Book Review

Title: Distributed Database Systems — Principles and Systems

Author: C. EI

Publisher: McGraw-Hill Book Co.

Pages: 375

University 600

Distributed database management has been given a "household-name" computing title today. While it is a well-written and well-developed discipline, it is yet to get the universal acceptance as an essential tool for information management. It is particularly true in India where, having too or three instances, it remains as a distant dream to be materialized when the right persons, the right environment and the right software come by. Nonetheless, there have been a number of significant advances made in the recent past in this area. The impact of these advancements is not only more rapidly, but also increasingly apparent. Information system development is evident in this age of the computer. Further developments in theory and practice of the relational approach are being sought and the sharp decline in hardware prices.

The result of the emerging discipline of distributed database management is that today's wrap-up is in research journals, conference proceedings and prototype systems. One of the first few books in this area is "Distributed Databases: Principles and Systems" by C. Eli and P. Bobalbs which of Pollittano di Milano published by McGraw-Hill in 1984 with an international student edition coming out in 1985 from McGraw-Hill Book Company, Singapore.

The book starts with a detailed PREFACE consisting of 16 pages introducing the need for distributed databases and a brief review of databases and computing techniques. This stage setting is on page 33 pages introduces the basic concepts in distributed database manage- ment that is being developed. In the following chapter, these concepts are extended to include the framework in the form of a one-page chart is also shown. A detailed scheme is used to show the various components of the system and to present the solutions to these problems. The major issues addressed include:

- Architecture of DBMS including how and why the distributed database systems are of the application programmers to solve this problem.
- Design issues as they apply to a DBMS. Query processing aspects — specificity query optimization for a distributed environment.
- Transaction management in DBMS which brings into sharp focus, a number of distributed approaches to recover the distributed recovery. Approaches based on 2-level locking, transactions, and atomic, consistency control are presented and compared.

Note from the Editor

- Issues of database administration in a distributed environment
- As it is evident from the list of topics covered, this part is not meant for a casual reader. But the presentation of the concepts allow the reader to decipher the heavy terms that he would get while reading deeper into the text.
- The last part, namely Part 2 on Distributed Database Systems, contains three chapters in Part 1 by illustrating the features available in some representative contemporary DBMS.
- The spectrum of the systems considered includes commercial systems, prototype homogeneous systems (and prototype systems going commercial) and heterogeneous distributed database systems.

- Tandem System — ENCOMPASS
- IBM System — CICS/MAINframe System Communication
- Computer Corporation of America — SDS-1
- DEC
- MULTIBASE
- IBM/Sysco Research Lab — "R" System
- University of California at Berkeley — Distributed INGRES
- University of Stuttgart, Germany — POKES
- INRA France — SIMOS DELTA
- Honeywell Corporate Computer Centre — J/OS (Distributed Database Transaction System)

- The system architecture, query processing, recovery and concurrency control and other system — specific issues are discussed in this part. It is given in a newly uniform style with the help of a new format in which the issues are addressed in the form of a one-page chart. A feature article, the form of a one-page chart is also shown. A detailed scheme is used to show the various components of the system and to present the solutions to these problems. The major issues addressed include:

- Design issues as they apply to a DBMS. Query processing aspects — specificity query optimization for a distributed environment.
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Letters

NSTPC VII

The contest announced in the Feb. 6 & May 15 issues of the Communications, for the contest design closed on May 31. The contest attracted a good number of entries, these being examined by experts. The first design will win a cash prize of Rs. 500. We hope to publish the results of the contest in the next issue of the Communications.

This encouraging feedback from the members arises on an interesting question: why is it that there is no comparable enthusiasm from members to the appeal by the Communications editor for good articles? I believe the time is now to launch the "Pre-Libtt's" in the Communications. A public contest is established on the subject of the contest, we realize that it is a form of trip which is inherently valuable. It is a requirement of the road that an article be published in the Communications. We realize that this is a step toward publishing a series of new ideas and articles in the Communications.

(a) It may not be possible to answer the question. Undoubtedly, contest questionnaires must form part of answer sheets.
(b) While it is generally felt that time is short that an attempt is made in answering the question in Part A, it may not be possible to expect the answer of the question in Part A. The question in Part A is also not a question which is likely to pose a question in Part B. The answer marking is taking quite a bit of care in completing a specific marking.
(c) There is no provision to correct a wrong answer marked inadvertently or otherwise. Even if one accepts the correct answer, the experience of the examiners is likely to satisfy with a negative mark.
(d) It is difficult to write program codes in the coding sheets provided in the exams environment. Either the code could be in other paper, or the coding sheets provided should have big blocks of squares and course in quality paper.
(e) It may be more appropriate to ask for specific practical for a program flowchart as a coding alone. The instructions are clear and meaningful and objective.
(f) The E. A committee may consider grading the exam as below instead of the present two-level grading:

- 50% — 60% First Division
- 60% — 100% Second Division

(g) The following procedural aspect may also be considered:

- 50% — 60% First Division
- 60% — 100% Second Division

(h) The following procedural aspect may be considered:

- 50% — 60% First Division
- 60% — 100% Second Division

(i) The following procedural aspect may be considered:

- 50% — 60% First Division
- 60% — 100% Second Division

(j) The following procedural aspect may be considered:

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- 60% — 100% Second Division

(k) The following procedural aspect may be considered:

- 50% — 60% First Division
- 60% — 100% Second Division

(l) The following procedural aspect may be considered:

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- 60% — 100% Second Division

(m) The following procedural aspect may be considered:

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- 60% — 100% Second Division

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(o) The following procedural aspect may be considered:

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(v) The following procedural aspect may be considered:

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(y) The following procedural aspect may be considered:

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- 60% — 100% Second Division

(z) The following procedural aspect may be considered:

- 50% — 60% First Division
- 60% — 100% Second Division

The article on "Computational of the Indian" by Dr. R. Pitchumani, the former Deputy Director, Air India and the Indian Express is an article that is of interest to the readers of the book. A detailed summary of the book is presented and compared.
Blue Star’s major new thrust in Hi-Tech Electronics includes a manufacturing collaboration with Hewlett-Packard....

....the world leader in Computation and Measurement Technologies.

Backward Integration into Manufacture
For over 50 years we at Blue Star have been in the forefront of marketing Computer Systems, Test Measurement Instruments, Telecommunications Equipment, Test and Measurement Instruments, Analytical Instruments, Medical Electronics. We have now entered an aggressive new phase. Backward integration into the manufacture of Mini Computers, Desk Top Systems and Peripherals:

- Telephone Multiplexer Equipment (EPABX System)
- Process Control Instrumentation
- Analytical Instruments
- Computer Software for export

Out collaboration with Hewlett-Packard for the Manufacture of Mini Computers, Desk Top Systems and Peripherals, a large part of our new thrust in Electronics. It will cover 150 stations in the next three years.

In the Vanguard: With state-of-the-art solutions!

Banking, Industry, Space and Telecommunications Medicine, Research and Education. Computing, they will need Computer, Telecommunication and Instrumentation Systems.

That’s where they will find Blue Star Electronics, Up front. With total, state-of-the-art solutions to their complex problems.

Report of the Publications Committee, Computer Society of India for the year 1984-85

The following is a brief report of Publications Committee for the year 1984-85:

1. CSI Communications

Every issue of the Communications was brought out on schedule, the only exception being the February issue the publication of which was delayed by about a week for enabling the issue to carry the bi-data of members nominated for election. A part from the Society News, BST News, book reviews and calendar, the communications also carried articles of general professional interest but the number of such articles in any issue was very small. Editors attempts at eliciting articles from the members through letters to regional representatives did not produce any significant result. It is hoped that the Blue Star will be represented for the first time at the Convention this year will generate some interest among the prospective authors. But only a concerted effort on the part of the senior members of the Society (including division and region representatives) can raise the level of quality of this publication significantly.

2. Journal

The first issue of 1984 was brought out in July 1984 and the last in April 1985. The Journal editor wrote to all major teaching and R & D institutions, specializing in computer science and related areas, but these efforts, again, met with only partial success.

3. Editors

As in the past, two honorary editors were identified to edit the Communications since this publication is to be brought out on a routine and time-critical manner.

Shri R. Rastbaran and Shri Bhane Shah have been jointly carrying out this task since August 1984 when Shri Bhatnagar had to leave the country for higher studies. At this time, as decided by the ExCom, Shri V. V. Mukhi was appointed as a paid part-time consulting editor on an experimental basis to assist the honorary editor in planning out the issues and to enrich and innovate in the presentation of matter, he was also expected to help the PCOM in planning and executing other publication activities. Though the consulting editor did assist the honorary editor in the routine tasks of Communication publication for a few months, the expectations were not entirely met and hence it was decided to discontinue this arrangement from December 1984.

4. Other Publications

A CSI publication, titled "Career and Prospects" written by Professor V. N. Rao, the past chairman, Education and Assemble Committee of the Society was brought out in September 1984.

Efforts at the publication of monographs, taken up several times in the past, have not borne fruit so far in the absence of a full-time editor for negotiations and follow-up with the publishers and prospective authors. The post of a full-time editor approved earlier by the ExCom has been advertised in the Communications. Discussions were held with Professor J. B. Isac and Professor D. M. Bhanumid on their proposal to launch an Educational Publications programme. One of the ideas emerged in this meeting was that it would be useful to consider the publication of an NSTP /反腐倡廉 booklets in the NSTP syllabus in all the four languages, the standards were to be past question papers with solutions and some introductory material on each language and general guidelines for the text. Such a booklet, on a computer, is hoped, apart from helping the candidates intending to appear for the test will also attract wider use in the larger number of courses that are being run all over the country. The next, in priority, should be these test books followed by books on computer applications. Subsequently, discussions were held with a few major publishers on the possibility of past publication of such books, some have shown interest and are willing to work out an arrangement that will be in the interest of the Society and the authors. A definite proposal in this direction is being worked out.

P. Sadanand
Chairman
Publications Committee

CSCI Communications July 1985

Reproduced below is a letter No. CSD 9002 dated June 16/11, 1985 from Mr. P. N. Dalalapadu, Director, Computer Division, National Data Development Board, Anand 388 001 addressed to me, in connection with the problems encountered by them in the course of establishing and using the data communications circuits connecting certain of their regional offices in India to their computer system at Anand. This is being published in the "CSCI Communications" so that there will be an awareness of the need for improved data communications in the country, amidst amongst the members of CSI.

The next meeting of the Data Communications Group with the Board members of the Department of Telecommunications on the problems of data communications at the national level, is in the offing, and we would appreciate getting suggestions from all quarters on outstanding issues which need to be included on the Agenda.

P. Jayant
DATCOM Division

Dear Shri Jayant,

This has reference to your letter DC 115 dated 21st May, 1985.

As you are aware, we are at present having an ICL 2505 computer system. This computer is connected by telephone data links to terminals (ICT1) at our Bombay, Delhi and Bengaluru regional offices. Similar data links is being established to connect our regional office at Calcutta with the computer at Hyderabad. The data links between Amritsar and Bombay, Delhi and Bengaluru are operational since last few months.

In the course of establishing and using these circuits, we have come across with certain Shri Bhatnagar Shri Bhatnagar and Shri Bhane Shah have been jointly carrying out this task since August 1984 when Shri Bhatnagar had to leave the country for higher studies. At this time, as decided by the ExCom, Shri V. V. Mukhi was appointed as a paid part-time consulting editor on an experimental basis to assist the honorary editor in planning out the issues and to enrich and innovate in the presentation of matter, he was also expected to help the PCOM in planning and executing other publication activities. Though the consulting editor did assist the honorary editor in the routine tasks of Communication publication for a few months, the expectations were not entirely met and hence it was decided to discontinue this arrangement from December 1984.

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Tata Burroughs Limited is a prestigious joint venture between Tata Sons Ltd, India, and Burroughs Corporation, U.S.A. A fast track computer company, it has forced, within a short span of time, dynamic growth in all of its operating divisions-manufacturing, computer consultancy services and marketing. It has also won several export awards in India and recognition abroad. TBL will shortly introduce the MICR technology to the banking industry—a step that could well add a new dimension to banking efficiency in India.

System Support Engineers

The Qualifications

- degree in Engineering/Computer Science/Computer Science/Management
- thorough knowledge of COBOL and good knowledge of Database/Data Communications and message control systems
- experience as Project Leader of MIS System
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The Experience

- 3 to 5 years in Systems Analysis and Design of Systems Software and/or Application Software
- experience in User Interface and Implementation of Operating System
- experience in “Clearing House” operations will be an added advantage

The Rewards

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A success story in computerland.

N.J. Mehra

Information Systems Design Course:
Simulation of Hands-On Experience

by N.I. Mehra

Introduction:

Owing to growing importance of computer technology and its role in providing distinctively improved support in information processing for management, Post-Graduate Industrial Engineers and B.E. & M.B.A. Administration programs are prescribed to provide input on latest basic understanding of the concepts of Information Systems. The minimum input on this aspect is provided in a course on Data Processing and Programming Language, Data Organization and a course on Computer-based Information Systems Design/RS/S.

The curriculum recommended by the ACM Committee (5) calls for an experimental as well as a lecture-discussion involvement in the course subject matter and it is desired that a student gains some experience in prototype work situations e.g. developing a specified information system. In teaching a course on Systems Analysis and Design/MIS of Information Systems the student has achieved an experimental as well as a lecture-discussion process of imparting education and it is felt that he would be quite successful, specially if such situation available in a classroom situation are considered. The course teaching consisted of lectures, in many cases review of material covered in earlier classes and exercises on various concepts as related to system (computer-based) analysis and design and the system design methodology. A feel for real-life exercise on system design was provided by means of a case exercise, however, not in a form in which a case is presented to be discussed. The role-playing and phased release of application situation and data were mixed to stimulate realistic situations. The experience on simulation of prototype work situation is achieved through the project.

The Approach:

The approach which is being described is not totally new. It is based on the understanding of the advantages and disadvantages associated with standard case method and lecture method and a limited user-role-play by Prof. Ben Whisdon, in which the student was offered an environment where he worked at Lehigh University, Bethlehem, USA.

The approach has been tried on four batches of post-graduates students at NITIE, Bombay, India, enrolled for Systems Analysis and Design and MIS course in ERP program, and at University of Detroit, USA, MRA program and with batch of participants of a 2-week Executive Development Programme. The Telephone Information System (TIS) case (2) used on three occasions for system design exercises.

Case Administration:

The case is introduced after the lectures and exercises on basic concepts of information computer resources, systems analysis, general system design and evaluation have taken place and application flowchart has been explained and drawn for a short exercise, conducted right from systems analyst (Fig. 1).

FOCUS LECTURES

Lectures on various subjects - Introduction, study, selection, design, analysis, computer program, data storage, organisation, coordination, and systems.

SYSTEM DESIGN METHODOLOGY LECTURES

System Analysis

General System Design
System Evaluation & Verification

Fig. 1: Various flowchart on computer-based information systems design.

The case is distributed among groups in the form of a write-up and contains detailed as one would get in the initial letter to system request, when need for a computer-based information system is felt. Briefly, details of the problem faced by user, what user thinks system can provide and what background of the organisation and application situation are provided in the write-up. Students working in groups are asked to conceptualise the design.

As incomplete data is provided in the write-up, student-groups need additional facts for broad system design. For getting additional facts that they need, students are asked to contact the user, a role-play by the Instructor. Groups are allowed to collect facts either by interviewing or by writing a questionnaire. During the process students are expected to find whether a computer-based system is essential to the requirements, whether user has correctly stated his problem, various demands made on an organisation (computer program), system and process details, decision made etc.

Students are given to the-point reply and no extra data is given. Many questions can be anticipated in advance and their replies in multiple copies can be learnt by students. Questions should give some ideas of preparation made on test of the subject by a student. At times, especially no questions that may not be directly related, asking how the question to the user would be, helps student in understating the subject matter.

This fact gathering process, which in effect is to simulate systems analysis, is carried out in time bound schedule. At the end of this process students are expected to have enough system demand factors to conceptualize a formal design of a system, which then must be negated to the user (instructor) by his opinion/acceptance. It is at this stage the students decide how sound their fact collection exercise had been. They may realize that they may have made many assumptions which are not true; they may have overlooked operational factors. Students are also asked to identify cost elements and benefits.

Based on discussions student-group may be required to modify the design to make it acceptable to the user. For this design the groups are asked to make concept flowchart. The exercise forces students to realise what was needed to be found out earlier and makes them appreciate better the complexity involved in a system design. Depending on time left the exercise is completed by asking groups to supply program and procedure documentation, control, input/output formats and a plan for implementation.

Requirements of the Approach:

For proper and successful administration of the approach, it is necessary to create following situations.

(a) Limited Time:
- The participants should be allowed limited time for interviewing the user (instructor) for collecting the facts. This forces participants to come well prepared and prompt and fact finding questions. Not only this it makes a good habit in the participants but also gives them a feeling of public speaking which they often avoid with unlimited time at his disposal for such exercises.

(b) Early Warning:
- The lead on the participants becomes considerable during the last half of the course duration. It is essential that they be free of any time constraints that may interfere with their time properly.

(c) Limited Number and Size of Group:
- Groups should be small and number of groups should also be small, preferably less than six. This is essential, otherwise the instructor may find the process of answering questions drawn out and time consuming even of times vary being boring and tiring and this is danger of the instructor becoming careless and casual in answering.

(d) Course Schedule:
- Demands on instructor’s time and participants’ time are high during the last half of the course. The course may, if possible, be appropriately scheduled for so that
TATA INSTITUTE OF FUNDAMENTAL RESEARCH
Homi Bhabha Road, Bombay 400 005

INVITATION FOR GLOBAL TENDER
TENDER No. TFR/PD/CA5-83/PUB

The National Centre for Software Development and Computing Techniques (NCSCT) at the Tata Institute of Fundamental Research is an R & D organization specializing in Software Technology and Computer Science. NCSCT also plays a major role in education and training in its area of work. NCSCT now requires a mid-computer which can support its R & D and education and training efforts adequately.

The system should conform to the following specifications:

**Hardware:** The system may consist of a single CPU or a set of CPUs sharing subsystems; it should use a 32 bit (or better) single precision arithmetic machine. The system should also have a fast double precision capability. The system should provide 2 MIPS capability and, preferably, more.

The system should have at least 10 Megabytes of physical main memory. The filing system should have a capacity of 1000 Megabytes or more, using 3 or more spindles.

The hardware and software should comfortably support work at 60 terminals simultaneously.

The system should provide for four or more synchronous line links supporting the X.25 protocol. In addition, it should provide an Ethernet interface.

**Software:** The system should offer the Unix operating system and proven, fast compilers for Pascal, C, Fortran 77, COBOL, Lisp and Prolog. It should offer a database management system with a good query facility. It should preferably offer a good integrated programming environment incorporating symbolic editors, compilers, on-line debuggers etc. The system should also offer excellent hardware system diagnostics.

**Closing Date:** Tenders will be received up to 1200 hrs. on Wednesday, 21st August 1985. Offers will be considered from the manufacturers directly or through their authorized Indian representatives only.

**Tender Documents:** Detailed tender specifications are available and may be collected from the Purchase Section, TFR (between 1000 hrs. and 1600 hrs.) latest by 14th August 1985. The Institute shall be under no obligation to accept the lowest or any tender received in response to this tender notice and shall be entitled to reject any tender without assigning any reason whatsoever.

Purchase Officer, TFR

the load does not become unbearable for teacher as well as students.

(a) **Sufficient Course Coverage:**

Through completion of the course and course materials, students may be warned that the course could have been introduced much earlier in the session, it is strongly suggested that the introduction be delayed till sufficient course input has been provided, then only participants can appreciate the importance of various data that need to be gathered, otherwise there would be unnecessary free-wheeling in selecting facts and design development. Even though students are told what all they need to find out for system conceptualization, it is not until the Application Flow Chart stage that they understand the meaning associated with the big blocks of system flow chart and relevance of various facts and how system will work.

(f) **Proper Choice of Case:**

A case for the approach described is required to be selected based on the format like time available for the exercise, familiarity of the students with the setting and the number of alternative system designs possible.

Normally, time at the disposal of the students and instructor will be a major constraining factor forcing the choice to be limited to small size cases i.e. cases requiring lesser collection of facts and less intense system design. A case like TIBS is quite appropriate. It is suggested that a case of uncommon setting or one close to the normal discussed in text e.g. order entry, payroll to be selected, in particular setting forces the students to think and work harder.

Many a times assumptions in system design are based on preconceived notions and earlier experience and they may not be valid in the new setting. Selection of a case of uncommon setting forces this point harder. For, if important assumptions are not cross-checked with the user, the students may find hard to justify their design on various evaluation criteria. When TIBS case was administrated in India, many participants did not bother to find details on various types of calls. Their design was based on the type of calls that are handled by Indian Telephone Network (ITN) which provides much lesser facilities than the US counterpart. User interaction was not given on call-summary levels unless specifically asked, thus simulating real-life situation where pitfalls occur due to preconceived notions and incomplete facts. Facts are not always readily available, they are required to be collected from various sources and cross-checked for validity prior to their input in the system design.

A case wherein the designs proposed by students could be forced to a low, stay, three or four alternative configurations should be preferred for administration. Necessary data can be anticipated in advance and kept ready in multiple copies for distribution among groups. Moreover, evaluation of approaches of different groups becomes easier because of common basis.

Advantages:

On course completion, feedback from participants was invited on the distinct benefits that they perceived in the approach. The comments on benefits directly connected with the subject, that scored, can be classified as follows:

(a) "helped in understanding the system design methodology better".

(b) "helped in understanding the role of assumptions and data collection in system design".

(c) "helped in understanding the importance of user interaction".

(d) "now only, can appreciate the effort involved in various phases of system design".

While other benefits scored as a result of the approach adopted can be summarized as follows:

• "have learnt to work under the pressure of the time".

• "phase-wise data entry by the user helped us bringing out new ideas through brainstorming session".

• "helped in understanding problems solving approach".

• "group interaction and sharing of knowledge among group members helped a lot".

• "developed overall plan by step by step thinking process for any kind of work".

Besides the benefits perceived by the participants, which are quite satisfying for a teacher to follow the approach, it is found that approach allows evaluation of students on sound bases. The evaluation is carried out on the basis of group asked, data sheet collected (not collected and presentation made). The approach has proved to be very successful in introducing new and clarifying concepts and steps involved in the system design methodology. In this particular mode of administration, the students are required to work in groups, not only a student gets opportunity for evaluating his views, feelings, attitude as a result of discussion with other group members and develops himself but also gets practice of working in a group, a form which is most often adopted for information system development.

Unlike in normal case approach, where for the student the case writer has already made selection of facts and student is rather freely allowed to make assumptions, in the approach described a student also in preparation to recalling and extracting relevant facts. In the nutshell, though the approach causes heavy impact on the student, he learns to build up an instructor, it develops interest and enthusiasm in the student and at the end of course leaves them with the feeling that faced in a position of developing a system (s) he would be able to do something.

References:


2. (Contd. from Back Cover)

Bharat Heavy Electricals Limited
Electroceramics Division
P. B. No. 1245,
Bangalore-560 012.

Tender Notice
for Purchase of Mini Computer
Specification of Computer
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1.632 CPU with 1 MIPS rating (32 bit processor) preferred

1 MB of Main memory

2 x 5.4" Floppy disc drives DDSD

High resolution color monitor

40 MB on line storage (additional 60MB will be added later)

1 x 400 cps monochrome (Sun) dot matrix printer

1 x quality printer. (choice of 6 types)

Compiler to handle COBOL, PASCAL, FORTRAN IV and BASIC

Software to include

Symphony

Wordstar

Visi-cal

D-Base II

Fort/CPM

param

should be IBM compatible

* Guaranteed for 1 year

* Free service facilities for 3 years

* Provision for 2 intelligent work stations networked each with

1 MB Main memory

1 x 400 CPS monochrome dot matrix printer

1 letter quality printer

The above are optional extra and may be added within 6 months to one year.
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**POSITION** | **LOCATION** | **EMPLOYER** | **QUALIFICATIONS**
--- | --- | --- | ---
1. Manager, Software | Cochin | Coastal Computer House (P) Ltd., XXXW/1389, Palam Road, Cochin-682 016. | Post graduate in Engineering or Computer Science, preferably M.B.A., with 4-6 years experience in software development in a reputed organisation, and leading a team of system analysts & programmers. Experience in Executive Development programmes desirable.
2. Systems Analyst-programmer | Cochin | Same as above | Graduate in maths/statistics with the knowledge of BASIC, FORTRAN, PL-I. 3 years experience as a system analyst.
3. EDP Programmers | Cochin | Same as above | Graduate/Post graduate with diploma in computer science — 2 years in programming basic — Cobol, is essential.
4. Training Executives | Cochin | Same as above | Graduates with 2-3 years experience in Basic, Cobol, Fortran, Pascal — candidate with teaching experience preferred.

**SALARY**: Attractive salary with perks, negotiable.

### MEMBERSHIP ANNUAL RENEWAL FORM

To,
Computer Society of India,
15, Haji Ali Park,
Bombay 400 034.

Membership No.

Please renew my Individual/Institutional membership for the year 1985-86.

I/we am/are enclosing a Cheque/Draft/IPO (No. _____ dated _____ of _____ Bank) for Rs. _____ (Rs. 90/- for individual other than student, Rs. 45/- for student supported by college certificate, Rs. 750/- for institution).

There is no change in my/our address as given below [ ]

Please note my/our change of address as given below [ ] (mark the appropriate box).

[ ] Division 5 DATACOM
[ ] Division 6 EDUCATION
[ ] Division 7 DATA SECURITY

N.B.: Your membership number is printed on left hand top corner of the address printed on the wrapper of this communications.

Increase in Annual fees and additional Division as per Section 2.4.1 (a) and 3.2.1 respectively have already been approved by the General Body through the postal voting.

Signature:
Name of the Member:

### LIFE MEMBERSHIP FORM

To,
Computer Society of India,
15, Haji Ali Park,
Bombay 400 034.

Membership No.

I enclose Cheque/Draft (No. _____ dated _____ of _____ Bank) for Rs. _____ towards Life Membership as per Section 2.4.1 (b) of the Bye-laws as approved by the General Body through the postal voting.

[ ] (mark appropriate box)

Members 30 to 39 Years Rs. 1200/-
Members 40 to 49 Years Rs. 1000/-
Members 50 years and over Rs. 600/-

I am/am not entitled to a rebate of 10% as I have been/not been a member of CSI for minimum 10 years.

There is no change in my address given below [ ]

Please note my change of address as given below [ ] (mark the appropriate box).

Signature:
Name of the Member:
One-Day Seminar on EXPERT SYSTEMS organised by NITIE and NCSDCT

on Sunday, 4 August 1985 at NITIE, Vihar Lake, Bombay

The National Institute for Training in Industrial Engineering and the National Centre for Software Development and Computing Techniques are jointly organising a one day seminar on Expert Systems. The aims of the seminar are:

* to present an overview of AI and the Fifth Generation Project,
* to describe the structure and organization of Expert Systems,
* to discuss tools and techniques used in Expert System construction,
* to discuss appropriate case studies.

The fee for this seminar will be Rs. 575/- per participant. This will include the cost of course material (two books: Expert Systems: A Practical Introduction by Peter Sel (Morgan Hill) and Artificial Intelligence by Elaine Rich (McGraw Hill)), seminar kit, and luncheon and tea.

Participation in this seminar will be on a first-come first-served basis, and limited to 25 participants. For details, please write to THE ASSISTANT REGISTRAR (Post), NITIE, Vihar Lake, BOMBAY 400 087. Grams: NITIE, BOMBAY-400 076 Phone: 583377 Telex: 011 713992

Faculty: Dr K. A. K. Pandiaraj (IT Madras), Dr S. Ramani (NCSDCT), Shri K. Chandrashekar (NCSDCT)

Seminar Coordinator: Dr V. Jayasankar (NITIE)


Telugu Word Processing

Goteti Raja Krishnamurthy, Professor, Department of Health Science, California State University, Northridge, Ca. 91330.

The poem given below page provide an example of telugu word processing capability that exists at the California State University at Northridge (CSU). A telugu font was developed and loaded in the PDP-11 computer system. The poem was printed on a laser printer. This program is a first attempt and needs additional development to achieve acceptable standards.

Following are some of the characteristics of telugu language which make the development of word processing capability a challenge:

1. all vowels have alternate forms such as

    ఆ, ఉ, ఇ, ఔ, ఐ, ఆం, ఓ, ఔం, ఒ, ఒం

2. the alternate vowel forms are added to the top and right side of consonants to modify the sound

3. some consonants change their shape when they combine with other letters.

4. combining consonants are placed underneath the first consonant.

5. some consonants do not change their shape when they combine with other letters and traditionally are printed in smaller size.

Design of the Telugu Keyboard

The conventional computer does not accommodate all the elements of the telugu character set. It is possible to use certain characters etc. However it will make typing difficult. So the standard letters were modified in the following manner:

1. foraspirated sound of are designed to be printed as

2. those consonants which do not change their form when they combine with another letter will be placed underneath the first letter, however they will still be of the same size.
Arrangement of the Telekey Keyboard

Following is the rationale for the arrangement of the Telekey Keyboard:
1. First row is left vacant for the addition of technical symbols.
2. The modified forms of vowels are used frequently as they combine with consonants most of the time. So, they are placed in the first row and do not need the use of shift key.
3. Frequently used consonants are placed in rows one through eight and do not require the use of shift key.
4. The original vowel characters and changed shapes of consonants are placed in rows three, five, seven, and seven and can be accessed by using the shift key.

Acknowledgements:
I thank Dave Crawford and Larry Wolfe for helping me with programming and John Mehl for encouraging me to continue the project. I appreciate and thank my wife Mary Keateman for encouraging my creative efforts and putting up with my spending enormous time with this project.

MAIN FRAME COMPUTER SYSTEM AVAILABLE FOR BLOCK-TIME CUSTOMERS.

SYSTEM CONFIGURATION:
- WANG VS-90 model with 1.02 MB MEMORY
- 3 NOS. 75 MB REMOVABLE DISK DRIVE
- 7 NOS. TERMINALS
- 1 NO. 9 TRACK TAPE DRIVE
- 1 NO. 600 LPM LINE PRINTER
- COBOL COMPILER
- Possible to install at customer premises for maximum two shift time requirement.
- Expected to commission the system by end of November/November, 1985.
- Interested parties shall submit their offers to:

PAKTRON SYSTEMS PVT. LTD.
No. 5, Rehman Mansion,
44, S. B. Road, Colaba,
BOMBAY 400 039
Tel. Nos.: 20200/7162167

Report on
"The Computer Weekend"
(A Two-day Computer Literacy and Awareness Program)
April 27-28, 1985

The Beginning
With the increasing need for all people to learn something about computers as an essential component of their general education, many students and faculty of the Department of Computer Science and Engineering at the Indian Institute of Technology, Powai, Bombay, had decided to contribute their time and effort. A "Computer Literacy and Awareness Program" with the objective of creating awareness among society at large was envisaged. This program consisted mainly of giving lectures of an introductory nature to schoolchildren and college students. Efforts were made to motivate and involve students in this project.

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The aim was to increase the awareness of the role of computers in society and to make them more capable of using computers in their daily lives.

Calling all students parents' interests othered
"Computer Weekend"
April 27, 1985

A two-day Computer Literacy and Awareness Programme

With the introduction of computers in some schools and colleges, popular TV programmes, and the growing interest in computer technology, it was necessary to create awareness among students and their parents about the capabilities and potential of computers.

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The program was designed to provide an introduction to the world of computers and to encourage students to explore this new field.

The computer demonstrations were well received by the students. The various topics covered included the basic principles of how computers work, the different types of computers, and the different applications of computers.

But perhaps the most novel interpretation was by the speaker who said that by the time the IC chip was invented, the chipped up potato stood for dignity. The final round of the debate was on the more serious topic. "The Introduction of Computers in Schools is a case of misplaced enthusiasm."

The lecture was tended by various schools and colleges. Some of these had formal courses or exposure to computers. Some of the schools showed a remarkable depth of knowledge on computers and related aspects. In the final round, it was mentioned that a school should have a computer department. The talks were well received and some of them werebuat.

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A Report of the Seminar of the Computer Society of India, Goa Chapter on the Current Budget and New Import-Export Policy regarding Computers conducted on 30.05.1985 at Hotel Mandrel, Panaji.

Delivering the welcome address Mr. R.K. Bhandarkar, Chairman of CSI Goa Chapter, said that the recent cut in taxes on new budget and the import-export policy had brought about both the station and a tilt of confi

The Government's intentions of a shift in policy. This was followed by the Union Budget in mid-March, the Electronics Policy on 22.03.85 and finally, the Export-Import policy on 12.04.85. Highlights of this policy could be summarised in six salient points:

1. Absolute capacity restrictions on manufacturers.
2. Considerable reduction in customs duties from an average of 100% to 60% now on spared parts.
3. Except (15%) removed completely hence no counter-balancing duties still.
4. Removal of MRP & FERA companies from acting field.
5. Import of new equipment under Open General Licence. This adds a totally new dimension.
6. Single window clearance, within 2 months of any application to manufacture.

The Government seems to have considered all aspects involved and has brought about a very welcome change. So far, for importing computer equipment, it was necessary for the department of electronics which accredits it from various inputs such as necessity, type of application, indigenous availability, etc. to examine its granting of approval. This process was highly time-consuming with the possibility of some cases requiring 2 to 3 years for clearance. Given the pace of technolog

The model plans which have been reduced would be obsolete by the time the clearance is obtained. Now, consultation, having realised that such larger studies is not necessary both to increase availability of indigenous equipment and to implement the main reason for maintaining such an elaborate OGL at a protective duty of 200% for computers, is the industry's need for availability of adequate and comparable equipment to manufacturers on OGL, and at the cost of 200% for configurations having CIF value not exceeding 30 lakhs.

This is likely to generate competition and at the same time give due protection to the indigenous manufacturers. Also, the duty on spares for manufacturing purposes has been reduced from 65% to 60% (which should enable local manufacturer to produce spare parts at lower import prices. Some peripherals from 60% of import duty should be possible to produce and sell comput

There is, however, a restriction on minimum configuration. Every CPU should consist of an operating system and adequate memory, plus two dual or monochrome or monochrome type monitors (excluding floppy and cassette drives) and one printer with minimum 80 characters per line carriage. This kind of minimum configuration start around Rs. 25,000/-. CIF. With 200% duty and other necessary excise and import duties, the price would work out to a landed price of Rs. 90,000/- plus. Machines below this minimum value would be ruled out. There have been several serious delays in the entire indigenous manufacturers and there is a possibility that Government may rescind this to this pressure and issue a notification to fix a lower limit of Rs. 1 lakhs, which is a point of latitude.

Replies to questions. Mr. Kallur further clarified:

A. Imports can be availed by any person over 18 years of age without any reser

B. BBP involved.
1. Choose the configuration required.
2. Get quotations from abroad.
3. Place order and price is a concern.
4. Go to Bank and open a L/C.
5. The machine comes.
6. Clear it through customs.
7. That’s it! Absolutely no formalities.

There is a very sticky clause, however, of which one should be forewarned. Policy page 19, para 0.62, word “customs duty on OGL as a service” will be levied on “assessed value”. Assessment causes a lot of problem mainly because customs officials are not well knowledgeable and equipped to deal with computers. Hence it requires a lot of convincing to tackle these prob

Government has intentions to educate the various customs personnel involved, but this task is time and in the meanwhile you may find that what took just 10 days to get from computer from abroad, you up loading a week or even month before it is cleared through customs.

C. Special clearance by DOD for duty less than 200% need not study by do for:
1. Reuseability.
2. End application.
3. Indigenous angle.

Small systems for commercial use may not be considered for reduced duty under this clause. This is meant for properly paid industry so that Government sector such as defence, space research, education, etc.

No scheme effect is likely to be there for indi

There is no requirement for configuration in the Government sector, but for systems imported from abroad, the duty paid will be considered.

In conclusion, Mr. Tolani pointed out that there are existing import restrictions on computers of a certain value which can be very restrictive. The policy requires all importers to submit the value of the equipment to the customs authorities. This limits the ability of small businesses to import computers. The policy also requires all importers to obtain an import licence from the customs authorities, which can be time-consuming. However, Mr. Tolani acknowledged that the policy aims to protect indigenous manufacturers and balance the needs of the market.

Mr. Tolani ended his presentation by thanking the audience for their attention and highlighting the importance of understanding the new import policies to succeed in the market.
Minutes of the Fifth EXECOM Meeting (1984-85) held on March 13, 1985 at Delhi

The following Members were present:

Dr. O.P. Mehra
President
Prof. P.K. Mahabir
Vice President
Mr. Ashok Agarwal
Hony. Secretary
Mr. P.S. Balakrishnan
Hony. Treasurer
Mr. C.V. Singh
Regional Representative
Mr. D.K. Basu
Divisional Director
Mr. P. Balakrishnan
Divisional Director
Mr. M.L. Goyal
Post Hon. Secretary

SPECIAL INVITATES:
Mr. P. Jagat Singh
Rep. DATACOM Group
Prof. V.R. Narkhede
Rep. EDUCATION GROUP

D.A. Perreira
Executive Secretary

Item of Insert as a paid:
The First International Workshop on VLSI design to be held on 25-26 December, 1985 at Madras was approved.

Item vi - Insert: "Through Mr. R.K. Datta after the words: "Dr. U. Senater suggested"

Item vii - Insert item c: The recommendations of the E & E Committee were accepted for Fellowship Award.

ITEM III
ELECTION 1985-86/87
Mr. D. Vaidya withdrew his candidature for Region 1 Representative (North) in favour of Mr. Nalin Kohli.

The new committee was elected as follows:

President: Dr. O.P. Mehra
Vice President: Prof. P.K. Mahabir
Secretary: Mr. C.V. Singh
Regional Representatives:
- Mr. D.K. Basu
- Mr. P. Balakrishnan
- Mr. M.L. Goyal
Post Hon. Secretary: Mr. P. Jagat Singh

The new committee was requested to�性质 the new committee was requested to

ITEM II
PROGRESS OF PREVIOUS MINUTES.
All items were marked "in order" and "Lahore with Lucknow".

BIG – 85
Pune, October 18-19, 1985.
Announcement and Call for Papers (2nd & Final Call)

Original Research Contributions and Survey Papers are invited for presentation at the national conference of Business & Industry 85 to be held at Hotel Blue Diamond, Pune on 18th and 19th October 1985.

Abstracts of papers not exceeding 200 words on subject of interest to Business and Industry users of computers shall be sent to Dr. H.C. Sahay, Additional Director, Computer Department, University of Poona, Pune 411 007 so as to reach by 31st July, 1985. Authors will be notified of acceptance by 15th August, 1985. The last day for submission of final papers, not exceeding 5000 words is 31st August, 1985. It is planned to publish the proceedings of the conference.

The best contributed paper in BIG – 85 will get the LATE KEVAL DUBE AWARD for 1985.
Chapter News

COMBATORE

CHAPTER ACTIVITIES — May 85

In the general body meeting of the chapter held on 10.5.85 the following members were elected to hold office for the year 1985-86.

MANAGING COMMITTEE

1. Mr. B. Vijay Venkatswamy, Chairman
   Chief Executive
   Lakshmi Mills Co. Ltd.

2. Dr. G.V. Krishna Reddy, Vice-Chairman
   Prof. and Head, Maths Dept.,
   P.S.G. College of Tech.

3. Mr. T. Mani, Secretary
   EDP in-charge
   Lakshmi Textile Exporters Ltd.

4. Mr. S. Anumugam, Treasurer
   Dept. of E & C Engg.,
   Govt. College of Tech.

5. Mr. Sunil Haridas, MC Member
   Kempi India Ltd.

6. Prof. C.M.K. Selvaraj, MC Member
   Coimbatore Institute of Tech.

7. Mr. K.S. Palaniswamy, MC Member
   ELGI Equipments Ltd.

8. Mr. K.S. Nagarajan, MC Member
   Premier Mills Ltd.

NOMINATIONS COMMITTEE

1. Mr. V.R. Kumaravel, L.M.W. Ltd.


3. Mr. K. Natarajan, L.M.C. Ltd.

The monthly meeting was held on 17.5.85.

Mr. Kuppuswamy, General Manager, Aerelec Data Processing Systems, Pondicherry presented ORION Systems.

DURGAPUR

Durgapur Chapter of Computer Society of India organised the following activities during February ’85 to May ’85.

1. Course on FORTRAN Programming:
   The Chapter conducted a course on FORTRAN Programming in February ‘85. The response was overwhelming and we received about 40 requests. However, we could accommodate only 28 persons. The course started on 18th February ’85 and concluded on 8th March ’85 when our Chairman Shri D. Mukherjee graced the occasion and distributed certificates.

2. Repeat Course on FORTRAN Programming:
   For the benefit of rest of the applicants we organised another course which started on 21st March ‘85 and concluded on 9th April ’85. Shri D.K. Agrawal, General Manager (Works), Durgapur Steel Plant chaired the session and distributed certificates.

3. Course for Students:
   CSI-Durgapur Chapter organised an appreciation course on computers for school-students.

This course started on 13th May ’85 and concluded on 23rd May ’85 when our Vice Chairman Shri H.P. Goel graced the occasion and distributed certificates.

JAMSHEDPUR

Dr. Vaz of TCS addressed the members of the Local Chapter of CSI on the topic “Structured System Analysis & Design” (SSAD) on 7.5.85. He elucidated though briefly on the topics of the physical mapping of the existing systems, its conversion to the logical map, then the delineation of the man-machine boundary followed by the evolution of data structures through the successive stages of normalisation, etc. This talk was followed by a very lively discussion.

Mr. Suryanarayanan of TCS gave a very useful talk on “Local Area Networks” to the members of the Local Chapter of CSI on 15.4.85. Starting with a definition the different events involved in LAN were lucidly dealt with in a concise manner. A few instances of the application of LAN were also delineated. This talk provoked a lot of thought which led to an involved discussion.

LUCKNOW

Lucknow Chapter organised a talk on “Computerisation in Government” on 7th June, 1985 and another talk on “Data Security” on 8th June, 1985. Talk on Computerisation in Government was given by Mr. Ramjee Kapoor, GM (Computers), UPDESCO, Lucknow and the talk on Data Security was given by Mr. S.C. Sharma, Vice Chairman of the Chapter.

Mr. Ramjee Kapoor emphasised use of Computers in Government employing optimisation techniques. He endorsed the system of having small computers in the districts and a centrally located large computer for central control of information collected from all over State. According to him, one of the main benefits of Computerisation in Government was to have a collated view of what was happening in its different departments. Chairman of the Chapter said, at the end of the talk, that it was a good trend that service departments of the Government like Lucknow Telephones, UPSC & Jal Sansthan have started installing Computers which gives a hope that in course of next two years these departments should be able to give better service to the public. Since Government deals with public funds, use of Computers in Government is of great importance to the public, because it is going to ensure better utilisation of public funds, more so because even the repayment of loans, is also done through public funds only.

Mr. S.C. Sharma touched upon all aspects of Data Security to a good extent. Internally, he mentioned that smoke-detectors are not very useful for Computer Centres, when used for automatic fire extinction. Smoke sensing devices have to be far more sensitive if Computer hard ware or media is to be saved from damage. He suggested the system of testing adequacy of data security documentation system, also to be followed as a precautionary measure.

Besides CSI members, some non member Computer professionals had been also invited. About 50 persons attended the talks on 7th, as well as on 8th.

STUDENT BRANCH, BOMBAY

Computer Society of India, Student Branch, Bombay was formed on January 22nd, 1985, with Prof. J.R. Isaac, Fellow, CSI as its Asccessor. The following were elected to the Managing Committee:

Mr. Parth B. Desai (Chairman), Mr. Carl W. Braganza (Vice-Chairman), Mr. Madhukar N. Thakur (Secretary), Mr. Rajendra Agarwal (Treasurer)

The main aim of the student branch is to spread computer literacy among students in Bombay. In pursuit of this aim, 'Computer Knowledge' was organized on April 27th-28th, 1985. (A report is published in this issue.) All those interested in helping us can contact us at the following address:

CSI, Student Branch, Bombay
C/o. Dept. of Computer Science and Engg.
I.I.T. Powai, Bombay 400 076

(Contd. from Page 7)