449 4600 Needham

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FORUM NEWS

First Users Meeting Held in San Francisco

The first IMLAC Users' Meeting was held on March 1 at the Holiday Inn,
Financial District, San Francisco. There were over 30 participants
representing 11 different installations from California, Illinois, Iowa,
New York, Oregon and Texas.

Mr. Bruce Backe
IMLAC's President addresses Users' Meeting on Company plans.

The morning session included the following presentations:

Karl Ryden of the University of California, Health Sciences Computing Facility, Los Angeles, described their software design approach for communications between the PDS-1 and an IBM 360/91 over a 2400 baud synchronous line. They have developed a PDS-1 control program which provides synchronous communication facilities, user interaction via light pen and keyboard, and adaptive data structing for local display list manipulation.

Mr. Ryden also showed a 16MM movie on an application program being developed by Dr. Carol M. Newton for Computer-aided clinical techniques in radio-therapy.

Mr. James Hart of NASA - Ames Research Center described their PDS-1 software efforts which have been in two primary areas. The first is an IBM 2250/2840 emulator program that enables the PDS-1 to replace these units without modifying the 360/2250 software package. A second effort has been an expansion of the PARDS program to take advantage of the local interactive and selective erase capability.

Mr. Ralph Carmichael of NASA - Ames Research Center described his application where he uses a PDS-1 with data tablet input for aircraft structual design.

Mr. Jack McDaniel of McDonnell Douglas explained their planned use of a PDS-1 system which is part of an On-Line Subsystem Facility (OLSF). The OLSF is a McDonnell Douglas facility dedicated to dynamic, real-time performance evaluation of subsystem hardware operating in a controlled "ground flight test" mission type of environment.

The morning session was concluded with an open discussion session on software design and development philosophy. Mr. Robert Hall of Dean Hall Associates began the session with a description of A Mini Computer Programming Language (AMPL) and the Versatile IMLAC Translator Assembler Loader (VITAL) developed by his organization. As one might expect an ideal approach to solving the problems of software development was not agreed upon but many views were discussed that were generally enlightening for the attendees.

The afternoon and evening were devoted to airing users' problems and developing an organizational structure for the Users' Group.

Mr. Bruce Backe, IMLAC's President, began the afternoon session with a discussion of IMLAC's history, company philosophy, and future plans. A question and answer period followed with discussion of specific user problem areas. The main problems concerning most users were Field Service Support, Keyboard performance, Cassette Tape Unit reliability and Light Pen design.

IMLAC's response to these problems were as follows:

Field Service Support - increased emphasis is being placed on more comprehensive factory training for field personnel as well as improving the level of spare parts stocked in the field.

Keyboard Performance - IMLAC is now using its third keyboard supplier in two years. The present one is the best we have found at a reasonable price. We are continuing to evaluate new possibilities (including those suggested at the meeting). We will also consider offering a high quality model for an incremental cost to those users desiring the better performance.

Cassette Tape Unit Reliability - Engineering and Field Service are working together on trying to isolate the problems users have had with this unit. Its recommended use is for program and data storage of a non-critical nature since even when operating properly a certain error rate will occur. Paper tape backup for programs and double recording of data files is desireable.

Light Pen Design - The weight and size of this device not operation were the areas for concern. IMLAC is exploring the use of plastic units with lighter fiber optic bundles. A new device should be available within 3 - 6 months.

Organizational Session

The primary concern of this meeting was to discuss sponsorship of a users group organization and recuit the individuals to lead the organization.

It was agreed that a cooperative effort between the Users and IMLAC would be the best approach for getting an active and useful organization going. A steering committee was chosen to direct the further refinement of an organizational structure and to make operational decisions.

The steering committee was chosen to represent a cross section of PDS-1 users from the Universities, Government, and Industry.

Steering Committee members include the following:

Name	Address	Telephone No.
John J. Allan	UNIVERSITY OF TEXAS AT AUSTIN 217 - Mechanical Engineering Dept. Austin, Texas 78712	512-471-1331
Nels Anderson, Jr.	DEAN HALL ASSOCIATES 200 Third Street Los Altos, California 94022	415-948-0877
Mr. Hiram T. French (Secretary	IMLAC CORPORATION 296 Newton Street Waltham, Massachusetts 02154	617-981-1600
Mr. Jim Hart	NASA-AMES RESEARCH CENTER MS. 233-9, Moffett Field Mt. View, California 94035	415-965-5935

Name	Address	Telephone No.
Mr. David A. Luther	ROME AIR DEVELOPMENT CENTER IRDT Griffiss AFB, New York 13440	315-330-4003
Mr. Jack R. McDaniel (Chairman)	McDONNELL DOUGLAS CORPORATION 5301 Bolsa Avenue A3-833-BBEO - MS17 Huntington Beach, California 92647	714-896-2450
Mr. Ari J. Ollikainen	UNIVERSITY OF CALIFORNIA Computing Facility Manager Computer Science Department School of Engineering and Applied Science Los Angeles, California 90024	213-825-2381

The formation and operation of a Users' Software Library was discussed as well as direct exchange of software between users. The biggest problem is a lack of knowledge of what users are doing and which ones have common interests and/or needs. It was proposed that we should first poll all users as to what they are doing and have them indicate their interest in participation with the Users Group and possible exchange of software. The next step will be to publish abstracts of user developed software packages. Finally, if enough interest is indicated a software distribution center will be established by either IMLAC or a willing user.

It was finally decided to have the steering committee meet after the general meeting to organize and pick a time and place for the next users meeting. The meeting was then adjourned.

The IMLAC Users' Group Steering Committee decided to have the next Users' Meeting on the Monday evening before the Spring Joint Computer Conference - 1972, in Atlantic City, New Jersey. Exact time and location to be announced at a later date.

NEW PAPERS

To be presented June 1972 at the Meeting of American Association of Physicists in Medicine, in Philadelphia, Pennsylvania.

TREATMENT PLANNING ON A NEW INTERACTIVE GRAPHICS TERMINAL

By E. S. Sternick and M. Hughes

Department of Therapeutic Radiology, Dartmouth-Hitchcock Medical Center

Hanover, New Hampshire

One of the objections against using a time-sharing computer as a treatment planning aid is that the most commonly used terminal, a teletypewriter,

is not very well suited for generating the graphical records a
physician relies on to prescribe a course of radio-therapy. In
an effort to provide this information, we have developed a new
system which employs a PDS-1 display terminal manufactured by
the IMLAC Corporation, Waltham, Massachusetts. Consisting of
two parallel processors sharing 8K of 16-bit memory and a 21-inch
CRT display, the PDS-1 is linked to the larger Dartmouth Time
Sharing Computer via a 2000 baud voice grade telephone line. Both
curves and alpha-numeric data can be drawn, transmitted, received,
and manipulated while on line with the remote computer. Alter-
native field arrangements are selected in seconds with a light pen;
hard copy is produced in less than a minute by an alpha-graphic
printer. The hardware is significantly less expensive than the
small, dedicated computers now available for treatment planning
work, and can be implemented on any time-sharing system.

INTERACTIVE GRAPHICS SOFTWARE

FOR REMOTE TERMINALS AND THEIR USE

IN RADIATION TREATMENT PLANNING

By Karl H. Ryden and Carol M. Newton

UNIVERSITY OF CALIFORNIA, Health Sciences Computing Facility

Los Angeles, California

Computer aided clinical techniques of radio-therapy. Presentation
will include a demonstration of the system using a PDS-1D on-line
to the University of California, Health Sciences Computing Facility's,
Los Angeles, 360/91.

NEW PRODUCTS FROM IMLAC

PDS-1D DELIVERIES BEGIN 1 FEBRUARY 1972

The PDS-1D is designed to be a higher performance PDS-1 with many pre-
viously optional features now part of the basic system. The price has
been increased only slightly to $9,970. Some of the highlights of the
PDS-1D are: a 10% decrease in memory and CPU Cycle Time to 1.8 μ seconds;
look ahead logic to allow escape from display increment mode in one less
cycle time; internal interrupt structure for display frame, keyboard, and
serial I/O; expanded I/O (IEI-1) is not required for adding peripheral
options; a larger (15") CRT; all systems are prewired for a minimum of
8K of memory at no additional charge; and most other options are now
readily field installed. A complete line of peripheral and interactive
devices are now available.

If you have not received a PDS-1D Price List and Options' Description
ask your local salesman for one or write the company directly to the
attention of the Sales Manager.

USER DEVELOPED SOFTWARE

PIFT A FORTRAN Compiler for PDS-1

The PIFT Compiler is a one pass compiler/assembler which accepts FORTRAN
and assembly language source statements and produces object code for the
IMLAC mini-computer. The compiler is written in FORTRAN IV and runs on
the CDC 6500. The object code file produced can be subsequently loaded
and executed on the IMLAC using either punched paper tape or the PROCSY
terminal system.

The compiler accepts a subset of standard FORTRAN. The allowable assembly
language instructions and pseudo-operations are compatible with the
standard IMLAC assembler as described in the Users' Reference Manual,
revision C published by the IMLAC Corporation.

For further information contact:

     Professor Richard Garrett
     Department of Mechanical Engineering
     Purdue University
     Lafayette, Indiana 47906

A TACHISTOSCOPIC SOFTWARE SYSTEM

FOR THE PDP-10   IMLAC PDS-1 TIMESHARING SYSTEM

Abstract

A program is described which permits the use of a PDS-1 display computer, in conjunction with a host timeshare system as a software controlled tachistoscope. Alphanumeric and graphic message strings are received from the host computer over a telephone line, and are then displayed for specified periods of time in sequence. The display computer records the subject's responses and reaction time, and reports this information back to the host computer for recording and analysis. The system is designed so that the burden of software development for the realization of a specific experimental plan is shifted to the larger-capacity host machine, and can utilize all of the features of standard FORTRAN as implemented on the computer system.

For further information contact:

Professor John R. Frederiksen
Department of Psychology
Brandeis University
Waltham, Massachusetts 02154

FIELD SERVICE CORNER by A. MOLIN

All IMLAC customers who have monitors equipped with mini-breakers in lieu of fuses for deflection D.C. power. A Sylvania MB318 is the only mini-breaker acceptable for this application. Report any discrepancy to the factory, replacements will be sent free-of-charge

(Editorial Note: Beginning with this issue, we will include maintenance items of interest from our Field Service Manager, Al Molin.