber's. He, too, will be returning to CNCP for his second work term.

The experiences of these three students emphasize the advantages of on-the-job training which is typical of a co-operative education program, and especially valuable in the field of informa-

tion systems. Employers and students find this process to be of great mutual benefit. Educational institutes also benefit in that, with the help of the co-op employer, the student's education and training receives an
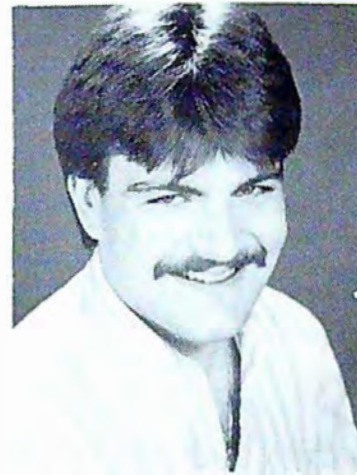
Shawn Chadwick

added dimension because of the varied hardware and software environments to which the student is exposed during his academic studies. < >

by Dave Haisell

LETTERS TO THE EDITOR

Thank you very much for the six copies of SPLIT SCREEN. We have distributed them to the Business, Mathematics and Science Departments as well as using them to add to our Occupational Information Files in the Guidance Office.

We would be pleased to receive 10 copies on a regular basis.

Thank you.

R. K. Anderson
Head of Guidance
West Hill Secondary School
Owen Sound, Ontario

I have just finished reading your newsletter "Split Screen" and believe it is excellent. It has a wealth of information for the Computer Studies teachers and students here at Bishop MacDonell High School.

Please put our school on your mailing list.

John Maschio
Coordinator
Computer Studies
Bishop MacDonell High School
Guelph, Ontario

EDITORIAL

Computer Crime on the Rise

I T HAS BEEN ESTIMATED THAT OVER A BILLION DOLLARS PER YEAR IS STOLEN BY WHITE COLLAR COMPUTER CRIMINALS IN THE U.S. AND SINCE WE GENERALLY DIVIDE BY TEN WHEN DERIVING BALL-PARK CANADIAN FIGURES, THIS WORKS OUT TO a hundred million for this country.

No wonder awareness of the need for computer security is increasing. In fact, the Computer Security and Resulting Goods and Services report estimates that gross sales of computer security systems could more than double by 1991. Most businesses have been unaware of how easily they can be hurt by computer crime. But, with more and more reports of prosecutions, this is slowly changing. Today criminals are not limited by the physical size of their bounty. For instance, the average bank robbery is around $10,000. But electronic transfer of funds allows almost unlimited amounts of money to be taken. The average computer crime loss is around $300,000, although this is difficult to determine since it is obviously based upon reported incidents only.

One of the problems in prosecuting computer crime has been the lack of a clear definition of what constitutes evidence. Another involves the question of jurisdiction: are the individuals accused of a crime subject to the laws in the jurisdiction in which the information/money transferred resides, or are they subject to the laws of the jurisdiction in which the crime was allegedly committed? And how can proof be obtained that information was stolen when it still resides in the data base from which it was copied?

These and other such problems have caused the development of clearly defined laws in the area of computer security to be slow. Four different types of computer crime have been specified: introduction of fraudulent records or data into a computer system; unauthorized use of computer-related facilities; alteration or destruction of computer information or files; and theft of money by electronic means.

One of the recent amendments to the Canadian Criminal Code makes it a crime to obtain a computer service or to intercept any function of a computer system if done fraudulently. But, surprisingly, this amendment has not resulted in an increase in prosecutions. Many companies are reluctant to take cases to court since this advertises that their security systems are faulty. However, what is probably the first case in Canada was tried last summer, resulting in a conviction and a one-year suspended sentence. The case involved two men from Drummondville, Quebec, who were accused of fraudulently obtaining computer services, illegally intercepting one or more functions of a computer service, willfully modifying data by adding codes or passwords, willfully interfering with the legitimate use of a computer's data by listing some programs, conspiring to obtain computer services fraudulently, and attempting to intercept the functions of a computer.

Even though the illegal accesses in this case were not considered serious because no actual destruction of files or theft of data was involved, this was a test case for the new legislation and did result in a conviction. Unfortunately, the judgement was delivered orally and hence did not receive as much publicity as it would have had it been written.

As with all crime, prevention is much more profitable than relying on the courts for judgement. As a result, companies are placing greater awareness on computer system security. In fact, professional associations dealing with this one aspect of information systems are emerging. For instance, the Computer Security Institute based in Northborough, Massachusetts has been in existence since 1974 and is dedicated to providing the professional with the most up-to-date information on computer security. They also provide workshops, seminars, and training programs on various aspects in the field.

College programs are recognizing the importance of this field in their curricula. Humber College, for instance, offers a course in Systems Audit, Control, and Security in our two and three year Information Systems Programs. And, in conjunction with Monroe Community College in Rochester, New York, we have developed a continuing education course in system security which we offer in the evenings.

Currently much computer crime goes undetected and most cases which are detected are never prosecuted. Of those which are prosecuted, only a small percent result in convictions. Updating and a better definition of computer crime laws must go hand-in-hand with the development of systems designed to detect security infractions. This is going to require a cooperative effort involving business, computer professionals, the legal profession and those responsible for conducting criminal investigation. Business in North America can't continue to lose over a billion dollars a year to computer crime. It costs all of us. And the solution must start with education. < >

WHY TEACH COBOL IN 1987?

STUDENTS OF COMPUTER SCIENCE AND INFORMATION SYSTEMS ARE BEING EXPOSED TO STATE-OF-THE-ART LANGUAGES IN TODAY'S PROGRAMMING COURSES. LANGUAGES SUCH AS PASCAL, C, AND MODULA ARE GAINING WIDESPREAD ACceptance as competent tools for program development. Fourth generation languages such as Focus for the mainframe and PC and dBASE III Plus for the PC are also used for applications development when user interaction is important. Why then should a classic language like COBOL be taught in current courses when seemingly more advanced tools are available?

The answer to this question is both a practical one and one with academic considerations. The practical consideration concerns employment. Over 80 percent of the computer applications in business have been developed in COBOL and some of these systems go back as many as 20 years; a few even more. This represents a significant investment by corporations into information systems that are used on a daily basis.

Although new applications are frequently developed with fourth generation or other languages, most of the existing ones in COBOL are continually updated. This means that information systems professionals need to be fully competent to work within the framework of the COBOL language. Often they also need to know other languages that will be interfaced with the existing COBOL application. Interestingly enough, many interactive applications that use a display screen and interface with a data base are written in COBOL. But, due to COBOL's limited ability to work with terminals or data bases, other languages such as CICS (for the terminal), ADABAS and TOTAL (for the data base) are required. Thus

the student who is aiming for this profession will need competence in both COBOL and several other languages.

Let's think of languages in the light of other disciplines for a moment. A student who studies electronics will learn about state-of-the-art digital circuitry. But the student must first learn some basic electrical theory. Concepts such as Ohm's Law must be grasped before more complex principles are encountered. A student of auto mechanics will need to learn some basics such as changing the oil and filter and gapping spark plugs before attempting to analyze a problem with a computerized fuel injection system.

Similarly, students who want to become programmers must learn the fundamentals of this discipline. Granted, some of these fundamentals can be taught in BASIC or Pascal or some other language. But, because COBOL has built up a long tradition of programming skills development and programming standards, it presents an ideal climate to prepare a student for the business environment.

Typically, COBOL courses develop both a facility with the COBOL language and a working knowledge of the use of structured program design techniques. This knowledge includes the design, writing, testing and debugging of programs that do file processing and create printed or displayed output. Much of the COBOL programming experience in a college course includes creating reports containing head-

ings, calculations, field editing and totals, reports with one or more levels of control breaks, programs using arrays or tables, and file updating with sequential and some form of indexed files such as VSAM.

Using these methods in the development of COBOL programs results in many positive consequences. One is improved programmer productivity which is noted in the classroom and programming lab and eventually in the graduate's business career. By using structured methodology, student programmers learn to become more productive, not necessarily because they are able to write COBOL code faster but because it is written more effectively and contains fewer errors. As a result, less time is spent debugging the program and the programmer can get on with more interesting or creative work.

Another benefit taught by the use of structured techniques is a reduction in program maintenance costs. If the program is written correctly and contains few errors, less time will be spent to maintain the program if the inevitable error is found. Naturally, this will reduce the cost of maintenance in the corporate setting and employers are very interested in

---HAVE YOU HEARD?

COBOL 1987

this result when the time comes to maintain existing COBOL programs.

A second component of maintenance is the adding of new features to an existing program. If the program needs to be updated to reflect changing needs in the company, this is more readily achieved if the program is structured. By teaching these principles in COBOL, the student is ready to face realistic maintenance problems after graduation.

Another benefit of structured COBOL programming is improved program reliability. What business wants are programs that will run correctly with a minimum of errors and abnormal program terminations. Naturally, we would prefer that there be no errors and that the program always terminates correctly, but this high goal does not always reflect real-life experience. By using structured design and programming techniques in COBOL, we have a method that corresponds to the real world and will substantially improve program reliability.

Because many of our students will eventually be employed in an environment that continues to use COBOL as the foundational language for business applications, we find that it is more than up to the task of implementing good programming techniques. COBOL may not have some of the bells and whistles that are seen in some developmental languages, yet it is a language rich in features containing many strengths found wanting in some of the newer languages. Although new languages are making their way into the curriculum, and rightly so, COBOL still has a place which will likely remain for the foreseeable future.< >

by Don Cassel

NOT FOR PROFIT? WHY NOT!

A Business Management Challenge.

LET'S NOT PRETEND. NOT-FOR-PROFIT ORGANIZATIONS ARE NOT LIKE ANY ORDINARY BUSINESS. **NOT-FOR-PROFITS ARE DIFFERENT**. NOT-FOR-PROFITS (NFPs) WOULD NOT EXIST IF THERE WEREN'T A REASON MORE IMPORTANT THAN the bottom line: how do you measure the profitability of spiritual care available through church affiliation?

In Canada today, could you imagine anything more ghoulish than the Red Cross blood donor service being profit driven? How would you price the entrance fee to a home for battered women? How about an exclusive distribution system for police and fire protection based on the ability to pay?

What replaces the bottom line in the NFP sector is a system of beliefs and values. The worth added to society by the operations of NFP organizations like the United Way, the National Ballet and the Royal Ontario Museum, or the literacy programs of Frontier College cannot be "bought" at a better price.

The need for effective management in the NFP sector is multiplying. This is true for a number of reasons: diminishing government support, the spread of NFP organizations to meet a growing host of needs, and the shrinking of the traditional pool of volunteers which now has to be stretched even further.

What magnifies the impact of these shortages is the growing role the not for profits are playing in our daily lives, from health care

(hospitals and nursing homes), education (schools, colleges and universities), social services (welfare, childcare) and arts and culture (performing arts, museums and galleries). Nor does this even include churches, unions, clubs, associations . . . the police, fire departments and the armed forces! More and more of our resources go into running the NFP sector, so it behooves us to manage it all as effectively and efficiently as we can.

The management of these organizations can be improved through the application of business skills: leadership, planning, marketing, financial management, organizational behaviour, personnel, labour law, computers – the list is as long here as in any business setting. There are very important parallels between the NFP and the private sectors: churches or banks need financial controls as they both hold a public trust; theatres or manufacturers all need to know who their market is, who the competition is; hospitals as well as resource companies need computer support to meet "just on time" inventory needs.

Business skills, however, cannot simply be applied to the NFP organization and expected to fit.

The differences are, at least, as great as the similarities. For example, such a difference is reflected in the gap between administration and management. In the sense that I use it here, management entails **leadership** – a responsibility for setting goals, directions, and strategies in the light of a **duality** of responsibilities. Not only must the manager in the NFP manage his resources with an eye to financial responsibility, but he must also meet potentially conflicting goals addressing a social benefit or an artistic need. There has to be a trade-off here between these two that requires a sense of leadership that is much stronger than mere administration.

Leadership style in the NFP has as much to do with establishing consensus as it does with directing people. Because there is such a variety of com-

COMPUTERS AND PERSONNEL

WHAT DOES A GROUP OR INCREASINGLY BUSY PERSONNEL PRACTITIONERS DO TO IMPROVE THE METHOD OF CONDUCTING THEIR ANNUAL SALARY AND BENEFIT SURVEY?

CONFRONTED WITH THE PROBLEM JUST OVER SIX YEARS ago, members of the Weston and District Personnel Association, (a Member Association of the Personnel Association of Onterio) developed a rather unique solution.

The membership had been conducting their annual survey quite successfully by holding a half-day roundtable session in which salary rates were exchanged. However, the membership, recognized that this method needed to be reviewed for several reasons:

1. A growing membership
2. Continuing changes in legislation
3. A need to collect and correlate data in benefits
4. A need for all information to be tabulated for ease of analysis

The Association appointed a group of interested volunteers to investigate and submit recommendations on new directions for the Association's annual Salary and Benefit Survey. The committee did just that and now after continued fine tuning their recommendation implemented six years ago is a well accepted format.

The Association had been very involved with Humber College and its Executive acted as the Advisory Committee to the College's School of Business and assisted in developing certificate Programs in Personnel Management. As well, they gave direction on course content and development on Personnel/HRM subjects and programs taught by the School. Building on this and other interaction with the School it became a natural extension to

EDITORIAL

SEMESTERS COME AND SEMESTERS GO. AND ALONG WITH THEM GOES THE CONTINUING FLOW OF STUDENTS BEING EXPOSED TO PROGRAM CURRICULA WHICH ARE CONTINUALLY EVOLVING, SOME SLOWLY AND OTHERS MORE RAPIDLY.

In the field of business, particularly in those areas of information systems which involve the use of computers, the curriculum sometimes evolves at such a pace that proposed changes to the course of study are already being considered before the ink on the college calendar for the upcoming year is dry.

It is a great challenge to educators in this profession to be able to keep up with new developments in the field, let alone to be able to forsee requirements graduates will need in order to be employable.

The extent of this challenge is clear when one realizes that to plan and implement a major change to a course of study can take from one to two years, especially if the changes are extensive. Even revisions to existing programs involve lengthy implementations, particularly if they require the acquisition of new hardware and software resources.

But throughout all of these changes, some things stay the same. And it is essential that they do because of the rapid evolution in other areas. No amount of foresight or resourcing is going to prepare a graduate for every technical aspect of his career. Therefore it is important that his education prepare him to accept the responsibility for keeping himself abreast of the changes he will face daily on the job.

All educators should remember that although we may teach our students all the essential modern skills to the best of our ability and to the extent that our resources permit, we should avoid being caught up with modern technology to the extent that we lose sight of a fundamental requisite: teaching the important skills of learning how to think, learning how to communicate, and above all, learning how to learn. < >

by David Haisell

LETTERS TO THE EDITOR

We welcome your letters of comment on any of our articles or features and invite your suggestions for future issues. Please forward all correspondence to The Editor, Split Screen, Humber College, 205 Humber College Blvd., Rexdale, Ontario, M9W 5L7.

Would you please let me have 5 copies of SPLIT SCREEN, Spring 1987. I would also appreciate receiving 5 copies of the Fall 1987 Information and Systems Newsletter, if available. The information provided in it has been of considerable interest and help to our students.

Dr. W.R. Bergin
St. Pius X High School
Ottawa, Ontario

NON-PROCEDURAL LANGUAGES

IN THE PREVIOUS ISSUE OF **SPLIT SCREEN** WE DISCUSSED THE BENEFITS OF USING A LANGUAGE SUCH AS COBOL FOR NOT ONLY TEACHING THE PRINCIPLES OF STRUCTURED DESIGN AND PROGRAMMING BUT ALSO TO MEET THE NEEDS OF industry. While COBOL is still the leading business programming language there are significant trends occurring in new product development for business applications. One of these trends encompasses the field of non-procedural languages.

First, let's look at what we mean by a procedural language. Most people who use a computer have some familiarity with the BASIC language, a language that requires explicit instructions about when to input data, what calculations are to be done, what decisions need to be made on the data, and the necessary looping to repeat appropriate sections of program codes. The procedural languages program logic and syntax is essential to writing a workable program and careful attention to detail is mandatory.

BASIC, then, is an example of a procedural language. COBOL even names the part of the program that supplies the program logic, the PROCEDURE DIVISION. Although these two languages are quite different in many respects they are both procedural. Languages such as Pascal, C, and FORTRAN are also procedural in nature.

As mainframe computers moved into the on-line environment in the 1970's more users wanted to be able to define their own applications but many were unable or unwilling to master the needed programming skills. Programming managers were also looking for improved productivity to enable them to handle the increasing flood of user requests. To answer these needs several software companies began to

provide non-procedural languages that were easy for the user to learn and also made programmers more productive.

One of these languages, adopted by organizations such as the Canadian Imperial Bank of Commerce, K-Mart, and Munich Life, was Easytrieve from Pansophic Systems. Because many business applications required the production of reports, the early versions of Easytrieve made report production easier than using a procedural language like COBOL.

An assignment that I often give my COBOL students is one to print a report with control breaks and totals. Let's say a sales report is needed for region 4 with control breaks for each branch. In COBOL, this program might take 2-3 pages of code. The same results are achievable in Easytrieve as follows.

```
FILE SALES F 80
%SALES
JOB INPUT SALES
  IF REGION = 4
    PRINT REPORT1
  END-IF
REPORT REPORT1 TERMINAL
  SEQUENCE BRANCH
  CONTROL BRANCH
  TITLE 'SALES REPORT'
  LINE REGION BRANCH NAME AMOUNT
```

Now if you are familiar with BASIC or COBOL or some other Procedural language you will see some procedure oriented statements included in Easytrieve. The IF and END-IF is definitely procedural. But most of the statements, such as REPORT, SEQUENCE, and CONTROL are non-procedural and represent what would normally require many statements in a procedural language.

A language used in the manner that Easytrieve was used in this example is referred to as "query oriented" because it is useful to the user for making quick inquiries into the status of the database. In recent years non-procedural languages have continued to develop beyond the query stage.

FOCUS, another non-procedural mainframe language, is chock full of sophisticated features. Two of the major ones are a graphic capability and a statistics package which can also do financial modeling and permits the definition and use of database structures.

Most of these mainframe features are also available in PC/FOCUS for use on the IBM PC or compatibles. A recent development in PC/FOCUS is TableTalk which lets the user develop the application without typing commands. Instead, menus are presented where the features required in the application are selected by using cursor keys or a mouse.

PC/FOCUS is attractive to companies where the same applications need to run on both mainframes and personal computers. Coca Cola and Federal Express are only two of many such companies who are using PC/FOCUS for applications development.

Those who use personal computers exclusively also have non-procedural software available. The most widely used software in this category is dBASE III Plus. Datapro Research Corporation reports an installed user base of over 300,000 for dBASE III.

A report generated from this software is defined through the use of menus which take only a few minutes to describe a report similar to the one defined earlier. Once the report has been described it is produced with simple commands such as

USE SALES
REPORT FORM SALES FOR REGION = 4

A non-procedural language is generally easier to learn than a procedural one. The user can become productive in a much shorter period of time than with a procedural language. But, to get the full benefit of these sophisticated languages, the user still requires programming skills.

Major applications in dBASE III Plus, as well as in the other languages discussed, require the development of programs which contain elements of both procedural and non-procedural languages. Thus a professional who expects to be fully conversant with non-procedural languages and wishes to use all of its features will require skills in programming which can be taught and developed with dBASE III Plus or FOCUS or any of the familiar procedural languages.   < >

by Don Cassel

COMPUTERS AND PERSONNEL

review what further liason could be developed especially in the area of salary and benefit surveys.

The outcome of this review was that the students in the Business Administration Program were to become involved in the survey under the direction of the Association's salary committee. Specifically, they would assist in:

1. The development of a written survey which would include both salary and benefit questions
2. The collection of data
3. The tabulation and analysis of data

This was synergy at its best. Students studying in an **applied** college of arts and technology were having an opportunity to work on a "**live**" case and interact with business people as part of the development of their education. The personnel practitioners were able to input their experiences into this education development while providing their professional association with a salary and benefit survey format that would meet their needs.

The Committee worked out a five year projection, at which time the survey was to be fully computerized. Another issue, that of confidentially, was easily solved with a coding system, so that students knew only the type of business, i.e., manufacturing, non-manufacturing, etc., and the relative size.

After two years, the survey was computerized utilizing SAS (Statistical Analysis System), a sophisticated statistical package. This allows the students to tabulate the data for easy comparison and analysis. Reference is made in the final results to the original questionnaire, so that the personnel practitioner can quickly cross tab the question to the results and analysis. The survey is also now greatly expanded and includes bench mark positions in the clerical field, plant, and other areas.

The actual final stage of the survey process is the presentation of the results to the Committee by the students. A highlight this year will be the involvement of the first group of university graduates taking the one year post-degree Certificate Program in Human Resource Management. It is the Committee then, that makes the presentation to the membership and responds to any of their questions.

The whole experience highlights that Business and Education can work together. Most importantly it shows that by developing such liaisons Business and educational institutions can ensure that what is being taught is relevant and state of the art.

There is no doubt that the relationship between the Weston and District Personnel Association, key industries, and the School of Business at Humber College will continue to grow as each party seeks to innovate and remain current in the marketplace.   < >

by Dom Wheeler

PROFIT?

peting stakeholders (governments at all levels, agencies, boards of directors, donors, employees, clients and users), leadership in a NFP requires abilities to negotiate rather than direct, to lead rather than assign.

Previously, a major barrier to improving the management capabilities in the NFP sector was the lack of training. This is no longer the case. Several alternatives, varying in length of study, cost and location, are now available. For example, *The Financial Times* seminar series includes several appropriate workshops. The Banff Centre for Management Studies offers both seminars and residential courses in NFP management. Humber College recently received approval for a certificate program in arts management, and has for years been offering a certificate program in fundraising in conjunction with the Canadian Centre for Philanthropy. York University runs both a certificate program in Voluntary Sector Management, as well as its MBA program in Arts & Media Management.

Since the alternative to not-for-profit organizations is more costly, then the solution is not to replace them but rather to run them better, more effectively. The business and education communities have a wealth of skill and experience to offer, and a corporate responsibility to play a leadership role.   < >

by Gerald S. Smith

(Gerald S. Smith is the volunteer President of Theatre Ontario, and a full time faculty member of Humber's School of Business.)

INTERVIEW
WITH PEGGY HILLIARD

PEGGY HILLIARD IS A CONSULTANT IN EDUCATION, ANALYSIS AND PROJECT MANAGEMENT WITH E.P. HILLIARD CONSULTANTS. SHE IS CURRENTLY WORKING WITH SAND TECHNOLOGY SYSTEMS (CANADA) INC. ON A PROJECT INVOLVING A FIFTH generation package called SA-PIENS. Peggy graduated in Computer Programming from Humber College in 1974 and spoke with SPLIT SCREEN concerning her career and the changes she has seen take place in her profession during the last fourteen years. She provides some valuable insight into the future of computer information systems, and has some worthwhile advice for students considering a computer related career.

Split Screen: Tell us about your first job in information systems.

Peggy: I first started at the Canadian Imperial Bank of Commerce after I graduated in 1974 and my function was to write job control language, or JCL. This was with a test group at the bank. In other words what I wrote was designed to enable systems analysts to test the systems they had designed and written. I also had the opportunity to write a program for the analysts and to do some statistical analysis for a project which was to start shortly. And then I was lucky enough to be assigned to the project itself, as a development programmer writing in COBOL. I was very fortunate in this respect since most beginning programmers usually maintain existing programs and don't get into development right away.

Split Screen: What type of education did you have in order to get this position?

Peggy: I graduated from grade twelve of the five year high school program and came to Humber College to take the Computer Programmer program, which at the time was three semesters in length. I did really well in the program and this enabled me to pick up the practical skills I needed in programming and JCL to be functional on the job. I started as a junior programmer and stayed on that project for about a year, at which time I was promoted to the level of an intermediate programmer, and then very shortly to programmer/analyst.

Split Screen: So you made quite rapid progress in a short time.

Peggy: Yes, in fact at the end of about two years I ended up supervising a group of junior programmers who were assigned to maintain the project I had helped to develop.

Split Screen: Were you sent on any courses by the bank for additional training?

Peggy: Yes, they had their own internal training program and since I was then a supervisor, I attended mainly supervising type courses.

Split Screen: How old were you then, Peggy?

Peggy: Twenty-one.

Split Screen: You did really well in such a short period of time. How long did you stay at the bank?

Peggy: About ten years.

Split Screen: What types of positions did you progress through during that time?

Peggy: It was a nice environment to be in because it was a very large systems organization.

So, rather than getting promotions every year which would be difficult to achieve since there are only so many levels, you are moved around from area to area: on-line banking for instance, or to branch banking, and to international banking, foreign exchange, fixed deposit trading. This gave me a chance for variety and to expand my background. That, plus my change from a programmer to an analyst, made my career there really interesting.

Split Screen: Can you explain in a few words what differences were involved in your analyst function as opposed to being a programmer?

Peggy: Well, a programmer is given a set of specifications and has to write a program to achieve given objectives. An analyst, on the other hand, actually designs systems, which I found a much more interesting challenge since it gives a much wider scope for creativity. To be a good analyst you need a good understanding of programming, but being an analyst gave me much more opportunity to talk to people and discuss their needs, and then translate these into a design. I also became involved in feasibility studies which entail determining exactly how long it would take to develop a system, what the various phases would be, the cost involved and the resources needed.

Split Screen: So you appear to have had quite a variety of responsibilities.

Peggy: That's right. When I transferred to an International banking project I got involved in some completely new aspects of the financial world. I was selected to help develop an on-line foreign-exchange trading system and was, at that time, promoted to an intermediate analyst. This also involved learning a new piece of hardware, a PDP 1170, quite a change from the IBM hardware I had been used to working with. We bought a software package and had to

modify it to suit our requirements, which really meant a re-write had to be done.

Split Screen: Did you find the problem switching from a familiar hardware environment to one which was completely unknown to you?

Peggy: It was a challenge but there are always people you can ask questions of, and if you are motivated you can pick it up quite rapidly. Since then I've worked in several different hardware environments and it is not a major problem switching around. Once you learn one system you know what to look for in others, and it's just a matter of asking the right questions.

Split Screen: When you started your career was one of your goals to eventually progress to management?

Peggy: Well, after my role as a project supervisor in my second year, I found I had management skills intuitively and just seemed to progress in that direction. It was the same in the PDP project. I was supervising some aspects of it, and then the man running it left and they put me in charge. So, it was not necessarily a conscious decision on my part to be a manager. I was given the opportunity to demonstrate a skill and was given an opportunity to manage.

Split Screen: Did you find you needed the technical background you had obtained in order to manage effectively?

Peggy: Definitely. And it is still true today. I definitely believe a manager in this field needs a good familiarity with the technical aspects of the area he is managing to be effective. That is not to say he needs to keep up with all the technical advances as they occur, but you must have some understanding in order to recognize the "good from the bad".

Split Screen: Why did you leave the bank?

Peggy: I decided to have a family, and I also felt I had moved too quickly through the ranks. So I made a conscious decision to get

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a little more technical background I applied for and was granted a position in the bank with another group more closely related to operations and further away from managing people I worked on several projects serving almost as a consultant to the project "owners". That way, I gained more technical experience. Then I left the bank to stay home with my family and to decide on the next phase of my career.

Split Screen And what was that?

Peggy To get into corporate training and consulting. I had taught some night courses for Humber College and liked teaching, so corporate training seemed a good route to pursue. I did that for a couple of years, and eventually progressed into consulting. And that is what I am doing now. I am currently working on a project with Sand Technology Systems (Canada) Inc which involves a fifth generation language called SAPIENS.

Split Screen Can you summarize the types of changes the information systems field has undergone during your years on the job?

Peggy There have been tremendous changes. For one thing the job has evolved into a profession. It is much more organized and methodology plays much more of a role than it did initially. Programming used to be more of an art where if you achieved results, you were a "whiz". But now the emphasis is on competence, efficiency, and professionalism because, although business invests a lot of money in producing programs, they invest even more in keeping them up-to-date. The most important thing now is to write elegant code that is easily maintained, and to do it in as short a time period as possible.

Also, because projects became bigger and bigger, backlogs of requests grew and, as a result, development is decentralizing. Information cen-

tres sprang up to help user areas develop their own projects, necessitating their own people becoming familiar with information systems. The introduction of the personal computer has aided this decentralization. Central MIS departments have grown as large as they can – they can't grow anymore and still maintain control over development and development costs.

It used to be that there was more emphasis on the hardware of an organization, how big it was, how much it cost, how programs should be written to work quickly and use as little storage as possible. But now with hardware costs decreasing and hardware itself becoming very powerful, a greater emphasis is being put on your people and their capabilities, their ability to work with others and to become knowledgeable in the latest techniques. It's harder today to find good people and to keep them, because those with the

right skills are in great demand.

Split Screen What about future job demands?

Peggy With the development of new techniques, fourth and fifth generation languages and application generators for example, the mundane, boring aspects of programming and building applications will be reduced, leaving the ones that are interesting. You are never going to have applications generated without people. There will always be a need for analysts, and for those who can get involved in the technical detail of developing specifications of an application for whatever software and hardware you are dealing with. So the new techniques will help reduce the time to build a new application, not the number of programmers an organization will need. There is such a backlog of application development, and there will always be new applications to development and maintain. It is

not the lack of hardware that stands in the way it is the people resource.

Split Screen What type of entry level positions exist for graduates now, and will this change in the forseeable future?

Peggy There will always be the maintenance programmer. When a user is in a hurry for a change to an application it is usually cheaper to change one or more of the current programs than to develop a completely new application, particularly with the backlog that exists in most organizations. As a result, your traditional COBOL programmer will probably be the most common entry level position for years to come. In conjunction with this there is a need for people who have a knowledge of different software development tools such as your fourth and fifth generation languages. So a graduate with this familiarity as well as COBOL will probably be in increasing demand over the next few years.

Split Screen You don't see a decline in the need for programmers?

Peggy No, just a gradual change in their skills and capabilities. I know during the recession of the early- to mid-1980s many companies trimmed their staffs and let go of a lot of "dead wood". Since some of these were programmers it somehow got interpreted that there was perhaps no longer a need for people with these skills. I think this feeling was reinforced by the increased emphasis being placed on the personal computer at about the same time. But nothing could be futher from the truth. From my experience in consulting during the last few years, companies I have seen always have a need for competent people in this field.

I know it is tough for a new graduate to land a job. There is always the "Catch-22" of needing experience to be hired. But there are ways for a student

SOFTWARE SPOTLIGHT

THERE IS A RELATIVELY NEW SOFTWARE PACKAGE STARTING TO MAKE A NAME FOR ITSELF IN THE BUSINESS WORLD. AT THE SAME TIME, IT OFFERS A FINANCIAL BREAK TO EDUCATIONAL INSTITUTIONS BUILDING IT INTO THEIR CURRICULA.

PC Enable, a product of the Software Group based in New York, was recognized by PC Magazine who gave it their award for Technical Excellence in 1985/86. Since that time it has picked up several other awards and favorable reviews, and has been adopted by many corporations and academic institutions.

PC Enable is an ideal tool for teaching those applications most often run on a personal computer. The package combines the capabilities of a word processor, a spreadsheet, a data base manager, graphics, and telecommunications. While each of these functions is not up to par with the capabilities of the respective popular commercially available stand-alone packages, Enable is the best all-round example of an integrated package.

Its data base capabilities are powerful and flexible, its spreadsheet, although not as diverse as Lotus 1-2-3, is quite impressive, and its word processor has enough power to be quite serviceable. The graphics component, (Perspective Graphics) is very striking with its three dimensional capabilities, and its communication module offers most of the features provided by standalone products and is easy to learn and use. For the advanced user there are also macro and menu generation facilities which allow some sophisticated programs to be created using Enable.

Besides the full commercial version of Enable, The Software Group also makes available an educational version with reduced capacity called Enable Learn. Even with this reduced capacity the package is quite adequate for educational purposes.

In the wordprocessing component the document saves are limited to ten single spaced pages, but information entered beyond this limit can still be saved by copying the text to another window and individually saving information in both windows. The spreadsheet size of the educational version, even though workable on screen to 255 rows by 255 columns, is limited to 50 rows by 50 columns for saving. The commercial version allows a data base capacity of up to 65,000 records with up to 254 fields of up to 254 characters each. Enable Learn allows you to save only up to 50 records. None of these limitations, however, places any great restriction on the student.

Other benefits to the educational institute are price, the fact that the package is not copy protected, and the site licencing arrangements which the manufacturer provides. Site licencing for one lab for Enable Learn costs $950. For two to four labs the cost is $760 per lab. and for 5 to 15 labs, $665 per lab. These prices were quoted by PC Nova, a supplier based in Ottawa, and are in effect as of January 25, 1988. In addition, an educational institute may acquire the full commercial version for $247.50; this offer is available to students as well as faculty and staff.

System requirements to run the package are an IBM PC or compatible, PC DOS 2.0 or later with at least 320K RAM, dual floppies or one floppy and one hard drive. A graphics card and monitor are also needed, as well as an asynchronous communications card if all the functions of the package are to be used.

Several educational institutions have adopted the package, including Ryerson and Humber College. It has also been authorized as a basic learning resource for use in all Alberta secondary schools from grades 10 to 12.

Enable's use in the commercial world is growing rapidly and even though its spreadsheet function is not as powerful as Lotus 1-2-3, its file management not as versatile as dBASE III, nor its word processing function as flexible as a standalone word processor, it is still the most cost effective way to provide all of these capabilities in a single package. And it provides teachers and their students with an excellent opportunity to access a wide range of applications at a minimal cost.

Further information may be obtained from The Software Group, Northway Ten Executive Park, Ballston Lake, NY 12019, or from PC Nova in Ottawa. And for further ideas on how to reduce software costs see the article "Cutting Educational Software Costs" elsewhere in this issue.   < >

Dave Haisell
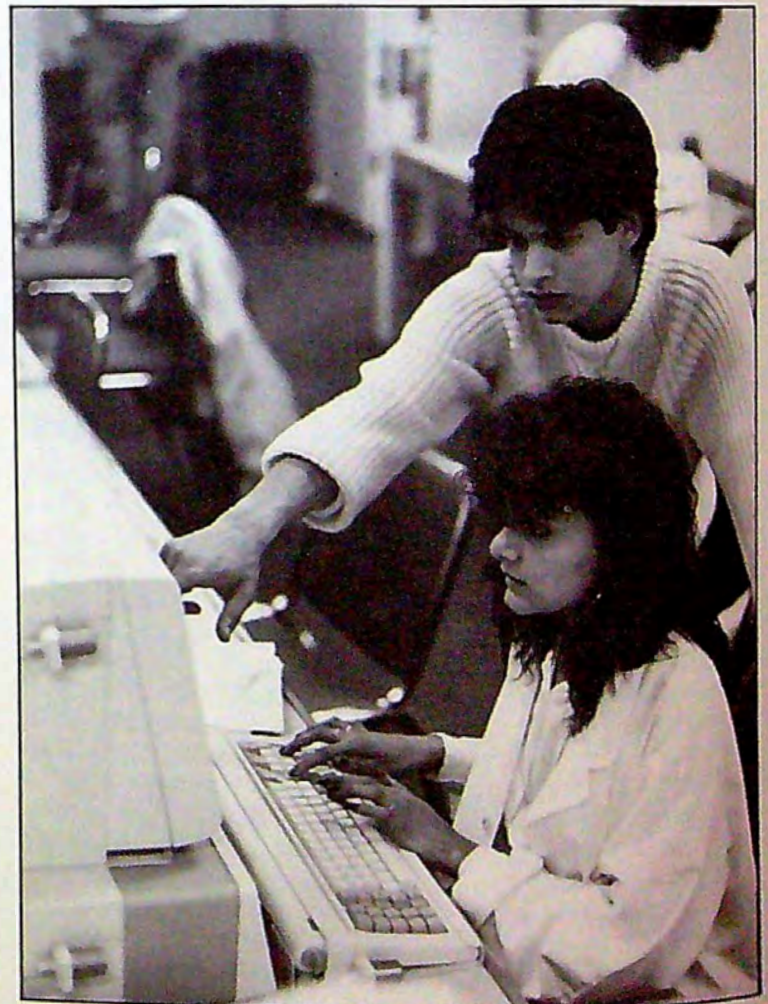
MESSAGE FROM THE DEAN OF THE SCHOOL OF BUSINESS

BECAUSE BUSINESS IN TODAY'S WORLD IS SO DEPENDENT ON INFORMATION SYSTEMS, IT IS OFTEN POINTLESS TO DISCUSS THE LATTER WITHOUT REFERENCE TO THE FORMER. THE OPERATION OF A BUSINESS WITH ITS ACCOMpanying record keeping and decision making is, in fact, so dependant on computerized information systems that it would be virtually impossible for a corporation to maintain its competitive edge without the use of a computer. For this reason one important goal of a business education today should be to provide the student with a working knowledge of the use of a computer in recording, accessing and processing data in the myriad ways in which this takes place in a modern business operation.

SPLIT SCREEN - originally conceived as a newsletter of information systems to keep the reader abreast of this everchanging dynamic field – can probably be more accurately referred to as a newsletter of business and information systems. It is published by the School of Business at Humber College primarily for the secondary school audience to aid students and their teachers to better understand the potential for careers in business and information systems, and to explain what these careers entail. In so doing it touches on a variety of issues which we feel are pertinent and which we hope will be of use and interest to our readers.

Judging from the response we are starting to receive, we are succeeding. Counsellors, for instance, are finding the newsletter an excellent source of information in discussing career choices with their students. And students themselves are gaining a better perspective of the many ways in which the use of com-

puters is interwoven with business operations.

We have, therefore, decided to expand the newsletter from four to eight pages. This will enable us to cover business and information systems from a wider perspective, and to keep you up to date with the ever expanding associated career paths and the training necessary to enter this challenging and rewarding field.

The School of Business at Humber college realizes that many pressures face a secondary school student in the often difficult process of choosing a career. We hope our newsletter will, at least, shed some light on the many aspects of the business world, and will, in some way, make this decision a little easier and potentially more rewarding.

Your comments, criticisms, suggestions and contributions are both invited and welcome.
< >   by Jack Buckley

INTERVIEW
WITH PEGGY HILLIARD

to get experience, through summer jobs for instance, or through a co-op program. Many companies like the opportunity to get a feel for a potential employee's abilities before hiring him or her, and a co-op program provides this opportunity.

Split Screen: Yes, that is what we are finding with our co-op program at Humber. Many of our graduates are hired by the company for whom they work during their co-op work terms. Would you recommend to secondary school students that a career in information systems is a worthwhile pursuit?

Peggy: Definitely. It's actually expanding into the user area, and I think there will be more jobs springing up through this decentralization to which I referred earlier.

Split Screen: What about the training needed to work in one of these decentralized functions?

Peggy: It is very important that a student have a broad background in business skills to accompany the computer programming and information systems training they acquire. Because they are not out there to be a programmer for the rest of their lives, these additional skills, along with people skills and communication skills are important to help them shape a well rounded career in this field. This will enable them to progress into

management and administration of information systems.

Split Screen: What advice would you give to a new graduate looking for a job?

Peggy: Don't get discouraged if you get turned down at first. I was turned down three or four times before I was hired by CIBC. Keep at it. If you are graduating from your program you have an edge over anyone else, especially if you are in a co-op program. Practice your interviews. And don't be too quick to turn down a job offer because it is not all that you expected. Take an operations position, if that is what is offered. Remember the magic word is experience. Once you have some you are in a much better position to be choosy about your next job.
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CUTTING EDUCATIONAL SOFTWARE COSTS

ARE YOU IN THE SITUATION WHERE YOU WANT TO TEACH LOTUS 1-2-3 IN A PERSONAL COMPUTING COURSE BUT THE BUDGET SIMPLY CAN'T HANDLE THE COST? A SINGLE LOTUS 1-2-3 PACKAGE COSTS APPROXIMATELY $400. MULTIPLY THIS by 30 computers in a single lab and the cost escalates to $12,000. If you want 1-2-3 on several labs, as we do at Humber, then the cost climbs further still.

Of course, you could use pirated copies of the program, but, as a reputable school you prefer not to take that risky approach. Some software companies will also offer a license for a multiple copy installation which may help to reduce the cost. Then there is the headache of administering all of these copies of the program and the manuals.

Recently a solution to these problems has been presented by some of the leading textbook publishers. Books which include an educational version of software for the IBM PC and compatibles are now readily available at a considerable saving over the original software. In most cases, the educational software price is comparable to a text book price.

In the fall of 1987 we adopted a series of packages from Addison-Wesley – Benjamin/Cummings for teaching Lotus 1-2-3, dBASE III Plus, and WordPerfect in our Introduction to the PC COURSE FOR FIRST

SEMESTER STUDENTS. Each program is packaged separately and supplies the student with a manual (or tutorial) for the software and one or more disks containing the educational version of the program. These student versions are usually limited in the amount of data that can be used but offer most of the features found in the full package.

The "Student Edition of Lotus 1-2-3" is limited to 64 columns by 256 rows which is quite adequate

for an introductory course. It provides the usual spreadsheet operations as well as graphics and database. The student version can retrieve 1-2-3 files that fit the workspace but the full version of 1-2-3 can't read student edition files. The package includes a system disk, print graph disk and utility disk, as well as a complete reference manual.

"dBASE III – A Ready Reference Manual" is a student version of dBASE III Plus. Database files are limited to 31 records, although up to 10 database files may be opened at once. A disk and tutorial manual comes with the package.

"WordPerfect – A Ready
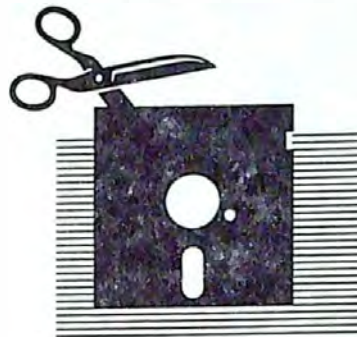
Reference Manual" is restricted to 4000 characters per document which comes in at about two pages. When a document is printed, the characters *WPC appear at random in text so that it is only useful as an instructional tool. No advance printing features are included. But, this does not seem to present much of a problem. There is no onscreen help except for a keyboard template, unlike the full version which has exceptionally good help information. Spelling check and the thesaurus are also limited.

Variations of this theme exist from other publishers. For example, Prentice-Hall Inc. offers a software supplement for Dologite's "Using Computers" textbook. The supplement is a single package that provides a manual with tutorials on DOS, WordPerfect, TWIN (a 1-2-3 clone), and dBASE III Plus. Except for DOS, disks are provided with educational versions of each of these programs. Specifications are essentially the same as with the Addison-Wesley packages.

Most publishers give some technical support for their package. They also encourage its use on a network, which is important to us with our JANET networks. And, believe it or not, most do not discourage the copying of the programs for educational use.

Other publishers have variations of the two approaches mentioned above; some use different software such as SuperCalc 4 instead of Lotus 1-2-3. For introductory courses these educational packages have proven their worth as a cost saving measure and also by providing students with programs they can use on our computers or even on their own home computer.   < >

by Don Cassel

MESSAGE FROM THE DEAN

AN OPEN INVITATION TO SECONDARY SCHOOL TEACHERS AND COUNSELLORS

AS PROFESSIONAL EDUCATORS WE SHARE THE AWESOME RESPONSIBILITY FOR PREPARING YOUNG PEOPLE TO CHOOSE AND PURSUE A CAREER WHICH WILL BE NOT ONLY CHALLENGING, MOTIVATING AND FULFILLING, BUT ALSO PROVIDE THE FINANCIAL STABILITY needed to enjoy the rewards which our society can provide. This is not an easy task. Millions of dollars are spent each year resourcing our education system to provide the means to reach this goal.

One of the problems we all face is the lack of information and understanding of the objectives, procedures and requirements of each stage in this career development process. In order for the entire process to succeed, each stage must interrelate well and share a clear understanding of the needs of the student, the job market, and society.

But as so often happens with large systems involving lengthy processing times, things get out of phase. The needs of the job market may change faster than the ability of the system to react. And the needs of the student may fluctuate depending upon his or her perception of how the changes in society and the job market may influence his future. At this moment in time, for instance, we have seen rapid changes in computer technology which are affecting many aspects of our society, not the least of which is the way we process information and conduct our business transactions.

The training required by our young people to enter the business world has changed considerably over the last decade. The whole field of information systems as a career option is poorly understood by many young students. Because of this, we sometime see a great discrepancy between the numbers of graduates from a program and the number of job openings available.

As an example, this Summer and Fall we had to turn away employers with 50 co-op work term openings for students in our Computer Information Systems and Computer Programming programs at Humber College. We simply did not have the students available. The same is true in Office Administration. There are not enough students to fill available entry level job openings.

At Humber College, we are working closely with business employers to determine the requirements they envision for

DESKTOP PUBLISHING

AN OVERVIEW

DESKTOP PUBLISHING IS A PROCESS WHICH ALLOWS YOU TO USE A PERSONAL COMPUTER TO ORGANIZE INFORMATION, LINE DRAWINGS, GRAPHS AND EVEN PHOTOGRAPHS ON A PAGE IN A LOGICAL MANNER WHICH IS BOTH ATTRACTIVE AND EASY TO READ. TO A large extent its success depends upon the design skills of the user, but there are some software packages which allow a computer template approach where the layout for standard documents is predesigned and all the user needs to do is to plug in the text.

Its use in the business world is growing rapidly for the production of such printed material as newsletters, internal reports, educational calendars, and parts manuals. However, where top quality appearance is required as for advertising brochures, for instance, this method has not yet achieved the standard of printing demanded.

Camera-ready copy can be produced with a laser printer producing up to 300 dots of ink per inch attached to a 640K PC with a minimum speed of 8 MHz. Monochrome displays with density ranging from 320 X 200 DPI to 1280 X 800 DPI are satisfactory, and if necessary a scanner may be incorporated into the system for digitizing diagrams, line art and photographs.

Software packages most commonly used today include Ventura from Xerox for the PC, Pagemaker from Apple (which runs on the PC and MAC), and Ready, Set, Go, also for the MAC. It is adviseable to encorporate a word processing package and graphics software for line drawings, charts and graphs.   <>

Dave Haisell

IS THERE A COMPUTER NETWORK IN YOUR FUTURE?

AN INTRODUCTION TO IBM'S TOKEN-RING NETWORK

IF YOU ARE PLANNING TO ENTER THE COMPUTER INFORMATION SYSTEMS PROGRAM AT HUMBER COLLEGE THERE WILL DEFINITELY BE A COMPUTER NETWORK IN YOUR FUTURE. AND THE REASON IS SIMPLE. ACCORDING TO INTERNATIONAL TECHNOLOGY Group, a large market research company, about ten percent of all personal computers used in business and industry are currently connected in local area networks. They also predict that the market for personal computer network hardware and software will grow from about $3 billion this year to $4.5 billion by 1991 - the year of graduation for students entering the community college system in 1988.

Networks - a group of personal computers linked in such a way that they can share software, data and peripheral equipment - reduce the need for carrying floppy disks from office to office, while at the same time allowing a group of individuals access to the same information. Two of the major leaders in providing this resource are Xerox's Ethernet and IBM's Token Ring networks.

With this promising future it is important that all community college students planning a career in information systems share some kind of exposure to this technology. Teaching networking concepts from a textbook is a suitable approach when students require a basic understanding of the concepts. But what should be done when students graduate in a computer discipline but have had no hands on experience? Is textbook knowledge enough to get by in their first information systems job?

Taking that approach would be something like training a programming student without the use of a computer. Or using only one language on a computer and teaching the other languages as theory. Clearly this would not be a suitable approach for such courses and neither is teaching networks without the use of a network.

For several years we have been using JANET networks for a variety of computer related courses at Humber. These networks have been used mostly for teaching software packages and developing user oriented applications. JANET has not been used for hands-on network exposure by the Information Systems students because of the need to support other courses that have had a higher priority.

Now - as of Fall 1988 - a new network has been acquired for the IS department. This is the IBM Token-Ring Network consisting of three IBM Personal System/2 Model 30-021 computers, with 20M hard disk drives, and the Token-Ring hardware to connect these systems. This system will be used primarily for networking courses giving students practical experience with both the hardware and software required to operate such a network.

To understand how the Token-Ring Network works it is necessary to look at the star and ring networks because Token-Ring uses an integration of these two concepts.

A star network is configured in a star like pattern with a computer at the center. The central computer is the host computer which supplies information and computer resources to the other computers (called nodes) in the network. When the host is a mainframe, it often provides data base support to the other computers and supplies extra computing power when the node is a terminal.

A personal computer star network uses a PC as the host which is referred to as a file server. The central PC contains data bases and programs which are needed by the other computers. Rather than storing data and software on the local computer the file server provides this service, thus eliminating duplication. Sharing programs can also reduce software costs by allowing the use of a network license rather than purchasing many separate copies of the program.

For personal computing, star networks are mainly used to connect a number of office's computers together and are also popular in some educational settings for student use. The University of Waterloo's JANET Network is an example of such a configuration used by educational institutes, while AT&T's StarLAN is a network that is used in business settings. Coaxial cable or twisted-pair wires are used to attach each computer in the network which makes movement of the computers to other locations difficult. Adding new computers to the network can also be disruptive to the existing network.

Computers on a star network cannot communicate directly with each other which limits sharing of resources among them. Data can be passed to the central computer for subsequential sharing with other computers in the network, but this inhibits fast and efficient transmission of data where this facility is frequently needed. A significant problem with star networks is their reliance upon the host computer. If this computer fails, all other computers on the network will either become non-operational or be seriously limited in their operation due to lack of support

from the host.

The ring network connects a number of computers to a continuous communication ring. There is no host computer but each computer on the ring can communicate with all other computers. Data is passed along the ring from one computer to the next until it arrives at the receiving computer. All other computers simply pass the data along. In one form of ring network a non-functioning computer can cause an interruption of data traffic because it is unable to forward data.

A variation on this permits a malfunctioning computer to be switched out of the ring thus retaining communication with all remaining computers. This makes the ring network more reliable and not dependant upon any one computer in the ring. If one goes down all of the others can continue to operate.

The cost of communication lines in a ring can also be less expensive because lines of the shortest distance between adjacent computers can be used, rather than longer lines usually required in a star. Being attached to a ring network also simplifies the passing of data among computers. The two communicating computers need only talk to each other while other computers in the system ignore their transmissions.

This benefit also has its side effects. Because all computers use the same network special codes and communications controllers are needed to ensure that data flowing between two computers does not get confused with other transmissions going on at the same time with other computers in the system. By having access to any computer in the network, potential security problems exist, requiring passwords and other software protection to ensure that the right users have access to legitimate data.

In theory, networks seem to be relatively simple, but in practice more complexities are often found. The IBM Token-Ring Network appears star-like with individual stations connected to a central access unit. But, inside the multistation access unit the multiconductor cables are electrically connected like a ring.

To operate, the network uses an access method called token passing. An electronic token is circulated among the stations while they are waiting idly for some activity. When a station has a message to transmit it waits until the token arrives at its location. It then takes the token, something like a relay runner taking the baton, and then proceeds to send its message. All other stations must wait until the token becomes free again. In this way stations cannot interfere with one another's transmissions.

IBM's Token-Ring Network comes as a starter kit which includes one Multistation Access Unit, with cables and interface cards for four stations. Cables can be either coaxial (Type 1 system) or twisted-pair wires (Type 2). Up to 260 stations can be connected together with data grade coaxial cable by using multiple access units in the network. 72 stations are possible when twisted-pair wire is used for the network.

Obviously, our three stations do not nearly approach the capacity of this network, but being a fully configured system our network courses can now offer the best of both theory and practice. In this way our graduates can enter the work force confident that they have a firm understanding of the principles of Networks in order to meet the anticipated demands in this area in the 1990s.   <>

Don Cassel

EDITORIAL

PROFESSIONAL CERTIFICATION IN INFORMATION SYSTEMS HAS BEEN AN ON AGAIN/OFF AGAIN ISSUE FOR THE PAST TWO DECADES. VERY SIMPLY, IT INVOLVES IDENTIFYING A BODY OF KNOWLEDGE DEEMED MANDATORY FOR EVERY PRACTISING PROFESSIONAL. IT ALSO involves preparing a series of examinations which must be passed by the prospective professional in order to practice in this field.

Such organizations as DPMA, ASM and most recently, CIPS have participated in identifying model curricula designed to prepare the university and/or community college student for the demanding Informations Systems profession. However, there is much disagreement as to what formal body of knowledge is required in such a diversified and ever-changing field.

The Institute for Certification of Computer Professionals (ICCP) in the US has used different sets of exams to assess the qualifications of Certified Data Processors (CDPs), Certified Systems Professionals (CSPs) and Certified Computer Programmers (CCPs). A system of re-certification over a three year period is also in effect and has helped to make the concept of certification more acceptable.

Even though some employers in the US are recognizing and even rewarding employees who become certified, there is no great rush on the part of professionals to achieve this standard of recognition especially in Canada. It is up to the professional associations to convince employers that it is in their best interest to look for letters after the name of a job applicant.

According to John Herzog, the international president of the Association for Systems Management, the major problem is getting the public to understand that information is one of the country's most precious resources. He feels, too, that it will take time to recognize the importance of certifying systems employees.

Even though this is a slow, ongoing process it is important for educational institutions to stay attuned to, and become involved with, the activities of those professional associations who will one day undoubtedly play some part in determining the contents of curricula to be presented in their courses of study. The benefits to the institute are twofold. Firstly, there is the satisfaction of knowing you are graduating qualified, entry-level professionals who are in demand. Secondly, there is the realization that you have the opportunity to play a significant part in the on-going training of these professionals in an ever changing environment.

Through its association with its advisory committee, and through faculty members' participation in various professional organizations, the Information Systems Studies department at Humber College is well attuned to the academic requirements employers specify as necessary for their entry level positions. When, and if, certification becomes a reality, Humber graduates will undoubtedly be well-qualified to achieve whatever standards are identified.   <>

CONSIDERING A CAREER AS A LEGAL ASSISTANT/LAW CLERK?

"HOW CAN I HELP YOU?" THE GUIDANCE COUNSELLOR ASKED. THEY WERE SITTING IN A SMALL INTERVIEW ROOM.

"AH, WELL," SHE HESITATED, "I'M NOT QUITE SURE WHICH PROGRAM TO TAKE." SHE WAS SHY. THE COUNSELLOR HAD SHOWN HER INTO the room where he had her sit across from him.

"Which ones have you been considering?" he probed.

"Well, y'a know, I was looking at two of them." She was still hesitant.

"Yes?" he asked.

"Well, you know, I looked at legal secretary," she paused.

"What was the other one?" he asked kindly.

"It was legal assistant," she said quietly.

"And which one do you like better?"

"I don't know?" she answered.

He was trying to draw her out, trying to find out more about what she wanted, what she was looking for.

"What is it about them that you like?" he asked.

"Well, you know, I like working for a lawyer."

"Have you ever worked for a lawyer before?"

"No," she said.

"Then how do you know you like it?"

That stumped her. He was right. She didn't really know. She sat silent while she thought about an answer.

He continued, "Why don't you and I explore what each does. Maybe that will help you decide, OK?"

"Ah, OK," she answered.

"One of your teachers, or rather one of the teachers you might have, told me once that secretaries learn WHAT legal secretaries do," he emphasized the 'what'. "They then learn HOW to do it. Legal assistants on the other hand learn something the same but they are taught WHY it is being done. Do you understand that?"

"No, not really," she said.

"Well, why don't you tell me what it is about working for a lawyer that you think you'd like," he continued.

She felt a little more comfortable and relaxed. "I think working for a lawyer would be exciting. You get to see all sorts of interesting things. Everyone asks you about your work."

He decided to take a more direct approach. "Do you think it's prestigious to work for a lawyer?"

"I don't know what that means" she replied.

"Well it means people respect you. They think you have an important job."

"Oh yes," she said "And, I hear the money is good too."

"So what I hear you saying is that you would like money and status. Is that correct?" he asked softly.

"Yes," she answered, "But I also want to like what I do."

"OK, first things first. Money. OK to start there?" he asked

"Aha," she said.

"Here is a very interesting little magazine called 'Canadian Lawyer.' It has an article about secretaries. That article says a GOOD secretary can earn $30,000 a year. Maybe even $45,000 with overtime."

"Geez, that's good," she responded enthusiastically.

He continued, "It also says a GOOD assistant gets $35,000. No overtime."

"That's not very good" she interjected.

"Maybe not," he said, "but that's not the point I was trying to make. The point is that this type of wage applies to people who are GOOD."

"Well when I graduate I'll be good, won't I?"

"When you graduate you can expect to have the tools to continue to learn. You can then work at becoming GOOD.

"That sounds like work" she replied.

"Oh yes, you have to work at it no matter which program you take."

"Mmmm," she said.

He continued. "Let's look at what they each do."

'OK'

He took out the Humber College calender. "It says here that the legal assistant program is designed to get you ready to work in a legal environment."

"What does that mean?" she asked.

"Well, that refers to the place you work. A lawyer's office would be a legal environment. So would some government offices, or the legal department of a company."

"You mean I don't have to work just for a lawyer?"

"Nor necessarily," he answered.

"Well, maybe we can go back to what legal assistants do. That might help me." She was beginning to catch on.

"Remember the difference between 'What to do' and "Why to do'?"

"Yes."

"The legal secretary is also an assistant. Her boss tells her what to do and she does it. He tells her what specific tasks have to be performed using her secretarial skills. She doesn't need to know why she's doing it."

"Geez that doesn't sound very interesting."

"Well don't be fooled. It can be." He paused. Getting no further response, he continued "If you like to prepare documents, if you like talking to people on the phone, clients other lawyers and secretaries government departments, that sort of thing, it can be interesting. In fact, I'm told it can be a lot of fun."

"I suppose so," she said without much enthusiasm.

"You could say the secretary is also an assistant. She, or he for that matter, helps, that is assists, the lawyer. She helps getting information from clients and all sorts of people preparing documents, making appointments, and generally assisting with all office tasks."

"Oh yea?" She perked up

"Yes," he said.

"So, how is that different from the legal assistant?" she pressed.

"Well first of all you must understand there is that type of work involved for the assistant also."

"Yes," she answered slowly in an inquiring tone.

"Yes, well," he continued "the assistant also handles projects that involve a series of tasks."

"Well, before you tell me about that I'm worried because I don't type very well. I'm not

sure I can do the document preparation you talked about."

"Oh you don't have to worry about that. The legal assistant program includes practising that skill. In fact it does more."

"What do you mean?" she asked.

"Well you know computers are used a lot today in offices and all sorts of places?"

"Yes. I've heard that."

"Well, you will get two semesters of computer training. Hands on training. You will learn how they work, what they do, how to make them work for you in your job."

"Boy, that sounds interesting," she answered cheerfully.

"So, if you're asked to prepare documents for a particular case you will know what has to be done AND you will know how to do it efficiently. It's called desktop publishing, I think."

"I could use that skill anywhere."

"Good for you. Of course you could. It makes you more employable. It's a skill needed in all kinds of places."

"What else do assistants do?" she pressed.

"They also work outside the office."

"Doing what?"

"They go to land registry offices to search titles."

"What's that?"

"Well they have to find out who owns different pieces of land and buildings. They have to know how to go to the government land offices to find out who owns them."

"Boy, I wouldn't be in the office all the time. I like that. I could meet my friends for lunch or coffee or whatever."

"Yes, I suppose you could. As long as you got your work done."

"Do assistants go other places?"

"They sure do. For example, you could be asked to help the lawyer to do a divorce for a client. You would know what information was needed and how to get it. You could prepare all the documents. After the lawyer approves them, you could look after filing them in court and maybe even serving copies on the other party."

"What does that mean?"

"You know, if a wife wants a divorce from her husband, copies of the divorce papers have to be given to him. You could do that."

Won't he be mad. I might get hurt."

"No, no. That's not usual. Sometimes the other person doesn't want to get the papers so they try to avoid you. Then you have to use your cunning to serve them."

"I'M NOT QUITE SURE WHICH PROGRAM TO TAKE."

"Wow, that sounds like fun."

"I suppose it can be."

"What other things might I do?"

"Well, let's see. You will learn something about researching the law, looking for old cases in the library, things like that."

"Are there other things?"

"I guess there are. I don't know everything assistants do. But if you stop to think for a moment, you'll see that another thing you could do is marry your research and computer skills.'

"Say what?"

"What I mean is that you should be able to join different skills to do a job. Libraries can now be searched with a computer in your own home or office. With research skills and computer skills you could do the job much more efficiently."

"Would I make more money?"

"I guess so. You become a more valuable employee."

"Those things sound neat!" she responded. "Now I see what you mean about joining skills. Like desktop publishing. I'll know how to use a computer to create what's needed."

"Yes, that's the idea. I'm told that if you get really good, that is if while you work you build on the skills, and more importantly, the knowledge you gain here, you could even go to court for some people. You could even do their entire case."

"You mean I'd be a lawyer?"

"No, not really, But you would be able to do some of the things lawyers do."

"Like what?" she pressed.

"Well, I'm told the government is looking into licensing some people to work directly with the public. Like having your own business serving your own clients."

"What sort of things would I do?"

"I understand, like the fellow in the newspaper, you could help people defend minor changes brought against them. You could go to court with them."

"Yes, and what else?"

"Well, depending again on what you have learned, you might be able to help people create a business. For example, incorporate a company, or do the paperwork involved in the purchase and sale of homes."

"Wow, that sounds great."

"Maybe so, but I stress it all depends on you. How much you learn and through the experience you get when you first go out to work."

"Well all that sounds OK. But, what if I don't like it. When I go out to work, I mean. Then what?"

"That's the beauty of the course. Remember that the calendar says you will be able to work in a legal environment?" he reminded her.

"Yes" she said.

"Well there are jobs in industry, where the knowledge and skills you learned are very useful. Computer skills can be used almost anywhere. And, being a person who has learned some things about people problems and how our laws deal with them, you are useful in all kinds of places."

"Gee, I want to thank you for taking the time to talk to me about this."

"Oh you don't have to thank me. It's my job and I enjoy it. Did I help you?"

"Oh, yes, you did."

"Which course are you going to take?"

"I'll think about everything you've told me and let you know when I decide. Thanks again."   <>

Robert Shuster

SOFTWARE SPOTLIGHT

COMPUTERS IN YOUR DOCTOR'S OFFICE

"The word processing function of a computer can improve the efficiency of a good medical secretary by 30%."

Dr. W. Cass
Toronto Internist

"Once the patient database was established, computerization evened out my cash flow and I now have a 97% collection rate. My total revenue is up about 20%".

Dr. G. Kennedy
Thornhill G.P.

These two statements reflect the common uses to which computers have been put recently in many doctor's offices. But a major trend today, in addition to word processing and billing, sees physicians and their secretaries using computers for such activities as maintaining patient records and retrieving laboratory data.

One such software package which provides many options for the user is A & L Medical Software. This powerful fourth-generation language has several advanced features to help your doctor's office handle its day to day procedures.

The system designers have tried to build in many convenience factors peculiar to the user's needs. For instance, using a sophisticated password MODEM FEATURE, patient records may be accessed from any remote location, thus allowing the doctor access to his files while he is at the hospital, at home, or on the road. At the same time, multi-layer passwords prevent unauthorized personnel from accessing any confidential information, ensuring the privacy of patient data.

Where more than one doctor is involved, the system is upgradeable to support multiple doctor practices or clinics. It may also be upgraded to support most local area networks.

Built-in self diagnostics and self-repairing utilities help keep data files healthy. There is a fast remote technical support system through the modem feature, and an on-line help feature should any problems be encountered.
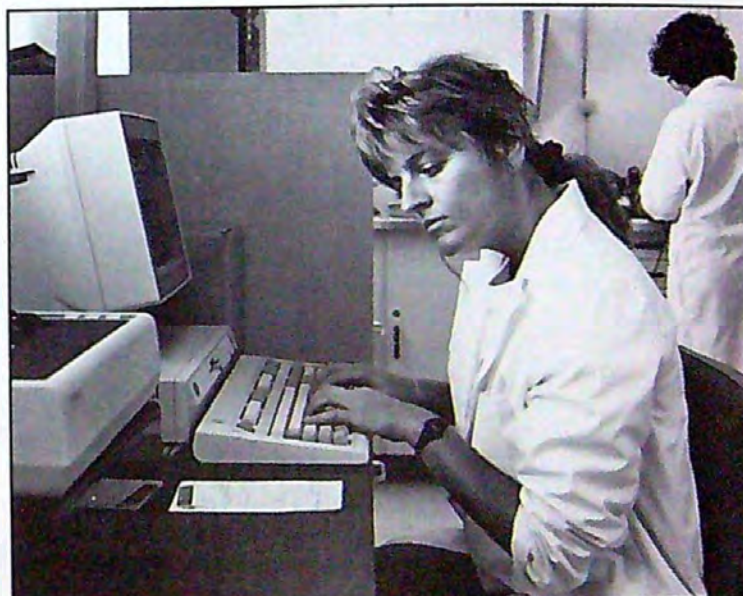
Data files are highly compact, and while other systems on the market may hold no more than one year's information with a 21 MB hard disk, A & L Medical Software holds up to six years of patients' medical history, based on 50 transactions per day and a five day week.

General features such as automatic handling of OHIP fee pricing and validation, corresponding file maintenance, and printing daily reports (transaction summary register, OHIP fee schedules, patient master listing, medical profile, statements, statistical analysis, etc.) are the heart of the package. The system is also able to print patient file labels, lab cards,

prescription forms and envelopes, backup all files, and to change passwords.

A & L also provides optional accounting and word processing systems which allow the secretary to maintain a chart of accounts, cash disbursements, journals and reports, cash receipts, and income statement report. In addition, it can type, print and save documents and letters.

Finally, when upgrades are available, these can be performed by inserting a special updated diskette and running an appropriate menu selection.

The whole system is menu driven and user friendly for easy access and use. Basic hardware requirements include an XT/AT MS-DOS IBM compatible computer with 512K memory, hard disk drive, 360K floppy disk drive, monochrome graphics monitor and dot matrix IBM compatible printer.

There are currently 1100 doctor's offices in the Toronto region (Pickering to Mississauga) where the system is in use. Many users are coming on board in such areas as London, Oakville, and North Bay. The goal of A & L is to have 20% of the Ontario market by the summer of 1989.

This package is another indication of the advancement of computer technology in the office environment - not to replace the medical secretary - but to make her more effective and to increase the efficiency of the operation. Learning to use such packages is becoming an inherent part of office administration programs at community colleges, and students coming to Humber will obtain much hands-on experience in this activity.

Further information on the package described in this article may be obtained from:

A & L Computer Software
Ltd.,
Tel: (416) 736-9867.   <>
Dave Haisell

CAREER OPENINGS IN COMPUTERS AND INFORMATION SYSTEMS

It continues to look bright!

THE DEMAND FOR COLLEGE GRADU-ATES IN COMPUTERS AND INFORMATION SYSTEMS IS STRONG FOR THOSE WHO ARE WELL-TRAINED. TODAY THIS MEANS NOT ONLY HAVING THE TECHNICAL EXPERTISE, BUT IN ADDITION GOOD COMMUNI-CATION SKILLS AND INTER-personal capabilities. Many employers are having difficulty finding candidates with these qualifications.

Ironically, there are about 3500 computer programmers and systems analysts on unem-ployment insurance in Canada because they just don't match up to employers' expectations in these areas.
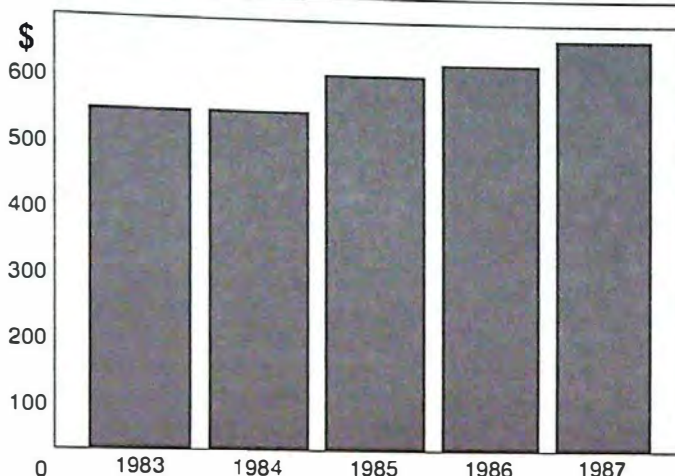
But, it is important that young students considering a career in this field not interpret this unemployment figure as a deterrent to pursuing this chal-lenging profession. According to employment and Immigra-tion Canada, the information explosion has created many new positions in data base management, information sys-tems and software develop-ment, programming, and infor-mation processing. Growth is also predicted for supervisors of data processing operators, with about 800 new positions becoming available in the next six years.

One of the best routes for a student wishing to enter the information systems profes-sion is to combine education with on-the-job experience. This is possible through a co-op program either at a university or community college. In this way a graduate can offer a pro-spective employer both up-to-date knowledge and hands-on expertise.

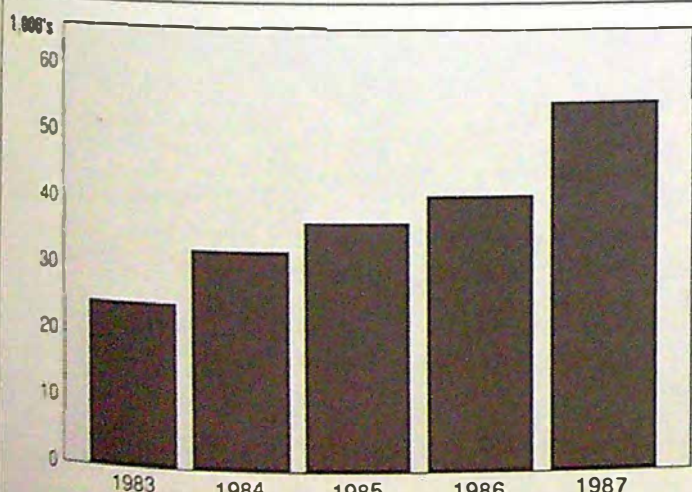Humber College provides this route through its three year Computer Information Systems program which is offered both with and without the co-op option. The demand from em-ployers for co-op students is great. As mentioned in this issue's Message From the Dean, there were fifty more work-term job placements than there were students to fill them this past year in Humber's pro-gram.

The future is bright for young professionals in this field. Statistics Canada shows the number of employees in the computer services industry more than doubled between 1983 and 1987, while average weekly earnings have also risen (see accompanying charts).   <>
Dave Haisell

Average Weekly Earnings Computer Services Industry in Canada

Source: Statistics Canada

Number of Employees in Computer Services Industry in Canada

Source: Statistics Canada

DEAN'S MESSAGE *continued from page 1*

our graduates, both in numbers and in training. Our curriculum is constantly being modified to keep pace with the changes demanded in entry level posi-tions so that our graduates will be well prepared. It is impera-tive that we now increase our efforts and work more closely with secondary school facul-ties. By doing this we can avoid the situation of preparing too many graduates for a career with decreasing demand, or not enough graduates for an area experiencing a high de-gree of growth and rapid change.

We welcome your inquiries and extend an open invitation to you and your students to visit with us at Humber College. A member of our faculty or admin-istrative staff will be pleased to discuss with you the career opportunities available today in business and information systems. In this way we can both work together to help bet-ter interface the stages in the educational process, and direct our students towards a fruitful and challenging future.   <>
Jack Buckley

SPLIT SCREEN READERSHIP SURVEY

THE PRIMARY PURPOSE OF SPLIT SCREEN IS TO MAKE AVAILABLE TO SECONDARY SCHOOL TEACHER/COUNSELLORS AND STUDENTS A SOURCE OF INFORMATION ON VARIOUS ASPECTS OF BUSINESS AND INFORMATION SYSTEMS WHICH CAN BE USED TO ENLIGHTEN them on the nature of the variety of careers which are characteristic of this broad field.

Since this is the fifth issue of SPLIT SCREEN we would appreciate some feedback on who is reading the newsletter, how it is being used, and what you would like to see in future issues. We would also like to offer you the opportunity to suggest or submit for publication specific articles which you feel would be of particular interest to our audience.

We appreciate your input and will strive to continue to publish what we hope will be a valuable source of information to our readers. Please feel free to copy this questionnaire to allow others who read your copy of SPLIT SCREEN to respond.

Letters to the Editor are also welcomed. Responses and letters should be mailed to Dave Haisell, School of Business, Humber College, 205 Humber College Blvd., Rexdale, Ontario M9W 5L7.   <>

QUESTIONNAIRE

✂ -

SECTION 1 - Identity of respondent
Please check one: I am -

A secondary school teacher ☐

A secondary school counsellor ☐

A secondary school student ☐

Principal or Vice Principal ☐

Other: _____ ☐

SECTION 2 - Familiarity With SPLIT SCREEN
How many issues of SPLIT SCREEN have you read? ☐
(This is the fifth issue published)

SECTION 3 - Availability and Use of SPLIT SCREEN in Your Institution.

If you are a secondary school teacher/counsellor:

                            Y   N

Is your copy of SPLIT SCREEN available to students? ☐ ☐

If yes, estimate how many students take advantage of this availability and read SPLIT SCREEN? ☐

To the best of your knowledge how many students have found SPLIT SCREEN of value in helping them decide to pursue further education/training in business and/or computer information systems? ☐

Are you aware how many students have selected Humber College to pursue this training? If so, how many? ☐

If you are a secondary school student:

                            Y   N

Is SPLIT SCREEN readily available to you at your school? ☐ ☐

                                      Y   N

Do you find its contents valuable? ☐ ☐

Has SPLIT SCREEN helped direct your choice of career or further education? ☐ ☐

Are you considering Humber College for the pursuit of your further education? ☐ ☐

SECTION 4 -Suggestions for Future Issues
What subjects would you like to see discussed in future issues?

_____

_____

Would you consider submitting articles for future publication? (If so, please include your name, phone and nature of the article.)

Name: _____

Phone: _____

Nature of Article: _____

_____

If this is not your personal copy of SPLIT SCREEN would you like to be placed on the mailing list? If yes, please supply your name and address, and be sure to have completed the questionnaire.

Name and Address: _____

_____

_____

Thank you for taking the time to respond. Please return completed questionnaire to: David Haisell, School of Business, Humber College, 205 Humber College Blvd., Etobicoke, Ontario, M9W 5L7.

MESSAGE FROM THE DEAN

AN OPEN INVITATION TO SECONDARY SCHOOL TEACHERS AND COUNSELLORS

AS PROFESSIONAL EDUCATORS WE SHARE THE AWESOME RESPONSIBILITY FOR PREPARING YOUNG PEOPLE TO CHOOSE AND PURSUE A CAREER WHICH WILL BE NOT ONLY CHALLENGING, MOTIVATING AND FULFILLING, BUT ALSO PROVIDE THE FINANCIAL STAbility needed to enjoy the rewards which our society can provide. This is not an easy task. Millions of dollars are spent each year resourcing our education system to provide the means to reach this goal.

One of the problems we all face is the lack of information and understanding of the objectives, procedures and requirements of each stage in this career development process. In order for the entire process to succeed, each stage must interrelate well and share a clear understanding of the needs of the student, the job market, and society.

But as so often happens with large systems involving lengthy processing times, things get out of phase. The needs of the job market may change faster than the ability of the system to react. And the needs of the student may fluctuate depending upon his or her perception of how the changes in society and the job market may influence his future. At this moment in time, for instance, we have seen rapid changes in computer technology which are affecting many aspects of our society, not the least of which is the way we process information and conduct our business transactions.

The training required by our young people to enter the business world has changed considerably over the last decade. The whole field of information systems as a career option is poorly understood by many young students. Because of this, we sometime see a great discrepancy between the numbers of graduates from a program and the number of job openings available.

As an example, this Summer and Fall we had to turn away employers with 50 co-op work term openings for students in our Computer Information Systems and Computer Programming programs at Humber College. We simply did not have the students available. The same is true in Office Administration. There are not enough students to fill available entry level job openings.

At Humber College, we are working closely with business employers to determine the requirements they envision for

DESKTOP PUBLISHING

AN OVERVIEW

DESKTOP PUBLISHING IS A PROCESS WHICH ALLOWS YOU TO USE A PERSONAL COMPUTER TO ORGANIZE INFORMATION, LINE DRAWINGS, GRAPHS AND EVEN PHOTOGRAPHS ON A PAGE IN A LOGICAL MANNER WHICH IS BOTH ATTRACTIVE AND EASY TO READ. TO A large extent its success depends upon the design skills of the user, but there are some software packages which allow a computer template approach where the layout for standard documents is predesigned and all the user needs to do is to plug in the text.

Its use in the business world is growing rapidly for the production of such printed material as newsletters, internal reports, educational calendars, and parts manuals. However, where top quality appearance is required as for advertising brochures, for instance, this method has not yet achieved the standard of printing demanded.

Camera-ready copy can be produced with a laser printer producing up to 300 dots of ink per inch attached to a 640K PC with a minimum speed of 8 MHz. Monochrome displays with density ranging from 320 X 200 DPI to 1280 X 800 DPI are satisfactory, and if necessary a scanner may be incorporated into the system for digitizing diagrams, line art and photographs.

Software packages most commonly used today include Ventura from Xerox for the PC, Pagemaker from Apple (which runs on the PC and MAC), and Ready, Set, Go, also for the MAC. It is adviseable to encorporate a word processing package and graphics software for line drawings, charts and graphs.   <>

Dave Haisell

IS THERE A COMPUTER NETWORK IN YOUR FUTURE?

AN INTRODUCTION TO IBM'S TOKEN-RING NETWORK

IF YOU ARE PLANNING TO ENTER THE COMPUTER INFORMATION SYSTEMS PROGRAM AT HUMBER COLLEGE THERE WILL DEFINITELY BE A COMPUTER NETWORK IN YOUR FUTURE. AND THE REASON IS SIMPLE. ACCORDING TO INTERNATIONAL TECHNOLOGY Group, a large market research company, about ten percent of all personal computers used in business and industry are currently connected in local area networks. They also predict that the market for personal computer network hardware and software will grow from about $3 billion this year to $4.5 billion by 1991 - the year of graduation for students entering the community college system in 1988.

Networks - a group of personal computers linked in such a way that they can share software, data and peripheral equipment - reduce the need for carrying floppy disks from office to office, while at the same time allowing a group of individuals access to the same information. Two of the major leaders in providing this resource are Xerox's Ethernet and IBM's Token Ring networks.

With this promising future it is important that all community college students planning a career in information systems share some kind of exposure to this technology. Teaching networking concepts from a textbook is a suitable approach when students require a basic understanding of the concepts. But what should be done when students graduate in a computer discipline but have had no hands on experience? Is textbook knowledge enough to get by in their first information systems job?

Taking that approach would be something like training a programming student without the use of a computer. Or using only one language on a computer and teaching the other languages as theory. Clearly this would not be a suitable approach for such courses and neither is teaching networks without the use of a network.

For several years we have been using JANET networks for a variety of computer related courses at Humber. These networks have been used mostly for teaching software packages and developing user oriented applications. JANET has not been used for hands-on network exposure by the Information Systems students because of the need to support other courses that have had a higher priority.

Now - as of Fall 1988 - a new network has been acquired for the IS department. This is the IBM Token-Ring Network consisting of three IBM Personal System/2 Model 30-021 computers, with 20M hard disk drives, and the Token-Ring hardware to connect these systems. This system will be used primarily for networking courses giving students practical experience with both the hardware and software required to operate such a network.

To understand how the Token-Ring Network works it is necessary to look at the star and ring networks because Token-Ring uses an integration of these two concepts.
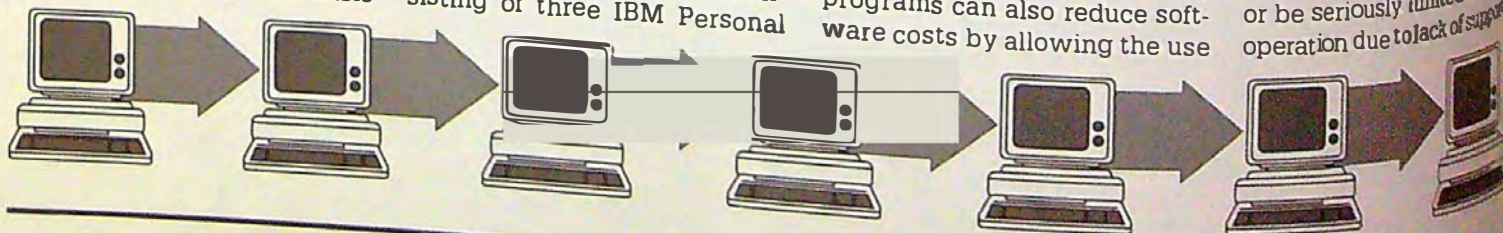
A star network is configured in a star like pattern with a computer at the center. The central computer is the host computer which supplies information and computer resources to the other computers (called nodes) in the network. When the host is a mainframe, it often provides data base support to the other computers and supplies extra computing power when the node is a terminal.

A personal computer star network uses a PC as the host which is referred to as a file server. The central PC contains data bases and programs which are needed by the other computers. Rather than storing data and software on the local computer the file server provides this service, thus eliminating duplication. Sharing programs can also reduce software costs by allowing the use of a network license rather than purchasing many separate copies of the program.

For personal computer star networks are mainly used to connect a number of office computers together and are also popular in some educational settings for student use. The University of Waterloo JANET Network is an example of such a configuration used in educational institutes, while AT&T's StarLAN is a network that is used in business settings. Coaxial cable or twisted pair wires are used to connect each computer in the network which makes movement of the computers to other locations difficult. Adding new computers to the network can also be disruptive to the existing network.

Computers on a star network cannot communicate directly with each other which limits sharing of resources among them. Data can be passed to the central computer for subsequential sharing with other computers in the network, but this inhibits fast and efficient transmission of data where this facility is frequently needed. A significant problem with star networks is their reliance upon the host computer. If this computer fails, all other computers on the network will either become non-operational or be seriously limited in their operation due to lack of support

2

from the host.

The ring network connects a number of computers to a continuous communication ring. There is no host computer but each computer on the ring can communicate with all other computers. Data is passed along the ring from one computer to the next until it arrives at the receiving computer. All other computers simply pass the data along. In one form of ring network a non-functioning computer can cause an interruption of data traffic because it is unable to forward data.

A variation on this permits a malfunctioning computer to be switched out of the ring thus retaining communication with all remaining computers. This makes the ring network more reliable and not dependant upon any one computer in the ring. If one goes down all of the others can continue to operate.

The cost of communication lines in a ring can also be less expensive because lines of the shortest distance between adjacent computers can be used, rather than longer lines usually required in a star. Being attached to a ring network also simplifies the passing of data among computers. The two communicating computers need only talk to each other while other computers in the system ignore their transmissions.

This benefit also has its side effects. Because all computers use the same network special codes and communications controllers are needed to ensure that data flowing between two computers does not get confused with other transmissions going on at the same time with other computers in the system. By having access to any computer in the network, potential security problems exist, requiring passwords and other software protection to ensure that the right users have access to legitimate data.

In theory, networks seem to be relatively simple, but in practice more complexities are often found. The IBM Token-Ring Network appears star-like with individual stations connected to a central access unit. But, inside the multistation access unit the multiconductor cables are electrically connected like a ring.

To operate, the network uses an access method called token passing. An electronic token is circulated among the stations while they are waiting idly for some activity. When a station has a message to transmit it waits until the token arrives at its location. It then takes the token, something like a relay runner taking the baton, and then proceeds to send its message. All other stations must wait until the token becomes free again. In this way stations cannot interfere with one another's transmissions.

IBM's Token-Ring Network comes as a starter kit which includes one Multistation Access Unit, with cables and interface cards for four stations. Cables can be either coaxial (Type 1 system) or twisted-pair wires (Type 2). Up to 260 stations can be connected together with data grade coaxial cable by using multiple access units in the network. 72 stations are possible when twisted-pair wire is used for the network.

Obviously, our three stations do not nearly approach the capacity of this network, but being a fully configured system our network courses can now offer the best of both theory and practice. In this way our graduates can enter the work force confident that they have a firm understanding of the principles of Networks in order to meet the anticipated demands in this area in the 1990s.   <>

Don Cassel

EDITORIAL

PROFESSIONAL CERTIFICATION IN IN-FORMATION SYSTEMS HAS BEEN AN ON AGAIN/OFF AGAIN ISSUE FOR THE PAST TWO DECADES. VERY SIMPLY, IT INVOLVES IDENTIFYING A BODY OF KNOWLEDGE DEEMED MANDATORY FOR EVERY PRACTISING PROFESSIONAL. IT ALSO involves preparing a series of examinations which must be passed by the prospective professional in order to practice in this field.

Such organizations as DPMA, ASM and most recently, CIPS have participated in identifying model curricula designed to prepare the university and/or community college student for the demanding Informations Systems profession. However, there is much disagreement as to what formal body of knowledge is required in such a diversified and ever-changing field.

The Institute for Certification of Computer Professionals (ICCP) in the US has used different sets of exams to assess the qualifications of Certified Data Processors (CDPs), Certified Systems Professionals (CSPs) and Certified Computer Programmers (CCPs). A system of re-certification over a three year period is also in effect and has helped to make the concept of certification more acceptable.

Even though some employers in the US are recognizing and even rewarding employees who become certified, there is no great rush on the part of professionals to achieve this standard of recognition especially in Canada. It is up to the professional associations to convince employers that it is in their best interest to look for letters after the name of a job applicant.

According to John Herzog, the international president of the Association for Systems Management, the major problem is getting the public to understand that information is one of the country's most precious resources. He feels, too, that it will take time to recognize the importance of certifying systems employees.

Even though this is a slow, ongoing process it is important for educational institutions to stay attuned to, and become involved with, the activities of those professional associations who will one day undoubtedly play some part in determining the contents of curricula to be presented in their courses of study. The benefits to the institute are twofold. Firstly, there is the satisfaction of knowing you are graduating qualified, entry-level professionals who are in demand. Secondly, there is the realization that you have the opportunity to play a significant part in the on-going training of these professionals in an ever changing environment.

Through its association with its advisory committee, and through faculty members' participation in various professional organizations, the Information Systems Studies department at Humber College is well attuned to the academic requirements employers specify as necessary for their entry level positions. When, and if, certification becomes a reality, Humber graduates will undoubtedly be well-qualified to achieve whatever standards are identified.   <>

CONSIDERING A CAREER AS A LEGAL ASSISTANT/LAW CLERK?

"HOW CAN I HELP YOU?" THE GUIDANCE COUNSELLOR ASKED. THEY WERE SITTING IN A SMALL INTERVIEW ROOM.

"AH, WELL," SHE HESITATED, "I'M NOT QUITE SURE WHICH PROGRAM TO TAKE." SHE WAS SHY. THE COUNSELLOR HAD SHOWN HER INTO the room where he had her sit across from him.

"Which ones have you been considering?" he probed.

"Well, y'a know, I was looking at two of them." She was still hesitant.

"Yes?" he asked.

"Well, you know, I looked at legal secretary," she paused.

"What was the other one?" he asked kindly.

"It was legal assistant," she said quietly.

"And which one do you like better?"

"I don't know?" she answered.

He was trying to draw her out, trying to find out more about what she wanted, what she was looking for.

"What is it about them that you like?" he asked.

"Well, you know, I like working for a lawyer."

"Have you ever worked for a lawyer before?"

"No," she said.

"Then how do you know you like it?"

That stumped her. He was right. She didn't really know. She sat silent while she thought about an answer.

He continued, "Why don't you and I explore what each does. Maybe that will help you decide, OK?"

"Ah, OK," she answered.

"One of your teachers, or rather one of the teachers you might have, told me once that secretaries learn WHAT legal secretaries do," he emphasized the 'what'. "They then learn HOW to do it. Legal assistants on the other hand learn something the same but they are taught WHY it is being done. Do you understand that?"

"No, not really," she said.

"Well, why don't you tell me what it is about working for a lawyer that you think you'd like," he continued.

She felt a little more comfortable and relaxed. "I think working for a lawyer would be exciting. You get to see all sorts of interesting things. Everyone asks you about your work."

He decided to take a more direct approach. "Do you think it's prestigious to work for a lawyer?"

"I don't know what that means" she replied.

"Well it means people respect you. They think you have an important job."

"Oh yes," she said "And, I hear the money is good too."

"So what I hear you saying is that you would like money and status. Is that correct?" he asked softly.

"Yes," she answered, "But I also want to like what I do."

"OK, first things first. Money. OK to start there?" he asked

"Aha," she said.

"Here is a very interesting little magazine called 'Canadian Lawyer.' It has an article about secretaries. That article says a GOOD secretary can earn $30,000 a year. Maybe even $45,000 with overtime."

"Geez, that's good," she responded enthusiastically.

He continued, "It also says a GOOD assistant gets $35,000. No overtime."

"That's not very good" she interjected.

"Maybe not," he said, "but that's not the point I was trying to make. The point is that this type of wage applies to people who are GOOD."

"Well when I graduate I'll be good, won't I?"

"When you graduate you can expect to have the tools to continue to learn. You can then work at becoming GOOD.

"That sounds like work" she replied.

"Oh yes, you have to work at it no matter which program you take."

"Mmmm," she said.

He continued. "Let's look at what they each do."

'OK'

He took out the Humber College calender. "It says here that the legal assistant program is designed to get you ready to work in a legal environment."

"What does that mean?" she asked.

"Well, that refers to the place you work. A lawyer's office would be a legal environment. So would some government offices, or the legal department of a company."

"You mean I don't have to work just for a lawyer?"

"Nor necessarily," he answered.

"Well, maybe we can go back to what legal assistants do. That might help me." She was beginning to catch on.

"Remember the difference between 'What to do' and "Why to do'?"

"Yes."

"The legal secretary is also an assistant. Her boss tells her what to do and she does it. He tells her what specific tasks have to be performed using her secretarial skills. She doesn't need to know why she's doing it."

"Geez that doesn't sound very interesting."

"Well don't be fooled. It can be." He paused. Getting no further response, he continued. "If you like to prepare documents, if you like talking to people on the phone, clients, other lawyers and secretaries, government departments, that sort of thing, it can be interesting. In fact, I'm told it can be a lot of fun."

"I suppose so," she said without much enthusiasm.

"You could say the secretary is also an assistant. She, or he for that matter, helps, that is assists, the lawyer. She helps getting information from clients and all sorts of people, preparing documents, making appointments, and generally assisting with all office tasks."

"Oh yea?" She perked up.

"Yes," he said.

"So, how is that different from the legal assistant?" she pressed.

"Well first of all you must understand there is that type of work involved for the assistant also."

"Yes," she answered slowly in an inquiring tone.

"Yes, well," he continued, "the assistant also handles projects that involve a series of tasks."

"Well, before you tell me about that I'm worried because I don't type very well. I'm not

sure I can do the document preparation you talked about."

"Oh you don't have to worry about that. The legal assistant program includes practising that skill. In fact it does more."

"What do you mean?" she asked.

"Well you know computers are used a lot today in offices and all sorts of places?"

"Yes, I've heard that."

"Well, you will get two semesters of computer training. Hands on training. You will learn how they work, what they do, how to make them work for you in your job."

"Boy, that sounds interesting," she answered cheerfully.

"So, if you're asked to prepare documents for a particular case you will know what has to be done AND you will know how to do it efficiently. It's called desktop publishing, I think."

"I could use that skill anywhere."

"Good for you. Of course you could. It makes you more employable. It's a skill needed in all kinds of places."

"What else do assistants do?" she pressed.

"They also work outside the office."

"Doing what?"

"They go to land registry offices to search titles."

"What's that?"

"Well they have to find out who owns different pieces of land and buildings. They have to know how to go to the government land offices to find out who owns them."

"Boy, I wouldn't be in the office all the time. I like that. I could meet my friends for lunch or coffee or whatever."

"Yes, I suppose you could. As long as you got your work done."

"Do assistants go other places?"

"They sure do. For example, you could be asked to help the lawyer to do a divorce for a client. You would know what

information was needed and how to get it. You could prepare all the documents. After the lawyer approves them, you could look after filing them in court and maybe even serving copies on the other party."

"What does that mean?"

"You know, if a wife wants a divorce from her husband, copies of the divorce papers have to be given to him. You could do that."

Won't he be mad. I might get hurt."

"No, no. That's not usual. Sometimes the other person doesn't want to get the papers so they try to avoid you. Then you have to use your cunning to serve them."

"I'M NOT QUITE SURE WHICH PROGRAM TO TAKE."

"Wow, that sounds like fun."

"I suppose it can be."

"What other things might I do?"

"Well, let's see. You will learn something about researching the law, looking for old cases in the library, things like that."

"Are there other things?"

"I guess there are. I don't know everything assistants do. But if you stop to think for a moment, you'll see that another thing you could do is marry your research and computer skills.'

"Say what?"

"What I mean is that you should be able to join different skills to do a job. Libraries can now be searched with a computer in your own home or office. With research skills and computer skills you could do the job much more efficiently."

"Would I make more money?"

"I guess so. You become a more valuable employee."

"Those things sound neat!" she responded. "Now I see what you mean about joining skills. Like desktop publishing. I'll know how to use a computer to create what's needed."

"Yes, that's the idea. I'm told that if you get really good, that is if while you work you build on the skills, and more importantly, the knowledge you gain here, you could even go to court for some people. You could even do their entire case."

"You mean I'd be a lawyer?"

"No, not really, But you would be able to do some of the things lawyers do."

"Like what?" she pressed.

"Well, I'm told the government is looking into licensing some people to work directly with the public. Like having your own business serving

your own clients."

"What sort of things would I do?"

"I understand, like the fellow in the newspaper, you could help people defend minor changes brought against them. You could go to court with them."

"Yes, and what else?"

"Well, depending again on what you have learned, you might be able to help people create a business. For example, incorporate a company, or do the paperwork involved in the purchase and sale of homes."

"Wow, that sounds great."

"Maybe so, but I stress it all depends on you. How much you learn and through the experience you get when you first go out to work."

"Well all that sounds OK. But, what if I don't like it. When I go out to work, I mean. Then what?"

"That's the beauty of the course. Remember that the calendar says you will be able to work in a legal environment?" he reminded her.

"Yes" she said.

"Well there are jobs in industry, where the knowledge and skills you learned are very useful. Computer skills can be used almost anywhere. And, being a person who has learned some things about people problems and how our laws deal with them, you are useful in all kinds of places."

"Gee, I want to thank you for taking the time to talk to me about this."

"Oh you don't have to thank me. It's my job and I enjoy it. Did I help you?"

"Oh, yes, you did."

"Which course are you going to take?"

"I'll think about everything you've told me and let you know when I decide. Thanks again."   <>

Robert Shuster

(Robert Shuster is a practicing lawyer and a Teaching Master in the Legal Assistant Program at Humber College.)

SOFTWARE SPOTLIGHT

COMPUTERS IN YOUR DOCTOR'S OFFICE

"The word processing function of a computer can improve the efficiency of a good medical secretary by 30%."

Dr. W. Cass
Toronto Internist

"Once the patient database was established, computerization evened out my cash flow and I now have a 97% collection rate. My total revenue is up about 20%".

Dr. G. Kennedy
Thornhill G.P.

These two statements reflect the common uses to which computers have been put recently in many doctor's offices. But a major trend today, in addition to word processing and billing, sees physicians and their secretaries using computers for such activities as maintaining patient records and retrieving laboratory data.

One such software package which provides many options for the user is A & L Medical Software. This powerful fourth-generation language has several advanced features to help your doctor's office handle its day to day procedures.

The system designers have tried to build in many convenience factors peculiar to the user's needs. For instance, using a sophisticated password MODEM FEATURE, patient records may be accessed from any remote location, thus allowing the doctor access to his files while he is at the hospital, at home, or on the road. At the same time, multi-layer passwords prevent unauthorized personnel from accessing any confidential information, ensuring the privacy of patient data.

Where more than one doctor is involved, the system is upgradeable to support multiple doctor practices or clinics. It may also be upgraded to support most local area networks.

Built-in self diagnostics and self-repairing utilities help keep data files healthy. There is a fast remote technical support system through the modem feature, and an on-line help feature should any problems be encountered.
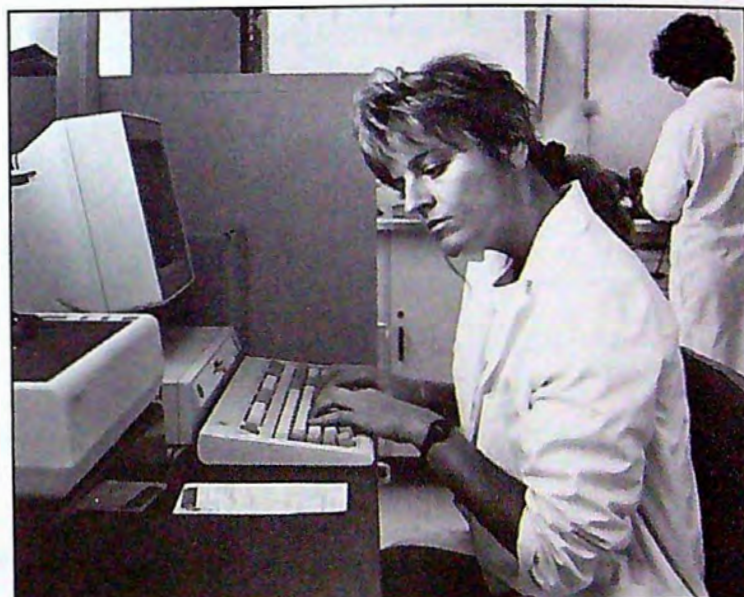
Data files are highly compact, and while other systems on the market may hold no more than one year's information with a 21 MB hard disk, A & L Medical Software holds up to six years of patients' medical history, based on 50 transactions per day and a five day week.

General features such as automatic handling of OHIP fee pricing and validation, corresponding file maintenance, and printing daily reports (transaction summary register, OHIP fee schedules, patient master listing, medical profile, statements, statistical analysis, etc.) are the heart of the package. The system is also able to print patient file labels, lab cards,

compatible computer with 512K memory, hard disk drive, 360K floppy disk drive, monochrome graphics monitor and dot matrix IBM compatible printer.

There are currently 1100 doctor's offices in the Toronto region (Pickering to Mississauga) where the system is in use. Many users are coming on board in such areas as London, Oakville, and North Bay. The goal of A & L is to have 20% of the Ontario market by the summer of 1989.

prescription forms and envelopes, backup all files, and to change passwords.

A & L also provides optional accounting and word processing systems which allow the secretary to maintain a chart of accounts, cash disbursements, journals and reports, cash receipts, and income statement report. In addition, it can type, print and save documents and letters.

Finally, when upgrades are available, these can be performed by inserting a special updated diskette and running an appropriate menu selection.

The whole system is menu driven and user friendly for easy access and use. Basic hardware requirements include an XT/AT MS-DOS IBM

This package is another indication of the advancement of computer technology in the office environment - not to replace the medical secretary - but to make her more effective and to increase the efficiency of the operation. Learning to use such packages is becoming an inherent part of office administration programs at community colleges, and students coming to Humber will obtain much hands-on experience in this activity.

Further information on the package described in this article may be obtained from:
A & L Computer Software Ltd.,
Tel: (416) 736-9867.   <>
Dave Haisell

CAREER OPENINGS IN COMPUTERS AND INFORMATION SYSTEMS

It continues to look bright!

THE DEMAND FOR COLLEGE GRADU-ATES IN COMPUTERS AND INFORMATION SYSTEMS IS STRONG FOR THOSE WHO ARE WELL-TRAINED. TODAY THIS MEANS NOT ONLY HAVING THE TECHNICAL EXPERTISE, BUT IN ADDITION GOOD COMMUNICATION SKILLS AND INTER-personal capabilities. Many employers are having difficulty finding candidates with these qualifications.

Ironically, there are about 3500 computer programmers and systems analysts on unemployment insurance in Canada because they just don't match up to employers' expectations in these areas.
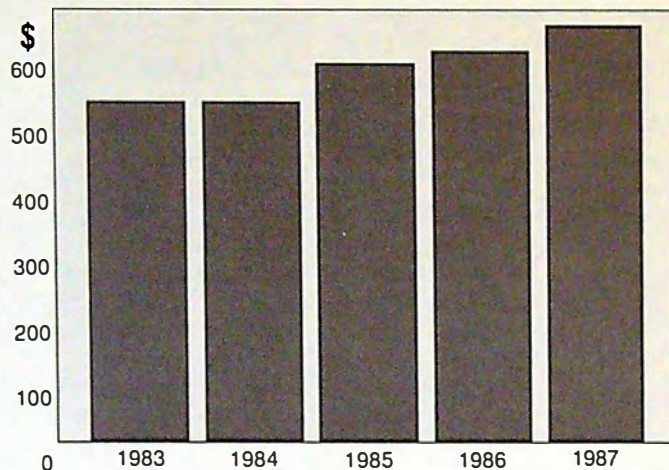
But, it is important that young students considering a career in this field not interpret this unemployment figure as a deterent to pursuing this challenging profession. According to employment and Immigration Canada, the information explosion has created many new positions in data base management, information sys-tems and software development, programming, and information processing. Growth is also predicted for supervisors of data processing operators, with about 800 new positions becoming available in the next six years.

One of the best routes for a student wishing to enter the information systems profession is to combine education with on-the-job experience. This is possible through a co-op program either at a university or community college. In this way a graduate can offer a prospective employer both up-to-date knowledge and hands-on expertise.

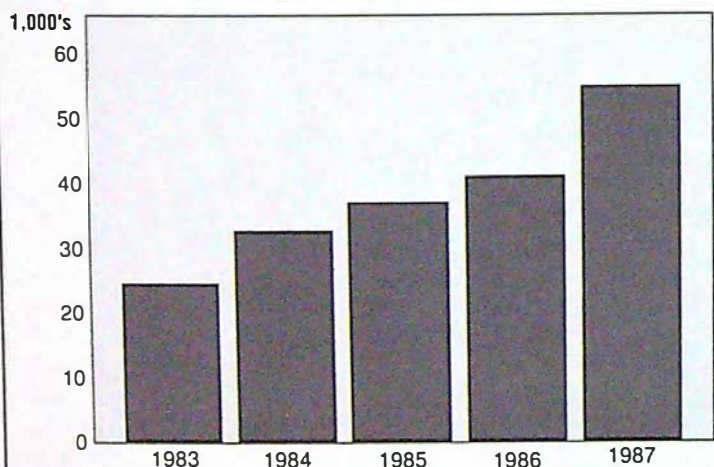Humber College provides this route through its three year Computer Information Systems program which is offered both with and without the co-op option. The demand from employers for co-op students is great. As mentioned in this issue's Message From the Dean, there were fifty more work-term job placements than there were students to fill them this past year in Humber's program.

The future is bright for young professionals in this field. Statistics Canada shows the number of employees in the computer services industry more than doubled between 1983 and 1987, while average weekly earnings have also risen (see accompanying charts).   <>

Dave Haisell

Average Weekly Earnings Computer Services Industry in Canada

Source: Statistics Canada

Number of Employees in Computer Services Industry in Canada

Source: Statistics Canada

DEAN'S MESSAGE *continued from page 1*

our graduates, both in numbers and in training. Our curriculum is constantly being modified to keep pace with the changes demanded in entry level positions so that our graduates will be well prepared. It is imperative that we now increase our efforts and work more closely with secondary school faculties. By doing this we can avoid the situation of preparing too many graduates for a career with decreasing demand, or not enough graduates for an area experiencing a high degree of growth and rapid change.

We welcome your inquiries and extend an open invitation to you and your students to visit with us at Humber College. A member of our faculty or administrative staff will be pleased to discuss with you the career opportunities available today in business and information systems. In this way we can both work together to help better interface the stages in the educational process, and direct our students towards a fruitful and challenging future.   <>

Jack Buckley

SPLIT SCREEN READERSHIP SURVEY

THE PRIMARY PURPOSE OF SPLIT SCREEN IS TO MAKE AVAILABLE TO SECONDARY SCHOOL TEACHER/COUNSELLORS AND STUDENTS A SOURCE OF INFORMATION ON VARIOUS ASPECTS OF BUSINESS AND INFORMATION SYSTEMS WHICH CAN BE USED TO ENLIGHTEN them on the nature of the variety of careers which are characteristic of this broad field.

Since this is the fifth issue of SPLIT SCREEN we would appreciate some feedback on who is reading the newsletter, how it is being used, and what you would like to see in future issues. We would also like to offer you the opportunity to suggest or submit for publication specific articles which you feel would be of particular interest to our audience.

We appreciate your input and will strive to continue to publish what we hope will be a valuable source of information to our readers. Please feel free to copy this questionnaire to allow others who read your copy of SPLIT SCREEN to respond.

Letters to the Editor are also welcomed. Responses and letters should be mailed to Dave Haisell, School of Business, Humber College, 205 Humber College Blvd., Rexdale, Ontario M9W 5L7. <>

QUESTIONNAIRE

SECTION 1 - Identity of respondent
Please check one: I am -

A secondary school teacher ☐

A secondary school counsellor ☐

A secondary school student ☐

Principal or Vice Principal ☐

Other: _____ ☐

SECTION 2 - Familiarity With SPLIT SCREEN
How many issues of SPLIT SCREEN have you read? [ ]
(This is the fifth issue published)

SECTION 3 - Availability and Use of SPLIT SCREEN in Your Institution.
If you are a secondary school teacher/counsellor: Y   N

Is your copy of SPLIT SCREEN available to students? ☐ ☐

If yes, estimate how many students take advantage of this availability and read SPLIT SCREEN? [ ]

To the best of your knowledge how many students have found SPLIT SCREEN of value in helping them decide to pursue further education/training in business and/or computer information systems? [ ]

Are you aware how many students have selected Humber College to pursue this training?If so, how many? [ ]

If you are a secondary school student:

Is SPLIT SCREEN readily available to you at your school?   Y   N
☐ ☐

                                                              Y   N
Do you find its contents valuable? ☐ ☐

Has SPLIT SCREEN helped direct your choice of career or further education? ☐ ☐

Are you considering Humber College for the pursuit of your further education? ☐ ☐

SECTION 4 -Suggestions for Future Issues
What subjects would you like to see discussed in future issues?

_____

_____

Would you consider submitting articles for future publication? (If so, please include your name, phone and nature of the article.)

Name: _____

Phone: _____

Nature of Article: _____

_____

If this is not your personal copy of SPLIT SCREEN would you like to be placed on the mailing list? If yes, please supply your name and address, and be sure to have completed the questionnaire.

Name and Address: _____

_____

_____

Thank you for taking the time to respond. Please return completed questionaire to: David Haisell, School of Business, Humber College, 205 Humber College Blvd., Etobicoke, Ontario, M9W 5L7.

MESSAGE FROM THE DEAN

AN OPEN INVITATION TO SECONDARY SCHOOL TEACHERS AND COUNSELLORS

AS PROFESSIONAL EDUCATORS WE SHARE THE AWESOME RESPONSIBILITY FOR PREPARING YOUNG PEOPLE TO CHOOSE AND PURSUE A CAREER WHICH WILL BE NOT ONLY CHALLENGING, MOTIVATING AND FULFILLING, BUT ALSO PROVIDE THE FINANCIAL STABILITY needed to enjoy the rewards which our society can provide. This is not an easy task. Millions of dollars are spent each year resourcing our education system to provide the means to reach this goal.

One of the problems we all face is the lack of information and understanding of the objectives, procedures and requirements of each stage in this career development process. In order for the entire process to succeed, each stage must interrelate well and share a clear understanding of the needs of the student, the job market, and society.

But as so often happens with large systems involving lengthy processing times, things get out of phase. The needs of the job market may change faster than the ability of the system to react. And the needs of the student may fluctuate depending upon his or her perception of how the changes in society and the job market may influence his future. At this moment in time, for instance, we have seen rapid changes in computer technology which are affecting many aspects of our society, not the least of which is the way we process information and conduct our business transactions.

The training required by our young people to enter the business world has changed considerably over the last decade. The whole field of information systems as a career option is poorly understood by many young students. Because of this, we sometime see a great discrepancy between the numbers of graduates from a program and the number of job openings available.

As an example, this Summer and Fall we had to turn away employers with 50 co-op work term openings for students in our Computer Information Systems and Computer Programming programs at Humber College. We simply did not have the students available. The same is true in Office Administration. There are not enough students to fill available entry level job openings.

At Humber College, we are working closely with business employers to determine the requirements they envision for

DESKTOP PUBLISHING

AN OVERVIEW

DESKTOP PUBLISHING IS A PROCESS WHICH ALLOWS YOU TO USE A PERSONAL COMPUTER TO ORGANIZE INFORMATION, LINE DRAWINGS, GRAPHS AND EVEN PHOTOGRAPHS ON A PAGE IN A LOGICAL MANNER WHICH IS BOTH ATTRACTIVE AND EASY TO READ. TO A large extent its success depends upon the design skills of the user, but there are some software packages which allow a computer template approach where the layout for standard documents is predesigned and all the user needs to do is to plug in the text.

Its use in the business world is growing rapidly for the production of such printed material as newsletters, internal reports, educational calendars, and parts manuals. However, where top quality appearance is required as for advertising brochures, for instance, this method has not yet achieved the standard of printing demanded.

Camera-ready copy can be produced with a laser printer producing up to 300 dots of ink per inch attached to a 640K PC with a minimum speed of 8 MHz. Monochrome displays with density ranging from 320 X 200 DPI to 1280 X 800 DPI are satisfactory, and if necessary a scanner may be incorporated into the system for digitizing diagrams, line art and photographs.

Software packages most commonly used today include Ventura from Xerox for the PC, Pagemaker from Apple (which runs on the PC and MAC), and Ready, Set, Go, also for the MAC. It is adviseable to encorporate a word processing package and graphics software for line drawings, charts and graphs.   <>

Dave Haisell

IS THERE A COMPUTER NETWORK IN YOUR FUTURE?

AN INTRODUCTION TO IBM'S TOKEN-RING NETWORK

IF YOU ARE PLANNING TO ENTER THE COMPUTER INFORMATION SYSTEMS PROGRAM AT HUMBER COLLEGE THERE WILL DEFINITELY BE A COMPUTER NETWORK IN YOUR FUTURE. AND THE REASON IS SIMPLE. ACCORDING TO INTERNATIONAL TECHNOLOGY Group, a large market research company, about ten percent of all personal computers used in business and industry are currently connected in local area networks. They also predict that the market for personal computer network hardware and software will grow from about $3 billion this year to $4.5 billion by 1991 - the year of graduation for students entering the community college system in 1988.

Networks - a group of personal computers linked in such a way that they can share software, data and peripheral equipment - reduce the need for carrying floppy disks from office to office, while at the same time allowing a group of individuals access to the same information. Two of the major leaders in providing this resource are Xerox's Ethernet and IBM's Token Ring networks.

With this promising future it is important that all community college students planning a career in information systems share some kind of exposure to this technology. Teaching networking concepts from a textbook is a suitable approach when students require a basic understanding of the concepts. But what should be done when students graduate in a computer discipline but have had no hands on experience? Is textbook knowledge enough to get by in their first information systems job?

Taking that approach would be something like training a programming student without the use of a computer. Or using only one language on a computer and teaching the other languages as theory. Clearly this would not be a suitable approach for such courses and neither is teaching networks without the use of a network.

For several years we have been using JANET networks for a variety of computer related courses at Humber. These networks have been used mostly for teaching software packages and developing user oriented applications. JANET has not been used for hands-on network exposure by the Information Systems students because of the need to support other courses that have had a higher priority.

Now - as of Fall 1988 - a new network has been acquired for the IS department. This is the IBM Token-Ring Network consisting of three IBM Personal System/2 Model 30-021 computers, with 20M hard disk drives, and the Token-Ring hardware to connect these systems. This system will be used primarily for networking courses giving students practical experience with both the hardware and software required to operate such a network.

To understand how the Token-Ring Network works it is necessary to look at the star and ring networks because Token-Ring uses an integration of these two concepts.

A star network is configured in a star like pattern with a computer at the center. The central computer is the host computer which supplies information and computer resources to the other computers (called nodes) in the network. When the host is a mainframe, it often provides data base support to the other computers and supplies extra computing power when the node is a terminal.

A personal computer star network uses a PC as the host which is referred to as a file server. The central PC contains data bases and programs which are needed by the other computers. Rather than storing data and software on the local computer the file server provides this service, thus eliminating duplication. Sharing programs can also reduce software costs by allowing the use of a network license rather than purchasing many separate copies of the program.

For personal computing, star networks are mainly used to connect a number of office's computers together and are also popular in some educational settings for student use. The University of Waterloo's JANET Network is an example of such a configuration used by educational institutes, while AT&T's StarLAN is a network that is used in business settings. Coaxial cable or twisted-pair wires are used to attach each computer in the network which makes movement of the computers to other locations difficult. Adding new computers to the network can also be disruptive to the existing network.

Computers on a star network cannot communicate directly with each other which limits sharing of resources among them. Data can be passed to the central computer for subsequential sharing with other computers in the network, but this inhibits fast and efficient transmission of data where this facility is frequently needed. A significant problem with star networks is their reliance upon the host computer. If this computer fails, all other computers on the network will either become non-operational or be seriously limited in their operation due to lack of support

from the host.

The ring network connects a number of computers to a continuous communication ring. There is no host computer but each computer on the ring can communicate with all other computers. Data is passed along the ring from one computer to the next until it arrives at the receiving computer. All other computers simply pass the data along. In one form of ring network a non-functioning computer can cause an interruption of data traffic because it is unable to forward data.

A variation on this permits a malfunctioning computer to be switched out of the ring thus retaining communication with all remaining computers. This makes the ring network more reliable and not dependant upon any one computer in the ring. If one goes down all of the others can continue to operate.

The cost of communication lines in a ring can also be less expensive because lines of the shortest distance between adjacent computers can be used, rather than longer lines usually required in a star. Being attached to a ring network also simplifies the passing of data among computers. The two communicating computers need only talk to each other while other computers in the system ignore their transmissions.

This benefit also has its side effects. Because all computers use the same network special codes and communications controllers are needed to ensure that data flowing between two computers does not get confused with other transmissions going on at the same time with other computers in the system. By having access to any computer in the network, potential security problems exist, requiring passwords and other software protection to ensure that the right users have access to legitimate data.

In theory, networks seem to be relatively simple, but in practice more complexities are often found. The IBM Token-Ring Network appears star-like with individual stations connected to a central access unit. But, inside the multistation access unit the multiconductor cables are electrically connected like a ring.

To operate, the network uses an access method called token passing. An electronic token is circulated among the stations while they are waiting idly for some activity. When a station has a message to transmit it waits until the token arrives at its location. It then takes the token, something like a relay runner taking the baton, and then proceeds to send its message. All other stations must wait until the token becomes free again. In this way stations cannot interfere with one another's transmissions.

IBM's Token-Ring Network comes as a starter kit which includes one Multistation Access Unit, with cables and interface cards for four stations. Cables can be either coaxial (Type 1 system) or twisted-pair wires (Type 2). Up to 260 stations can be connected together with data grade coaxial cable by using multiple access units in the network. 72 stations are possible when twisted-pair wire is used for the network.

Obviously, our three stations do not nearly approach the capacity of this network, but being a fully configured system our network courses can now offer the best of both theory and practice. In this way our graduates can enter the work force confident that they have a firm understanding of the principles of Networks in order to meet the anticipated demands in this area in the 1990s.   <>

Don Cassel

EDITORIAL

PROFESSIONAL CERTIFICATION IN INFORMATION SYSTEMS HAS BEEN AN ON AGAIN/OFF AGAIN ISSUE FOR THE PAST TWO DECADES. VERY SIMPLY, IT INVOLVES IDENTIFYING A BODY OF KNOWLEDGE DEEMED MANDATORY FOR EVERY PRACTISING PROFESSIONAL. IT ALSO involves preparing a series of examinations which must be passed by the prospective professional in order to practice in this field.

Such organizations as DPMA, ASM and most recently, CIPS have participated in identifying model curricula designed to prepare the university and/or community college student for the demanding Informations Systems profession. However, there is much disagreement as to what formal body of knowledge is required in such a diversified and ever-changing field.

The Institute for Certification of Computer Professionals (ICCP) in the US has used different sets of exams to assess the qualifications of Certified Data Processors (CDPs), Certified Systems Professionals (CSPs) and Certified Computer Programmers (CCPs). A system of re-certification over a three year period is also in effect and has helped to make the concept of certification more acceptable.

Even though some employers in the US are recognizing and even rewarding employees who become certified, there is no great rush on the part of professionals to achieve this standard of recognition especially in Canada. It is up to the professional associations to convince employers that it is in their best interest to look for letters after the name of a job applicant.

According to John Herzog, the international president of the Association for Systems Management, the major problem is getting the public to understand that information is one of the country's most precious resources. He feels, too, that it will take time to recognize the importance of certifying systems employees.

Even though this is a slow, ongoing process it is important for educational institutions to stay attuned to, and become involved with, the activities of those professional associations who will one day undoubtedly play some part in determining the contents of curricula to be presented in their courses of study. The benefits to the institute are twofold. Firstly, there is the satisfaction of knowing you are graduating qualified, entry-level professionals who are in demand. Secondly, there is the realization that you have the opportunity to play a significant part in the on-going training of these professionals in an ever changing environment.

Through its association with its advisory committee, and through faculty members' participation in various professional organizations, the Information Systems Studies department at Humber College is well attuned to the academic requirements employers specify as necessary for their entry level positions. When, and if, certification becomes a reality, Humber graduates will undoubtedly be well-qualified to achieve whatever standards are identified.   <>

CONSIDERING A CAREER AS A LEGAL ASSISTANT/LAW CLERK?

HOW CAN I HELP YOU?" THE GUIDANCE COUNSELLOR ASKED. THEY WERE SITTING IN A SMALL INTERVIEW ROOM.

"AH, WELL," SHE HESITATED, "I'M NOT QUITE SURE WHICH PROGRAM TO TAKE." SHE WAS SHY. THE COUNSELLOR HAD SHOWN HER INTO the room where he had her sit across from him.

"Which ones have you been considering?" he probed.

"Well, y'a know, I was looking at two of them." She was still hesitant.

"Yes?" he asked.

"Well, you know, I looked at legal secretary," she paused.

"What was the other one?" he asked kindly.

"It was legal assistant," she said quietly.

"And which one do you like better?"

"I don't know?" she answered.

He was trying to draw her out, trying to find out more about what she wanted, what she was looking for.

"What is it about them that you like?" he asked.

"Well, you know, I like working for a lawyer."

"Have you ever worked for a lawyer before?"

"No," she said.

"Then how do you know you like it?"

That stumped her. He was right. She didn't really know. She sat silent while she thought about an answer.

He continued, "Why don't you and I explore what each does. Maybe that will help you decide, OK?"

"Ah, OK," she answered.

"One of your teachers, or rather one of the teachers you might have, told me once that secretaries learn WHAT legal secretaries do," he emphasized the 'what'. "They then learn HOW to do it. Legal assistants on the other hand learn something the same but they are taught WHY it is being done. Do you understand that?"

"No, not really," she said.

"Well, why don't you tell me what it is about working for a lawyer that you think you'd like," he continued.

She felt a little more comfortable and relaxed. "I think working for a lawyer would be exciting. You get to see all sorts of interesting things. Everyone asks you about your work."

He decided to take a more direct approach. "Do you think it's prestigious to work for a lawyer?"

"I don't know what that means" she replied.

"Well it means people respect you. They think you have an important job."

"Oh yes," she said "And, I hear the money is good too."

"So what I hear you saying is that you would like money and status. Is that correct?" he asked softly.

"Yes," she answered, "But I also want to like what I do."

"OK, first things first. Money. OK to start there?" he asked

"Aha," she said.

"Here is a very interesting little magazine called 'Canadian Lawyer.' It has an article about secretaries. That article says a GOOD secretary can earn $30,000 a year. Maybe even $45,000 with overtime."

"Geez, that's good," she responded enthusiastically.

He continued, "It also says a GOOD assistant gets $35,000. No overtime."

"That's not very good" she interjected.

"Maybe not," he said, "but that's not the point I was trying to make. The point is that this type of wage applies to people who are GOOD."

"Well when I graduate I'll be good, won't I?"

"When you graduate you can expect to have the tools to continue to learn. You can then work at becoming GOOD.

"That sounds like work" she replied.

"Oh yes, you have to work at it no matter which program you take."

"Mmmm," she said.

He continued. "Let's look at what they each do."

'OK'

He took out the Humber College calender. "It says here that the legal assistant program is designed to get you ready to work in a legal environment."

"What does that mean?" she asked.

"Well, that refers to the place you work. A lawyer's office would be a legal environment. So would some government offices, or the legal department of a company."

"You mean I don't have to work just for a lawyer?"

"Nor necessarily," he answered.

"Well, maybe we can go back to what legal assistants do. That might help me." She was beginning to catch on.

"Remember the difference between 'What to do' and "Why to do'?"

"Yes."

"The legal secretary is also an assistant. Her boss tells her what to do and she does it. He tells her what specific tasks have to be performed using her secretarial skills. She doesn't need to know why she's doing it."

"Geez that doesn't sound very interesting."

"Well don't be fooled. It can be." He paused. Getting no further response, he continued. "If you like to prepare documents, if you like talking to people on the phone, clients, other lawyers and secretaries, government departments, that sort of thing, it can be interesting. In fact, I'm told it can be a lot of fun."

"I suppose so," she said without much enthusiasm.

"You could say the secretary is also an assistant. She, or he for that matter, helps, that is assists, the lawyer. She helps getting information from clients and all sorts of people, preparing documents, making appointments, and generally assisting with all office tasks."

"Oh yea?" She perked up.

"Yes," he said.

"So, how is that different from the legal assistant?" she pressed.

"Well first of all you must understand there is that type of work involved for the assistant also."

"Yes," she answered slowly in an inquiring tone.

"Yes, well," he continued, "the assistant also handles projects that involve a series of tasks."

"Well, before you tell me about that I'm worried because I don't type very well. I'm not

4

sure I can do the document preparation you talked about."

"Oh you don't have to worry about that. The legal assistant program includes practising that skill. In fact it does more."

"What do you mean?" she asked.

"Well you know computers are used a lot today in offices and all sorts of places?"

"Yes, I've heard that."

"Well, you will get two semesters of computer training. Hands on training. You will learn how they work, what they do, how to make them work for you in your job."

"Boy, that sounds interesting," she answered cheerfully.

"So, if you're asked to prepare documents for a particular case you will know what has to be done AND you will know how to do it efficiently. It's called desktop publishing, I think."

"I could use that skill anywhere."

"Good for you. Of course you could. It makes you more employable. It's a skill needed in all kinds of places."

"What else do assistants do?" she pressed.

"They also work outside the office."

"Doing what?"

"They go to land registry offices to search titles."

"What's that?"

"Well they have to find out who owns different pieces of land and buildings. They have to know how to go to the government land offices to find out who owns them."

"Boy, I wouldn't be in the office all the time. I like that. I could meet my friends for lunch or coffee or whatever."

"Yes, I suppose you could. As long as you got your work done."

"Do assistants go other places?"

"They sure do. For example, you could be asked to help the lawyer to do a divorce for a client. You would know what information was needed and how to get it. You could prepare all the documents. After the lawyer approves them, you could look after filing them in court and maybe even serving copies on the other party."

"What does that mean?"

"You know, if a wife wants a divorce from her husband, copies of the divorce papers have to be given to him. You could do that."

"Won't he be mad. I might get hurt."

"No, no. That's not usual. Sometimes the other person doesn't want to get the papers so they try to avoid you. Then you have to use your cunning to serve them."

"I'M NOT QUITE SURE WHICH PROGRAM TO TAKE."

"Wow, that sounds like fun."

"I suppose it can be."

"What other things might I do?"

"Well, let's see. You will learn something about researching the law, looking for old cases in the library, things like that."

"Are there other things?"

"I guess there are. I don't know everything assistants do. But if you stop to think for a moment, you'll see that another thing you could do is marry your research and computer skills.'

"Say what?"

"What I mean is that you should be able to join different skills to do a job. Libraries can now be searched with a computer in your own home or office. With research skills and computer skills you could do the job much more efficiently."

"Would I make more money?"

"I guess so. You become a more valuable employee."

"Those things sound neat!" she responded. "Now I see what you mean about joining skills. Like desktop publishing. I'll know how to use a computer to create what's needed."

"Yes, that's the idea. I'm told that if you get really good, that is if while you work you build on the skills, and more importantly, the knowledge you gain here, you could even go to court for some people. You could even do their entire case."

"You mean I'd be a lawyer?"

"No, not really, But you would be able to do some of the things lawyers do."

"Like what?" she pressed.

"Well, I'm told the government is looking into licensing some people to work directly with the public. Like having your own business serving your own clients."

"What sort of things would I do?"

"I understand, like the fellow in the newspaper, you could help people defend minor changes brought against them. You could go to court with them."

"Yes, and what else?"

"Well, depending again on what you have learned, you might be able to help people create a business. For example, incorporate a company, or do the paperwork involved in the purchase and sale of homes."

"Wow, that sounds great."

"Maybe so, but I stress it all depends on you. How much you learn and through the experience you get when you first go out to work."

"Well all that sounds OK. But, what if I don't like it. When I go out to work, I mean. Then what?"

"That's the beauty of the course. Remember that the calendar says you will be able to work in a legal environment?" he reminded her.

"Yes" she said.

"Well there are jobs in industry, where the knowledge and skills you learned are very useful. Computer skills can be used almost anywhere. And, being a person who has learned some things about people problems and how our laws deal with them, you are useful in all kinds of places."

"Gee, I want to thank you for taking the time to talk to me about this."

"Oh you don't have to thank me. It's my job and I enjoy it. Did I help you?"

"Oh, yes, you did."

"Which course are you going to take?"

"I'll think about everything you've told me and let you know when I decide. Thanks again."   <>

Robert Shuster

(Robert Shuster is a practicing lawyer and a Teaching Master in the Legal Assistant Program at Humber College.)

SOFTWARE SPOTLIGHT

COMPUTERS IN YOUR DOCTOR'S OFFICE

"The word processing function of a computer can improve the efficiency of a good medical secretary by 30%."

Dr. W. Cass
Toronto Internist

"Once the patient database was established, computerization evened out my cash flow and I now have a 97% collection rate. My total revenue is up about 20%".

Dr. G. Kennedy
Thornhill G.P.

These two statements reflect the common uses to which computers have been put recently in many doctor's offices. But a major trend today, in addition to word processing and billing, sees physicians and their secretaries using computers for such activities as maintaining patient records and retrieving laboratory data.

One such software package which provides many options for the user is A & L Medical Software. This powerful fourth-generation language has several advanced features to help your doctor's office handle its day to day procedures.

The system designers have tried to build in many convenience factors peculiar to the user's needs. For instance, using a sophisticated password MODEM FEATURE, patient records may be accessed from any remote location, thus allowing the doctor access to his files while he is at the hospital, at home, or on the road. At the same time, multi-layer passwords prevent unauthorized personnel from accessing any confidential information, ensuring the privacy of patient data.

Where more than one doctor is involved, the system is upgradeable to support multiple doctor practices or clinics. It may also be upgraded to support most local area networks.

Built-in self diagnostics and self-repairing utilities help keep data files healthy. There is a fast remote technical support system through the modem feature, and an on-line help feature should any problems be encountered.

Data files are highly compact, and while other systems on the market may hold no more than one year's information with a 21 MB hard disk, A & L Medical Software holds up to six years of patients' medical history, based on 50 transactions per day and a five day week.

General features such as automatic handling of OHIP fee pricing and validation, corresponding file maintenance, and printing daily reports (transaction summary register, OHIP fee schedules, patient master listing, medical profile, statements, statistical analysis, etc.) are the heart of the package. The system is also able to print patient file labels, lab cards,

prescription forms and envelopes, backup all files, and to change passwords.

A & L also provides optional accounting and word processing systems which allow the secretary to maintain a chart of accounts, cash disbursements, journals and reports, cash receipts, and income statement report. In addition, it can type, print and save documents and letters.

Finally, when upgrades are available, these can be performed by inserting a special updated diskette and running an appropriate menu selection.

The whole system is menu driven and user friendly for easy access and use. Basic hardware requirements include an XT/AT MS-DOS IBM compatible computer with 512K memory, hard disk drive, 360K floppy disk drive, monochrome graphics monitor and dot matrix IBM compatible printer.

There are currently 1100 doctor's offices in the Toronto region (Pickering to Mississauga) where the system is in use. Many users are coming on board in such areas as London, Oakville, and North Bay. The goal of A & L is to have 20% of the Ontario market by the summer of 1989.

This package is another indication of the advancement of computer technology in the office environment - not to replace the medical secretary - but to make her more effective and to increase the efficiency of the operation. Learning to use such packages is becoming an inherent part of office administration programs at community colleges, and students coming to Humber will obtain much hands-on experience in this activity.

Further information on the package described in this article may be obtained from:
A & L Computer Software Ltd.,
Tel: (416) 736-9867.   <>
Dave Haisell

CAREER OPENINGS IN COMPUTERS AND INFORMATION SYSTEMS

It continues to look bright!

THE DEMAND FOR COLLEGE GRADU-ATES IN COMPUTERS AND INFORMATION SYSTEMS IS STRONG FOR THOSE WHO ARE WELL-TRAINED. TODAY THIS MEANS NOT ONLY HAVING THE TECHNICAL EXPER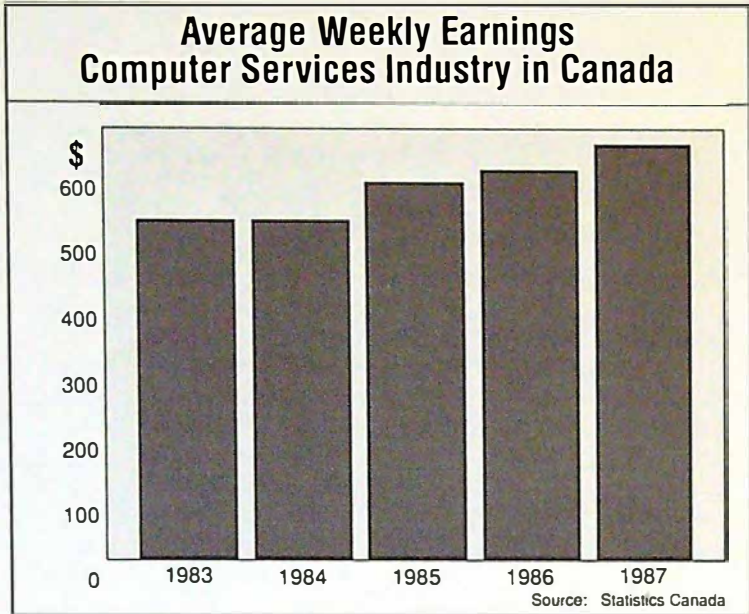TISE, BUT IN ADDITION GOOD COMMUNI-CATION SKILLS AND INTER-personal capabilities. Many employers are having difficulty finding candidates with these qualifications.

Ironically, there are about 3500 computer programmers and systems analysts on unemployment insurance in Canada because they just don't match up to employers' expectations in these areas.

But, it is important that young students considering a career in this field not interpret this unemployment figure as a deterrent to pursuing this challenging profession. According to employment and Immigration Canada, the information explosion has created many new positions in data base management, information systems and software development, programming, and information processing. Growth is also predicted for supervisors of data processing operators, with about 800 new positions becoming available in the next six years.

One of the best routes for a student wishing to enter the information systems profession is to combine education with on-the-job experience. This is possible through a co-op program either at a university or community college. In this way a graduate can offer a prospective employer both up-to-date knowledge and hands-on expertise.
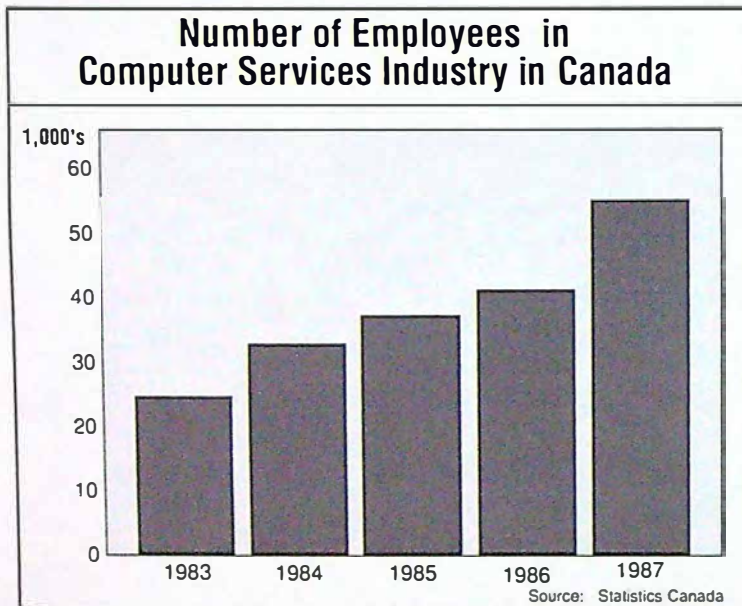
Humber College provides this route through its three year Computer Information Systems

program which is offered both with and without the co-op option. The demand from employers for co-op students is great. As mentioned in this issue's Message From the Dean, there were fifty more work-term job placements than there were students to fill them this past year in Humber's program.

The future is bright for young professionals in this field. Statistics Canada shows the number of employees in the computer services industry more than doubled between 1983 and 1987, while average weekly earnings have also risen (see accompanying charts).   <>

Dave Haisell '

Average Weekly Earnings Computer Services Industry in Canada

Source: Statistics Canada

Number of Employees in Computer Services Industry in Canada

Source: Statistics Canada

DEAN'S MESSAGE *continued from page 1*

our graduates, both in numbers and in training. Our curriculum is constantly being modified to keep pace with the changes demanded in entry level positions so that our graduates will be well prepared. It is imperative that we now increase our efforts and work more closely with secondary school faculties. By doing this we can avoid the situation of preparing too many graduates for a career with decreasing demand, or not enough graduates for an area experiencing a high degree of growth and rapid change.

We welcome your inquiries and extend an open invitation to you and your students to visit with us at Humber College. A member of our faculty or administrative staff will be pleased to discuss with you the career opportunities available today in business and information systems. In this way we can both work together to help better interface the stages in the educational process, and direct our students towards a fruitful and challenging future.   <>

Jack Buckley

SPLIT SCREEN READERSHIP SURVEY

THE PRIMARY PURPOSE OF SPLIT SCREEN IS TO MAKE AVAILABLE TO SECONDARY SCHOOL TEACHER/COUNSELLORS AND STUDENTS A SOURCE OF INFORMATION ON VARIOUS ASPECTS OF BUSINESS AND INFORMATION SYSTEMS WHICH CAN BE USED TO ENLIGHTEN them on the nature of the variety of careers which are characteristic of this broad field.

Since this is the fifth issue of SPLIT SCREEN we would appreciate some feedback on who is reading the newsletter, how it is being used, and what you would like to see in future issues. We would also liketo offer you the opportunity to suggest or submit for publication specific articles which you feel would be of particular interest to our audience.

We appreciate your input and will strive to continue to publish what we hope will be a valuable source of information to our readers. Please feel free to copy this questionnaire to allow others who read your copy of SPLIT SCREEN to respond.

Letters to the Editor are also welcomed. Responses and letters should be mailed to Dave Haisell, School of Business, Humber College, 205 Humber College Blvd., Rexdale, Ontario M9W 5L7.   <>

QUESTIONNAIRE

SECTION 1 - Identity of respondent
Please check one: I am -

A secondary school teacher ☐

A secondary school counsellor ☐

A secondary school student ☐

Principal or Vice Principal ☐

Other: _____ ☐

SECTION 2 - Familiarity With SPLIT SCREEN
How many issues of SPLIT SCREEN have you read? ☐
(This is the fifth issue published)

SECTION 3 - Availability and Use of SPLIT SCREEN in Your Institution.
If you are a secondary school teacher/counsellor:

                                    Y   N

Is your copy of SPLIT SCREEN available to students? ☐ ☐

If yes, estimate how many students take advantage of this availability and read SPLIT SCREEN? ☐

To the best of your knowledge how many students have found SPLIT SCREEN of value in helping them decide to pursue further education/training in business and/or computer information systems? ☐

Are you aware how many students have selected Humber College to pursue this training?If so, how many? ☐

If you are a secondary school student:

                                      Y   N

Is SPLIT SCREEN readily available to you at your school? ☐ ☐

                                        Y   N

Do you find its contents valuable? ☐ ☐

Has SPLIT SCREEN helped direct your choice of career or further education? ☐ ☐

Are you considering Humber College for the pursuit of your further education? ☐ ☐

SECTION 4 -Suggestions for Future Issues
What subjects would you like to see discussed in future issues?

_____

_____

Would you consider submitting articles for future publication? (If so, please include your name, phone and nature of the article.)

Name: _____

Phone: _____

Nature of Article: _____

_____

If this is not your personal copy of SPLIT SCREEN would you like to be placed on the mailing list? If yes, please supply your name and address, and be sure to have completed the questionnaire.

Name and Address: _____

_____

_____

Thank you for taking the time to respond. Please return completed questionaire to: David Haisell, School of Business, Humber College, 205 Humber College Blvd., Etobicoke, Ontario, M9W 5L7.

Message from the Dean of the School of Business

NEW FOR 1990
The Humber Student Residence

THE EXCELLENT EDUCATIONAL OPPORTUNITIES AVAILABLE ON THE DYNAMIC AND DIVERSE NORTH CAMPUS OF HUMBER COLLEGE LOCATED IN NORTHWEST METRO TORONTO, WILL NOW TAKE ON AN ADDED DIMENSION. STARTING THIS FALL, WE ARE OFFERING OUR STUDENTS THE OPTION OF COLLEGE RESIDENCE LIVING.

In the past approximately 80% of the full-time students enrolled in the School of Business have come from areas outside of Etobicoke and the City of York. The availability and cost of housing in Toronto during the last few years has made it difficult for those students to find reasonable accommodation. Now that is going to change.

Our residential community complements the academic program and will provide an outstanding "home away from home" for more than 700 students. A trained and dedicated live-in staff will encourage and plan various student programs, and will promote a variety of interesting opportunities for residents.

The North Campus residence will consist of two buildings; one a nine storey high rise with 344 single rooms, the other a five storey low rise with 379 single rooms. All rooms are air conditioned and fully fur-nished. There are cable TV and telephone outlets in every room, and TV lounge and laundry facilities on each floor. A linen service is also available if required.

The 280 seat self-service cafeteria in each residence will provide a wide variety of choices for each meal. The Residence Programming Committee is dedicated to providing alternative social and recreational events within the residences themselves. Speakers, dances, carnivals and special events will be planned to complement the many other activities available to students at Humber.

Residence tours are available between April and October for students and/or parents who would like to walk around the complex and the North Campus with an informative guide. To arrange an appointment or request an application please call (416) 675-3111, or write to us at the following address:

Humber College Residence Program
205 Humber College Blvd.
Etobicoke, Ontario.
M9W 5L7

I am sure this new dimension of College life will be of interest to many of our out-of-town students. It will enable you to take advantage of several School of Business programs which are unique to Humber, such as the new Computer Sales and Marketing and Audit Technician programs which are described elsewhere in this issue.

Come and enjoy College residence life this Fall.   <>

Jack Buckley

Computer Sales and Marketing

A Highly Rewarding Career in the Information Systems Profession

AS THE MARKETPLACE BECOMES MORE AND MORE RELIANT ON COMPUTERS, GOVERNMENT, BUSINESS AND INDUSTRY LOOK TO SALES AND MARKETING REPRESENTATIVES FOR ASSISTANCE IN MAKING COMPUTER PURCHASES AND DEVELOPING APPLICATIONS.

The explosion of the use of the computer into almost every facet of modern life has created an unprecedented demand for computer sales and marketing representatives.

This career offers a great deal of variety. It demands an ability to meet with customers, determine their needs and help them make purchasing decisions that are beneficial to their interests. Computer sales and mar-

SOFTWARE SPOTLIGHT

WordPerfect Features

WORDPERFECT IS MORE THAN A WORD PROCESSOR. IT HAS MANY FEATURES WHICH PROVIDE THE USER WITH A GREAT DEAL OF VERSATILITY. IN THIS ISSUE, I THOUGHT WE WOULD CONCENTRATE ON A COUPLE OF THESE: NAMELY, ITS DESKTOP PUBLISHING CAPABILITIES AND ITS BUILT-IN calculator or mathematical functions.

By using its desktop publishing features, the user can create newsletters, brochures, manuals, catalogues, flyers and other materials which otherwise might have to be created using such exclusive desktop publishing software as Ventura or PageMaker. The latter packages will import text previously created using a word processor and then allow the user to format it and generate a layout. But, WordPerfect will allow the user to do both while creating attractive, useable documents. WordPerfect also has the capability to incorporate illustrations, drawings, and tables from other graphics and spreadsheet programs. It will also allow the user to import scanner created files of art work such as logos and digitized photographs. Once imported, the graphic image can be reduced in size, rotated, inverted or otherwise manipulated.

It is often helpful to be able to see a document on screen exactly as it will appear when printed. This can be done using WordPerfect's View Document feature, and as long as the monitor is able to produce graphics, the user can see text and graphics on screen as they will appear when printed. Two facing pages can also be viewed to confirm layout.

Boxes, vertical and horizontal lines, and shaded areas are also among the many features of WordPerfect's desktop publishing capabilities. So is the ability to generate text in two or three column layouts as well as wrap around text such as that seen in magazines and newspapers. Fonts can be varied and changed easily, as can word, letter and line spacing. The user can even print in colour, if the printer is able. A laser printer is preferable, to be able to take advantage of all the features this package offers.

Spreadsheets are normally used for creating tables and performing complex manipulations and analyses of values within these tables. It has already been mentioned that WordPerfect can input data created by a spreadsheet package such as Lotus 1-2-3 for inclusion in a document. But when fairly simple mathematical operations are all that are required, WordPerfect will allow the user to perform these with its math feature without resorting to another software package.

WordPerfect can perform like a simple calculator and permits the creation of columns of figures from which subtotals, totals, grand totals and even averages can be calculated. The user can also subtract, multiply and divide, and even use parentheses to change the order of operations in a series of calculations. Formulas can be created for more complex operations and assigned to specific columns of figures, much in the same way as is done in spreadsheet packages. In fact, up to 24 columns can be defined to contain either text, numbers, calculations or totals, but only four can be used for formulas. Using these features, balance sheets, income statements and other such financial reports can be created, manipulated and incorporated into documents without first using a spreadsheet package to prepare the work. WordPerfect also allows the user to copy, delete and move math columns. In this way, the layout of a table can be improved by inserting it somewhere else in the document, or duplicating it on other pages wherever required.

The use of the desktop publishing and math capabilities of WordPerfect allows a great deal of flexibility, and if requirements are not for very sophisticated layouts or spreadsheet manipulations, WordPerfect can adequately serve the user where otherwise one or two additional software packages would have to be used. With a little bit of practice, the user can produce quite a variety of documents.   <>

CADAPSO to Encourage Young Canadians to Enter the Computer Industry

"If too few young people enter the information services industry in the early 1990's, we will not have the human resources to achieve the productivity improvements Canada needs."

THIS STATEMENT FROM THE CANADIAN ASSOCIATION OF DATA, PROFESSIONAL SERVICES AND SOFTWARE ORGANIZATIONS (CADAPSO) HIGHLIGHTS THEIR CONCERN FOR THE FUTURE SUCCESS OF THE INFORMATION SERVICES INDUSTRY IN CANADA.

According to their calculations, based on Statistics Canada figures, there were approximately 55,000 men and women directly employed in this $4.63 billion industry in Canada in 1989. They predict that by 1992 there will be approximately 26,000 new jobs created for Canadians in this field. In addition, young people will be needed to replace retiring workers.

CADAPSO is making special efforts to ensure that enough Canadians choose careers in the information industry. They would like to reverse the trend of the last few years, where fewer men and women are choosing this field for a career. Ron Evans, Chairman of Evans Research Corporation and National Chairman of CADAPSO, comments: "Let me begin by stressing that a strong information services industry is extremely important to Canada's future. A healthy information services industry is vital be-

cause it makes available the software, professional services and processing services that permit computers and telecommunications to perform useful work in our society.

"Without a strong information services industry, Canadians will not achieve the productivity improvements necessary to provide the growing standard of living that Canadians expect. Nor will Canadians be competitive as worldwide trade barriers are eliminated.

"CADAPSO is the voice of the information services industry in Canada. To understand what objectives are appropriate for our Association, it is important to understand the issues, problems and opportunities that characterize the information services industry.

"To achieve the productivity improvement that will be necessary in our offices and plants in the 1990's, tens of thousands of new, high quality jobs must be created in the Canadian information services industry. That means plenty of exciting new job opportunities for young Canadians."

CADAPSO's primary objective is to provide encouragement and incentives for young Canadians to enter the information services industry.

As Ron Evans explains further: "Special efforts must be made, therefore, to ensure that enough young Canadians choose careers in the information services industry. This, then, is one of CADAPSO's primary objectives as we prepare to enter an exciting new decade.

"To achieve this objective, CADAPSO and its corporate

sponsors are spending in excess of $100,000 in the next twelve months on two major projects: the Young Canadians Awards Program and the CADAPSO 2001 Program.

"The Young Canadian Awards program is an exciting new CADAPSO initiative designed to encourage graduating secondary school students to enroll in post-secondary computer industry education programs.

In 1990, 40 young Canadians who enter computer sciences or similar computer industry education programs will receive financial awards to assist them with their education. In addition, a number of physically challenged young Canadians will be assisted through special features in the program.

"The CADAPSO 2001 Program is a second CADAPSO initiative for young people preparing themselves for careers in the 21st Century. It, too, is designed to encourage young Canadians to enter the computer industry. Closely coordinated with the Young Canadians Awards Program, CADAPSO 2001 will be patterned after a similar program successfully implemented in the U.S. by ADAPSO, our Association's American counterpart.

"In the CADAPSO 2001 Program, CADAPSO directors and other CADAPSO members, in cooperation with school principals and guidance teachers, will accept invitations to speak at secondary schools across the country. They will present a CADAPSO-developed video featuring industry leaders who will describe the outstanding career opportunities available in the computer industry."

For further information on either of these initiatives you may contact the editor of Split Screen at Humber College or CADAPSO at 280 Albert, Suite 804, Ottawa, Ontario, K1P 5G8, Tel: (613) 230-3524.   <>

Dave Haisell, I.S.P.
(Dave Haisell is Chairman of Information Systems Studies and Accounting in the School of Business at Humber College, and editor of Split Screen.)

Editorial

Information Systems Certification Now Official

I N THE FALL/88 AND SPRING/89 EDITIONS OF SPLIT SCREEN, I ADDRESSED THE ISSUE OF PROFESSIONAL CERTIFICATION IN INFORMATION SYSTEMS AND DOCUMENTED THE PROGRESS OF ITS DEVELOPMENT, SPECIFICALLY BY THE CANADIAN INFORMATION PROCESSING SOCIETY (CIPS).

Well, it is finally a "fait accompli." Just as engineering has its professional designation (P. Eng.) and C.A., C.M.A., and C.G.A., are the various designations available in the accounting profession, now information systems has its own professional status. I.S.P. (Information Systems Professional of Canada) is the designation available to members of CIPS who meet the required education and experience defined by the Society.

Certification is a major step forward in the computer and systems field and is designed to strengthen career opportunities, to heighten each member's profile and enhance credibility, to establish a professional image and measure of competence, and to regulate standards of practice and ethics. These points address the definition of a profession which can be defined as an occupation requiring an accepted, defined body of knowledge, a standard of good practice, a code of ethics, and a formal, high level of education.

The good news is that this professional designation is available to community college graduates of a two or three year information systems program following the accumulation of six years related experience. Because of the ever changing nature of the field, continuing education is a required component and re-certification is necessary every five years. As of this writing there are now over 500 certified I.S.P.s in Canada, and the number is growing rapidly.

If the statistics CADAPSO projects (see related article in this issue) are accurate, there will be thousands of new jobs created for Canadians in the information services industry over the next few years. With certification now available we could be watching the beginning of an explosion in the number of professionals in this field.

Entering a college program in information systems and computer studies might well be the beginning of a challenging, rewarding professional career for today's secondary school graduate.   <>

(For further information on such programs at Humber College contact the editor at (416) 675-3111 ext. 4385.)

CADAPSO
2001

Income Tax: A Winter Sport All Can Play

INCOME TAX IS A WINTER SPORT? MOST PEOPLE WOULDN'T LOOK AT IT THAT WAY. WINTER FOR MANY CANADIANS IS OPPRESSIVE: SHORTER DAY HOURS, COLD BITING WINDS AND THAT TERROR, ESPECIALLY TO MOTORISTS – SNOW! BUT OTHERS LOOK ON WINTER AS AN OPPORTUNITY TO ENJOY THE COLD-weather sports such as skating, skiing or just sitting around a cosy fireplace indoors.

After New Year's day, while we are right in the middle of our Winter, another season starts – income tax season, and it lasts until the end of April. Like Winter, we can look on the income tax season as a chore we would rather avoid, or instead as a challenge to save money or perhaps make some. Even a basic understanding of the income tax laws can guide us in arranging our financial affairs in such a way as to save or at least defer, income taxes.

All of us can learn to minimize our income taxes by a systematic study of the income tax laws. There can be many tax savings such as incorporation, for persons who operate their own business. But, tax savings are not limited just to business income. There are many tax savings and deductions for non-business incomes as well. Dividend income from investments in certain stocks is, in effect, usually taxed at a lower rate of tax because of the dividend tax credit deduction, whereas interest income from investments in bonds is taxed at a higher rate. Contributions to registered retirement savings plans can result not only in tax savings now, but also provide income for future retirement. A married couple may each make charitable donations in a year, but tax savings may result by having only one of them claim all the donations on his or her tax return. Knowl-edge of how the tax laws work can help all of us.

How can you make money from understanding income tax? Each year the income tax laws change. Some changes are minor such as a change in the tax rates, while others may be quite substantial such as those in September 1988 that included, among others, the substitution of tax credits for most of the deductions from income previously allowed. Many people today do not want to prepare their own tax returns so they have a tax preparer such as a public accountant do it for them. Thus many public accounting firms derive a substantial portion of their income from the preparation of income tax returns.

In September, Humber College will be adding an Audit Technician profile to the Accountancy Diploma program. This Audit Technician profile will provide the student with instruction in accounting, auditing, computers, law and other business subjects as well as income tax. This will prepare him or her for many accounting-related positions in government or business, particularly those in public accounting.

So, do income taxes now look like a chore that we cannot avoid, or an interesting challenge that might save or even make us some money?   <>

Robert E. Livesey, C.A.
(Robert Livesey is a faculty member in the accounting department of Humber College's School of Business)

keting representatives generally function in a fast-paced, sometimes hectic environment, and the career is therefore suited to individuals who are confident, outgoing, cooperative and skilled in working with people. In addition, they will have high energy and an ability to set realistic goals, perform relatively independently, and effectively manage their time. Advancement opportunities are excellent for those who obtain the skills necessary for success and the potential for growth is almost unlimited. In fact, in the computer industry, a particularly high proportion of executives, including company presidents, have emerged from the ranks of professional sales people. Remuneration for entry level positions is generally well above average but a range is difficult to establish since representatives frequently receive a base income plus commission. It would probably be safe to say that $30,000 per annum would certainly be well within the reach of most entry level sales or marketing representatives.

In 1989 Humber College participated in a survey of selected occupations in Metro Toronto. The results of this study indicated a shortage of technical sales people in the electronic data processing area. A further study was conducted in December 1989 with individuals representing manufacturing, distribution, wholesaling, retailing, research and development, and consulting organizations. The results of this survey confirmed the first and indicated that approximately 750 employees will be hired to fill computer sales positions over the next three years.

In response to this need, the Humber College School of Business has developed a two year program in Computer Sales and Marketing. Currently awaiting approval from the Ministry of Colleges and Universities, this program will provide students with the specialized skills they will need for computer sales and marketing positions, and is scheduled to start in September.

The program, developed by an advisory committee of prospective employers representing the industry, will allow the student to develop skills in professional selling, human behavior and motivation, marketing, advertising, computer hardware and software and information systems.

Upon completion of this program students will be well qualified to enter this challenging dynamic field and to start a rewarding career in computer sales and marketing which can lead to virtually any senior management position in the industry.   <>

Dave Haisell, I.S.P.