SPECIAL EVENTS
for
ASSOCIATION FOR COMPUTING MACHINERY
25TH NATIONAL CONFERENCE

ACM
70

THE UNCONVENTIONAL CONVENTION
The New York
Hilton Hotel

September 1-3, 1970

ACM-70 Special Events

ACM-70 Special Events has been planned to be of interst to both the general public and to the members of ACM. Five events are scheduled: Town Hall I and Town Hall II are open free to the public and are intended to provide the public an opportunity to question experts on computer related matters; the Cinema Computer will show a series of movies on computer related subjects, computer generated movies, and a movie and a talk on a sophisticated robot; the Computer Arts Festival is featuring the most recent work in computer art and computer music along with a one day forum invol[...] leading figures in the art, music, and education fields; the First United Stat[...] Computer Chess Championship is the first tournament of its kind.

We hope that those who attend will leave with a better understanding of the capabilities of computers--how, for example, artists are learning to use computers and how chess players have found that computers can do a certain amount of "thinking". In these areas, i.e., the creation of something of aesthetic value and the ability to simulate the human mind, critics on both sides have been quite adament. While the Special Events at ACM-70 will not determine whether computers can create something of aesthetic value or whether they can think, it will show us the present capabilities of computers in both of these exciting areas.

Many people have contributed considerable effort getting this program together. Several, in particular, who deserve a special thanks are Pat Rae, June Muller, Cay Gill, Judy Jones, Joe Gianotti, Caroline deVries, and Jon Turner, all of Columbia University, Carol Herring of the New York and Northern New Jersey Regional Medical Library, Janice Lourie and Nitta Donner of the International Business Machines Corporation, and Jacques Dutka of Columbia University and the Riverside Research Institute. Special thanks are also in order to the American Telephone and Telegraph Company and Western Union Telegraph Company who provided computer terminals used in the chess tournament and to the United States Chess Federation who provided the chess display boards.

Monty Newborn and Kenneth King
Co-Chairmen of the Special Events

Computers and their use in weather research, as well as long and short range weather predictions, presented by the NATIONAL CENTER FOR ASTMOSPHERIC RESEARCH, Boulder, Colorado

THE DALLAS TEXAS CHAPTER OF THE ASSOCIATION FOR COMPUTING MACHINERY. Working model of a computer complete with blinking lights. Applications for computers as well as hardware, software, and staffing needs and problems.

Accessing a computer by touch tone telephone for audio response. The system of DASH DATA SYSTEMS of Stamford, Connecticut will enable the exhibit goer to input a message by touch tone telephone. In response to their message they will receive a voice response playback.

Medical systems using general purpose hardware. The system of the TENNESSEE VALLEY AUTHORITY of Chattanooga, Tennessee will use a computer for analysis of electro-cardiography and blood chemistry as well as for obtaining and maintaining medical records.

The use of computers to monitor the New York power grid enabling power utilities to respond quickly to emergencies in New York and neighboring states will be presented by LESTER ASSOCIATES, INC. of Thornwood, New York. The system enables the New York power tool to identify who needs additional power and how that power can most efficiently and economically be acquired.

A kitchen computer programmed to plan menues. The system of HONEYWELL COMPUTER CONTROL DIVISION, Framingham, Massachusetts consists of using a computer to plan balanced diets on a specified budget or caloric content.

Use of computers in air traffic control over urban areas by the FEDERAL AVIATION AGENCY, Washington, D. C. The system presents the latest computer techniques used to help solve this complex problem.

Computer use in the classroom environment as teaching aids. Computer aided instruction with fifth graders simulating the actual computer classroom experience is the system of CALL-A-COMPUTER, Minneapolis, Minnesota.

Computers used by the UNITED STATES DEPARTMENT OF INTERIORS, GEOLOGICAL SURVEY, Washington, D. C. for geological studies of earth resources and environmental planning.

MIT LINCOLN LABORATORY. RECKONER/MEDIATOR, applied to data analysis, example: air pollution statistics. LISTAR, information storage and retrieval systems, applied to medical library files.

Packaged meal planning by MEADE DATA CENTRAL CORPORATION of Arlington, Virginia. This project is still in the experimental stages, but is attempting to aid supermarkets and buyers with a computerized method of package meal planning.

Measuring air pollutant levels by the NEW YORK CITY AIR RESOURCES DEPARTMENT, with computation of trend and area conditions. A model of a sampling station with a terminal typing out the status of New York City's pollutant level.

The R.E.S.I.S.T.O.R.S.(Radically Emphatic Students Interested in Science, Technology, and Other Research Studies). A group of high school students who have adapted themselves to a hobby of working with computers.

The efforts and study of PROFESSOR RONALD E. ANDERSON of the University of Minnesota on the attitudes of people toward computers.

The use of computers in Computer Assisted Instruction (CAI) to teach junior college students, by the COMPUTER AIDED LEARNING CORPORATION, Red Bank, New Jersey in conjunction with Ocean County College of New Jersey.

Computer generated maps which were made for various city agencies by the NYC GIST PROJECT in response to their needs for assistance in planning and operations.

FIRST U.S. COMPUTER CHESS CHAMPIONSHIP

Dates: August 31, September 1, September 2, 1970
Times: 5:30 PM until games are completed (Approx. 4 hours)
Place: Rhinelander Gallery, New York Hilton

Format of Tourney: A three round Swiss tournament is scheduled.
Awards: Trophies will be awarded to winner and runner-up.
Tournament Director: Dr. Jacques Dutka, Columbia Univer. & Riverside Research Ins
Information on participants: The number of participants in the tournament is limit
to eight. Entries are open until August 31, 1970, at 5:30 PM. As of publication time
six teams have agreed to participate.

Team	Computer to be used, location	Program specifics approx. Memory req. Language, etc.
1. Dennis Cooper Bell Telephone Laboratories, Inc. Whippany, New Jersey	IBM 360/65 Bell Telephone Laboratories Whippany, N. J.	Requires about 22K of memory. ALL FORTRAN IV. Compiles in Fortran H.
2. Tony Marsland Computing Science Department University of Alberta Edmonton, Canada	Burroughs 5500 New York City	Program is written in Burroughs. Extended ALGOL for B-5500/ B-6500
3. Dan Drew Computer Science Department Texas A and M College Station, Texas and Rolf Smith Richards-Gebaur AFB Missouri and Franklin Ceruti Richards-Gebaur AFB Missouri	IBM 360/65 Texas A and M College Station, Texas	Written in FORTRAN IV for IBM/360 using G-level computer. With overlays, requires 72K, without overlay requires about 135K.
4. Hans Berliner Carneige-Mellon Computer Center Carneige-Mellon University	IBM 360/91 Columbia Univer. New York	Approx. 200-300K memory. Most of program is written in PL1 version IV.
5. Ben Mittman Vogelback Computer Center Northwestern University Evanston, Illinois and Keith Gorlan Bell Telephone Laboratories, Inc. Whippany, New Jersey (formerly of Northwestern) and Larry Atkin and David State Control Data Corporation (formerly of Northwestern)	CDC 6400 Vogelback Comp- uter Center Northwestern University	Approx. 6000, 60-bit words, program is written in FORTRAN IV and COMPASS assembly language.
6. Kenneth L. King Information Displays, Inc. Mount Kisco, New York and Chris Daly NASA Goddard Space Flight Center Goddard, Maryland	Varian Data Machines 620/I Computer (on site at N.Y. Hilton)	Requires about 4K of memory written in IDIOM language, a special purpose low level language to be used with Information Display's Inc. Varian 620/I computer

Rules of the Tournament

1. A three round Swiss tournament is planned.

2. Game clocks are started at 5:30 PM each evening.

3. Unless otherwise specified below, rules of play will be identical to those of regular "human" tournament play. If a point is in question, the tournament director has the authority to make a decision.

4. Games will be played at a speed of 40 moves per player in the first two hours and then 10 moves every 30 minutes thereafter.

5. The tournament director may adjudicate a game after 40 moves or after five hours of total elapsed time.

6. If a participant encounters a technical difficulty (machine failure, communications failure or error, or program failure) during the course of a game, the tournament director will allow him to stop his clock for as long as necessary, but not to exceed 20 minutes, in order to restore his system. At the end of the 20 minutes, his clock will be started again. The tournament director will grant a participant permission to stop his clock at most three times during the course of a game.

7. There is no adjustment of program parameters during the course of a game.

8. At the end of each game, each participant must turn in a game record along with a record of his accumulated cpu time.

9. Each participant will be provided with a telephone. The line charges portion of the phone bill must be paid by each participant.

Score Sheet for First U.S. Computer Chess Championship

	1. Marsland	2. Cooper	3. Drew, etc.	4. Berliner	5. Mittman, etc.	6. King, Daly	7.	8.	Total Points
1. Marsland B5500		— —	— —	— —	— —	— —	— —	— —	— —
2. Cooper IBM 360/65	— —		— —	— —	— —	— —	— —	— —	— —
3. Drew, Smith Ceruti IBM 360/65	— —	— —		— —	— —	— —	— —	— —	— —
4. Berliner IBM 360/91	— —	— —	— —		— —	— —	— —	— —	— —
5. Mittman, Gordon, Atkin, Slate CDC 6400	— —	— —	— —	— —		— —	— —	— —	— —
6. King, Daly Varian 620/i	— —	— —	— —	— —	— —		— —	— —	— —
7. _____	— —	— —	— —	— —	— —	— —		— —	— —
8. _____	— —	— —	— —	— —	— —	— —	— —		— —

Each box has space for 4 items: (1) Color of row team, (2) points won (1 = win, 1/2 = draw, 0 = loss, (3) central processor time for row team, (4) central processor time for column team.

CINEMA COMPUTER

A program of computer related movies and computer generated movies are featured at the ACM-70 Cinema Computer. The program will be repeated twice daily.

> Dates: September 1-3, 1970
> Times: 11 AM - 4 PM, 4:30 PM - 9:30 PM
> Place: Gramercy Suite, 2nd Floor, New York Hilton

A list of the movies and their times of showing follows:

Time	Title	Source
11:10 AM	THE INCREDIBLE MACHINE	Bell Telephone Laboratories, Inc.
11:15 AM	A COMPUTER GLOSSARY	International Business Machines
11:25 AM	A BETTER WORLD	International Business Machines
11:35 AM	COMPUTER ASSISTED LEGAL SERVICE	University of Wisconsin
11:50 AM	IT WORKS THAT'S KEY	International Business Machines
12:10 PM	ARTS 3 LOOKS AT AIR TRAFFIC	Univac
12:25 PM	TRANSITIONS TO TOMORROW	International Business Machines
12:45 PM	A NEW LOOK AT AN OLD PLANET	NASA
1:15 PM	THE THINKING ??? MACHINE	Bell Telephone Laboratories, Inc.
1:30 PM	COMPUTER COMPOSED BALLET AND SWORD FIGHT	Office of Information, United Kingdom
1:40 PM	COMPUTER GENERATED BALLET	Bell Telephone Laboratories, Inc.
1:43 PM	MATHOMS	Lillian Schwartz (Sound by Richard Moore, Bell Telephone Laboratories, Inc.)
1:50 PM	COMPUTER CHESS	Sherwood Anderson
2:00 PM	WHY MAN CREATES	Kaiser Aluminum
2:30 PM	ANALOG COMPUTER GRAPHICS	Computer Image Corporation
2:42 PM	LAB AUTOMATION BASED SYSTEMS	International Business Machines
3:07 PM	COMPUTER ANIMATION EXAMPLES	Bell Telephone Laboratories, Inc.
3:17 PM	PIXILLATION	Lillian Schwartz and Kenneth Knowlton, Bell Telephone Laboratories, Inc.
3:23 PM	COMPUTER NETWORK ANALYSIS	Bell Telephone Laboratories, Inc.
3:38 PM	SHAKEY: A FIRST GENERATION ROBOT	Stanford Research Labs
4:02 PM	A TALK ON SHAKEY BY DR. JOHN MUNSON*	Stanford Research Labs
4:15 PM	INTERMISSION	
4:30 PM	THE INCREDIBLE MACHINE	Bell Telephone Laboratories, Inc.
4:45 PM	A COMPUTER GLOSSARY	International Business Machines
4:55 PM	A BETTER WORLD	International Business Machines
5:05 PM	COMPUTER ASSISTED LEGAL SERVICE	University of Wisconsin
5:20 PM	IT WORKS THAT'S KEY	International Business Machines
5:40 PM	ARTS 3 LOOKS AT AIR TRAFFIC	Univac
5:55 PM	TRANSITIONS TO TOMORROW	International Business Machines
6:15 PM	A NEW LOOK AT AN OLD PLANET	NASA
6:45 PM	THE THINKING ??? MACHINE	Bell Telephone Laboratories, Inc.
7:00 PM	COMPUTER COMPOSED BALLET AND SWORD FIGHT	Central Office of Information, United Kingdom
7:10 PM	COMPUTER GENERATED BALLET	Bell Telephone Laboratories, Inc.
7:13 PM	MATHOMS	Lillian Schwartz (Sound by F. Richard Moore, Bell Laboratories, Inc.)
7:20 PM	COMPUTER CHESS	Sherwood Anderson
7:30 PM	WHY MAN CREATES	Kaiser Aluminum
8:00 PM	ANALOG COMPUTER GRAPHICS	Computer Image Corporation
8:12 PM	LAB AUTOMATION BASED SYSTEMS	International Business Machines
8:37 PM	COMPUTER ANIMATION EXAMPLES	Bell Telephone Laboratories, Inc.
8:47 PM	PIXILLATION	Lillian Schwartz and Kenneth Knowlton, Bell Telephone Laboratories, Inc.
8:53 PM	COMPUTER NETWORK ANALYSIS	Bell Telephone Laboratories, Inc.
9:08 PM	SHAKEY: A FIRST GENERATION ROBOT	Stanford Research Labs
9:38 PM	A TALK ON SHAKEY BY DR. JOHN MUNSON*	Stanford Research Labs

* Will be presented only on Tuesday, Sept. 1 and Wednesday, Sept. 2.

ACM-70 COMPUTER ARTS FESTIVAL

The program for the ACM-70 Computer Arts Festival includes a Computer Art Exhibit, A Computer Music Program, and a one-day forum entitled "Computer Art: Its Prospects for the Future."

Over $1000 in prizes has been awarded to the outstanding art and music entries. Judges for the Festival were Paul Smith, Director of the Museum of Contemporary Crafts, New York; Robert Mallary, Professor of Art, University of Massachusetts, and Otto Luening, Professor Emeritus of Music, Columbia University.

A one-day forum organized by Lillian Quirke, Instructor of Art, De Anza College, Cupertino, California, and entitled "Computer Art: Its Prospects for the Future" will be held on Wednesday, Sept. 2, as described on page 14.

The room arrangements for the art exhibit:

Event	Place	Dates & Times
Computer Music Program 9/1-3	Bryant Suite	Sept. 1-3 11 AM - 11 PM
Computer Art Exhibit	Rhinelander Gallery	Sept. 1-3 11 AM - 11 PM
Informal Forum: "Computer Art: Its Prospects for the Future" 9/2	Morgan Suite	Sept. 2 10:30 AM - 12 PM 2 PM - 4:30 PM

COMPUTER MUSIC PROGRAM

Date: September 1 - 3, 1970

Time: Continuously, 11 a.m. to 10 p.m.

Place: Bryant Suite, 2nd Floor, New York Hilton

Composition	Composer
Algorhythms	Pietro Grossi
Slider	Max Mathews
Swan Song	Max Mathews
Little Boy Suite	Max Mathews
Wow	Max Mathews
Three and Four	Max Mathews
Composition #6 - Decima	Gerald Strang
Composition #7 - Triple Decima	Gerald Strang
Magnetosphere Song	B. Boller, J. Cassen, C. Dodge, C. Frederick, S. Ungar
Lyric Variations 6-10	J. K. Randall
Sonatina for CDC-3600	Arthur Roberts
Title Music to "Link"	Arthur Roberts
Cosahedron	Lejaren Hiller
Infraudibles	Herbert Brün
Rhythm Developments	Max Mathews
The British Grenadiers - Johnny Comes Marching Home	Max Mathews
International Lullaby	Max Mathews
Eight Tone Canon	John Pierce
The Problem of Imperfection in Computer Music	Gerald Strang
Musical Instrument Tones, Synthetic Real A/B Comparisons	James Beauchamp
Rocket	Arthur Roberts

Note: The music is played continuously and the program repeats every 90 minutes.

1.	Tunnel	Abad Sandoval	NFS
2.	Triangle		NFS

Written in FORTRAN IV, run on CDC 6600. Magnetic tape output was processed on an SC4020 microfilm recorder (35 mm film with color wheel adapter), and the negative enlarged to a hard copy.

3.	Johanna 1	Manfred Schroeder	NFS
4.	Johanna II		NFS
5.	Johanna III		NFS
6.	Karen I		NFS
7.	Karen II		NFS

Computer processed photographs. The processing methods include representation by random dots, equal density contours (both in black and white and color) and contour enhancement by spatial differentiation. Johanna I, Johanna II, and Johanna III used a GE 635 and a Hell-Facsimile Plotter. Original photograph was by Mike Sarne. Karen I and Karen II used a GE 645 and a Shomberg-Carbon Microfilm Plotter SC4060. Programmer for the processed pictures was Mrs. Lorinda Cherry.

8.	Computer Structure, Crystallization 050270/1	$150.00
9.	Computer Structure, Crystallization 090270/3	$150.00
10.	Computer Structure, Crystallization 240270/14	$150.00
11.	Computer Structure, Crystallization 060670/2	$150.00

Leo Guerts and Lambert Meertens

The program was written in ALGOL 60 and used an Electrologica X1 and Electrologica X8 computers along with a Calcomp 507 incremental plotter.

The artists attempted to combine regularity and irregularity in a natural way. For each work, an initially random field of black and white square was generated. The final color of each square was then determined by successive sweeps over the entire pattern. The color of each square was determined by a functional relationship with the colors of the neighboring squares.

12.	IDC-2 (sculpture)	William Soghor	$800.00

The sculpture was synthesized using a placticized fabric. An inflation mechanism is mounted inside the piece. It is easily protable and can be folded and stored. It is intended that it be viewed inflating, inflated, deflated, disassembled and stored.

The sculpture is modular and is based on solid geometric prototypes. Fabrication has been facilitated with the aid of a computer. The cutting and sewing patterns are computer generated.

13.	Nude I	Lillian Schwartz	NFS
14.	Nude II		NFS

Micropattern of 16 density levels, printed in color by silk screen.

15.	Φ Prostor Variation 12	Edward Zajec	$80.00
16.	Φ Prostor Variation 20		$80.00

The program for both drawings was written in FORTRAN IV and executed on a Calcomp plotter controlled by an IBM 1130.

The program allows the following variations:

1. The basic shape of the composition can be any kind of rectangle (the square has been included as an exception) whose sides meet certain proportional relationships established by a random choice from a point in the Fibonacci series.

2. Such a rectangle (or square) is further divided into from a minimum of two to a maximum of eight partitions (the number of partitions in each composition is chosen at random), whose size and proportional relationships are also established at random from a point in the Fibonacci series.

3. A random choice is then effected between eight given units (or modules) which are consequently fitted to the dimensions of the respective partitions (scaling).

4. The grid lines between two partitions are drawn only if the lines betwee the two neighboring units do no coincide.

| 17. | Flowers | Dick Land | $65.00 |
| 18. | Flite | | $65.00 |

The two photographs were produced by very similar techniques. Working with Don Cohen, who coded a clever line drawing program, Land adapted a real time color color system and made color photographs. The program itself produces continuously evolving patterns under the operator's control, and for the photographs these patterns had to be frozen during the exposure time (Kodak Ektachrome EHB-135 film, about 4 sec. at f/2.8).

The Flowers are sensitive to initial values set as the program is started, as well as many controls while in progress. Essentially the program generates a line. This line or vector has two controls, a control to move the starting point in tow different diameter circles, and a control which rotates the vector itself in a circle. Switches permit adjustment of the color synchronism, and the stacking of up to three displays, one over the other. The operator views the flowers through a hand held rotating filter wheel synchronized with the display on a TV like tube.

| 19. | In Wildness... | Lloyd Sumner | NFS |

Produced on a B5500 computer using a Calcomp plotter 565. The program was written in ALGOL.

| 20. | Prog 21 IRI=23 | Manfred Mohr | $50.00 |
| 21. | Prog 23 IRI=7029 | | $50.00 |

Drawings were run on an IBM 7040 and drawn using a ZUSE plotter. The program computed line length, line width, line direction and line appearance. There is an option of line repetition in form of a zig-zag and an option of line repetition in the form of rectangular line waves. Each calculation has to pass a function of probability which is built out of aesthetical decisions. The program was written in FORTRAN IV.

22.	Birdform (sculpture)	Ron Resch	NFS
23.	Variation on Warped Surface I		NFS
24.	Birdform		NFS
25.	Weird		NFS
26.	Dome of Equilateral Triangles		NFS

Programming for the color prints is based on a 3-dimensional design language, INGSYS, which was created by Professor Ronald Resch. It is used to describe and manipulate the 3-dimensional geometry simulated on the computer.
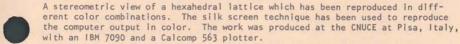
Once a 3-dimensional model is determined it may be visually simulated in color by the following process:

The planar facets composing the 3-dimensional object are defined in terms of their color and reflective coefficients. This information, coupled with the 3-dimensional definition and a defined vantage point for viewing, is sufficient to send to a toning subroutine which determines the perspective and hidden plane features of the picture. This routine will produce three images on a cathode ray tube. Each image is composed of a square array of spots. The intensity of each spot is varied such that when photographed and printed 256 levels of gray are logarithmically distributed between black and white.

Since the CRT is a monochromatic device the computer program must determine three color separation "masks" for each full color picture that is to be made. Each of the three masks contains its basic color component for the full color picture.

When registered in the darkroom and printed through the appropriate color filters
onto an ordinary sheet of photographic paper, a full color print will result.

27.	Lattice Number Two/1	Auro Lecci	NFS
28.	Lattice Number Two/2		NFS
29.	Lattice Number Two/3		NFS

A stereometric view of a hexahedral lattice which has been reproduced in diff-
erent color combinations. The silk screen technique has been used to reproduce
the computer output in color. The work was produced at the CNUCE at Pisa, Italy,
with an IBM 7090 and a Calcomp 563 plotter.

| 30. | Turquoise Aviary | William Stephen Maloney | NFS |

The picture was drawn using interference pattern from circles and ellipses. The
computer was a CDC 3300 in conjunction with a Calcomp plotter.

| 31. | Man and Woman | Stephen Derby | NFS |

The program spirals a geometric figure inside itself, with data controlling the
coordinates and pen controls. It was produced by a GE 435 computer and a Cal-
comp plotter.

| 32. | Dorsal Swordfish | George Olshevsky, Jr. | $150.00 |

The program which produces "Dorsal Swordfish" represents an attempt by the pro-
grammer to duplicate the natural patterns generated by a twin-pendulum harmono-
graph. Many such designs have aesthetic properties, and it was felt that placing
a rigorous numerical control on the parameters governing the form of such designs
would allow the programmer to generate valid "computer art". Although the pro-
gram which produced the "Dorsal Swordfish" does not in fact generate harmonograms,
the curves it produces are closely allied, and (in the opinion of the programmer)
equally pleasing.

The function used maps the real line into the real plane by the mapping
$F(t) = (x(t),y(t))$, where

$$x(t) = A_1 e^{-k_1 t} \sin (w_1 t + \theta_1)$$

$$y(t) = A_2 e^{-k_2 t} \sin (w_2 t + \theta_2).$$

The program accepts the user's values for the coefficients A_1, A_2, k_1, k_2, w_1,
w_2, θ_1, and θ_2. The plotter pen is moved to the initial point $F(t_0)$, and thence
to $F(t_0 + 0.001)$, $F(t_0 + 0.002)$, etc. The pattern is traced by lowering the pen
onto the paper after moving it to $F(t_0)$ and never again raising it. The program
terminates after a suitable limiting condition is attained.

At the University of Toronto, the program is run in FORTRAN on either an IBM 7094
or 360/65 which has the CALCOMP software package available. An offline tape is
generated which is run on a CALCOMP 765 plotting system with a 663 30" 0.005"-
stepsize plotter. The program also exists in a conversational version on the
PDP-10 operated by Dataline Systems, Ltd., with an online CALCOMP 30" plotter. A
special technique for changing pens and inks by stopping the plotter at any de-
sired place was devised; it is often too much to ask of the programmer to pre-
dict in advance where the best times to change colors would be.

In most runs of the program, both exponents k_1 and k_2 are positive, and ampli-
tudes A_1 and A_2 are large; this causes the pen motions gradually to decrease in
both x and y directions. However, if one of the exponents is negative, and
corresponding amplitude small, the pen motion in one direction subsides while be-
coming increasingly violent in the other. A good deal of practice with the co-
efficients is necessary before one is sufficiently familiar with the program to
produce pleasing effects. Most large (30") plots require three or more hours of
plotting time.

| 33. | Woven Love | Janice Lourie, Helene Taterka, | NFS |
| 34. | Computer City | Nitta Dooner & Alice Bonin | NFS |

The graphic outline for both pieces was generated freehand by artist using a
Rand Digitizing Tablet connected to an IBM 360/40 and in turn an IBM 2250. In
"Computer City" the computer printout, a magnification of the original drawing,
was used as a graphic skeleton. In "Woven Love" the artist used other features
of the Textile Graphics Program which permits a graphic outline to be drawn free-
hand on a digitizing tablet and then permits a selection of woven textures to be

inserted within the boundaries of separate regions. The artist was Helene Taterka; the program was developed by Janice Lourie, Nitta Dooner and Alice Bonin.

35.	Sunburst	Irene Stein	$200.00
36.	Computer Image #6		$200.00
37.	Untitled	Charles Mattox	$85.00

Produced on a Calcomp plotter using a Univac 1108. Matrices were filled wi[th] arrays of points which represent various curves or line. The points were t[hen] connected with straight lines.

38.	Landscape 1	Colette A. Bangert,	$125.00
39.	Landscape 2	Charles Bangert	$170.00
40.	Landscape 3		$155.00

The artists have developed an over-all graphic program whose main subroutine generates an interesting line. They generate two of these lines and, starting in the lower left corner and proceeding to the upper right, they transform from one line to the other. The image of the drawing is stored in packed-bits in core. As a line is drawn, the program detects where a previously drawn line is and chooses randomly to stop or cross over.

More important to the artists than the dry technical description of the 250 line program is the drawing itself, the drawing considered as art along with the other drawings by other artist using more traditional media. The artists feel that a computer-produced drawing should be able to take its place beside the rest of an artists body of work.

41.	The Snail	California Computer Products	NFS
42.	Sand Dollar		NFS
43.	Eclipse		NFS

Note: Many of the exhibit pieces are for sale as indicated. Sales can be carried out with the Computer Arts Festival Host or Hostess who is available for this purpose. The Host or Hostess also has a list of names and addresses of all participating artists and will provide this information to anyone requesting it. Checks should be made payable to ACM-70.

First Place   Colette Bangert and Charles Bangert
                     38. Landscape 1, 39. Landscape 2, 40. Landscape 3

Second Place (tie)   Ronald Resch
                     22. Birdform

                     Edward Zajec
                     15. ⚥ Proster Variation 12, 16.   Proster
                        Variation 20

Honorable Mention   Leo Geurts and Lambert Meertens
                      8. Computer Structure, Crystallization 050270/1
                      9. Computer Structure, Crystallization 090270/3
                     10. Computer Structure, Crystallization 2040270/14
                     11. Computer Structure, Crystallization 060670/2

                     Charles Mattox
                     37. Untitled

                     Auro Lecci
                     27. Lattice Number Two/1
                     28. Lattice Number Two/2
                     29. Lattice Number Two/3

                     Dick Land
                     17. Flowers
                     18. Flite

                     Manfred Schroeder
                     3. Johanna 1. 4. Johanna II, 5. Johanna III
                     6. Karen I, 7. Karen II.

Outstanding Computer Music Entry

                     Gerald Strang
                        Composition #7 -- Tripla Decima

For two decades, ROBERT MALLARY has been a pioneer in the world of sculpture. He has constantly been involved with the use of new materials and techniques, and with exploring the creative possibilities that these materials and techniques hold for himself and for other sculptors as well. At an early date, Mallary made use of plastics in sculpture and more recently he has been involved in developing computer-designed sculpture.

His work is included in the collections of many of the leading museums through America. These include the Whitney Museum of American Art, The Museum of Modern A The Los Angeles County Museum, and The Houston Museum of Art. In 1964, he was comm sioned to embellish the outside of a circular building in the New York State Pavilion at the 1964-65 New York World's Fair with a sculpture subsequently entitled "The Cliffhanger".

Presently, Robert Mallary is a Professor of Art at the University of Massachusetts.

Since 1963, PAUL J. SMITH has been the Director of the Museum of Contemporary Crafts of the American Crafts Council in New York City. The Museum's exhibition program, for which Mr. Smith is responsible, seeks to demonstrate the Council's basic concern for the quality of the changing environment by presenting thematic exhibitions which encompass many areas of the arts and design, as well as exhibitions devoted to both established and emerging artists working in the various crafts media.

A frequent juror, lecturer, and international consultant on contemporary crafts and design, Mr. Smith co-selected the Johnson Collection of Contemporary Crafts during 1969. The Johnson Collection is a major purchase collection exhibited throughout the country under the title "OBJECTS: U.S.A.". Mr. Smith is a vice president of the Louis Comfort Tiffany Foundation, New York City; past member of the National Fulbright Screening Committee on Design; Member of the Board of Directors of Haystack Mountain School of Crafts, Maine; member of the American Committee of the World Crafts Council; member of the Museums Council of New York City; member of the Internation Council of Museums.

A native of Buffalo, New York, Mr. Smith attended the Art Institute of Buffalo and the School for American Craftsmen, Rochester. In the past he has exhibited as a painter and a craftsman in wood, metal and ceramics.

OTTO LUENING, Professor Emeritus of Music in the School of the Arts at Columbia University, has been active in the field of tape and electronic music since 1952. In addition, his musical activities have included being a flutist, opera and orchestra conductor, and accompanist.

Luening has composed more than 200 works in categories as diverse as chamber music, symphonic works, an opera "Evangeline", piano music, songs and choral works. His compositions have been played by leading orchestras throughout the world includ the New York Philharmonic, Los Angeles Philharmonic, Chicago, St. Louis, Mexico City, and the Haarlem Orchestra of Holland.

He is a member of the National Institute of Arts and Letters.

Date: September 2, 1970
Times: 10:30 A.M. - 12:00 NOON and 2:00 P.M. - 4:30 P.M.
Place: Morgan Suite, New York Hilton

Topic: Computer Art: its prospects for the future.

Morning Program: Begins with a twenty-minute presentation of contemporary computer generated movies and music. This will be followed by an informal discussion on the present status of computer art.

Afternoon Program: Begins with a different twenty-minute presentation of contemporary computer generated movies and music. A discussion will follow on the potential of computer art, the technical limitations involved, the added capabilities at the artist's command, and other related topics.

Program Moderator: Professor Robert Parson, Dept. of Art., Troy State University, Troy, Alabama.

Program Coordinator: Dr. Lillian Quirke, Dept. of Fine Arts, De Anza College, Cupertino, California.

Panel Members:

Professor Charles Csuri, College of the Arts, The Ohio State University, Columbus, Ohio.

Miss Amalie J. Frank, Bell Telephone Laboratories, Inc., Murray Hill, New Jersey.

Mr. Allen Kaprow, California Institute of the Arts, Los Angeles, California.

Professor Robert Mallary, Dept of Art, University of Massachusetts, Amherst, Massachusetts.

Mr. John Mahlmann, National Art Education Association, Washington, D. C.

Mr. A. Michael Noll, Bell Telephone Laboratories, Inc., Murray Hill, New Jersey.

Professor Ronald Resch, Dept. of Computer Science, University of Utah, Salt Lake City, Utah.

Mrs. Lillian Schwartz, 620 Prospect Street, Cambridge, Massachusetts.

Mr. Stan Vanderbeek, Center for Advanced Visual Studies, Massachusetts Institute of Technology, Cambridge, Massachusetts.

Dr. Edward Welling, National Education Program Association, Washington, D. C.

Date: Monday, August 31, 1970

Time: 8:00 PM to 10:00 PM

Place: Ballroom, New York Hilton

Format: The computers impact in areas of public interest will be the subject
                of the panel discussion. The audience will also participate with the
                panel in voicing their views.

Moderator: Barry Farber, Radio and Television Personality

Panel Members: Theodore Kheel, Labor Mediator
                Mrs. Phillip Dorn, Housewife
                Richard Boeth, Newsweek Magazine
                Dr. Carl Hammer, Computer Expert
                Bobbie Bishop, Student

Date: Wednesday, September 2, 1970

Time: 8 p.m. to 10 p.m.

Place: Ballroom, New York Hilton

Format: The computers impact in areas of public interest will be
             the subject of the panel discussion. Questions are invited
             from the audience.

Moderator: Kenneth King, Director, Columbia University Computer Center,
             Columbia University

Panel Members:

             Dick Brandon, Brandon Applied Systems
             H. R. J. Grosch, National Bureau of Standards
             Janice Lourie, International Business Machines
             Dan McCracken, McCracken Associates
             Jon Turner, Columbia University
             Andrew Cooper, Housing Development Agency, New York City
             Paul Armer, Stanford University
             Joan Dublin, Systems Discipline