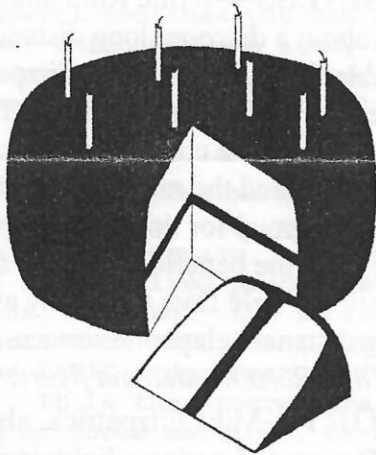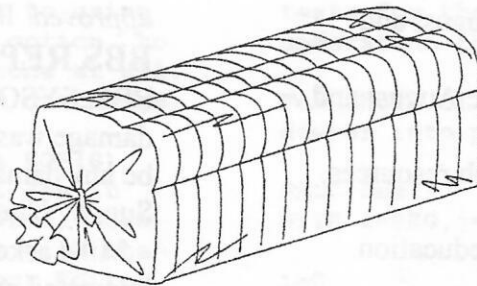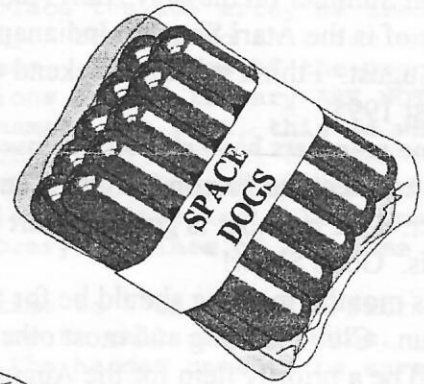# Space Birthday Meeting
July 14th, 1995
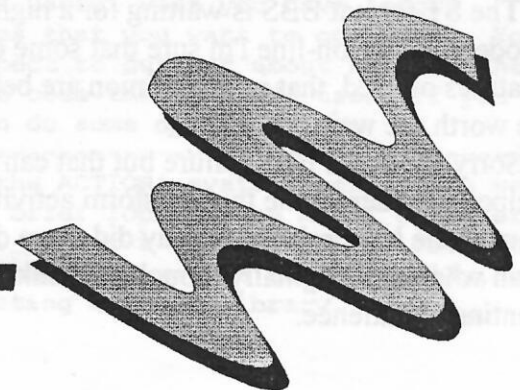
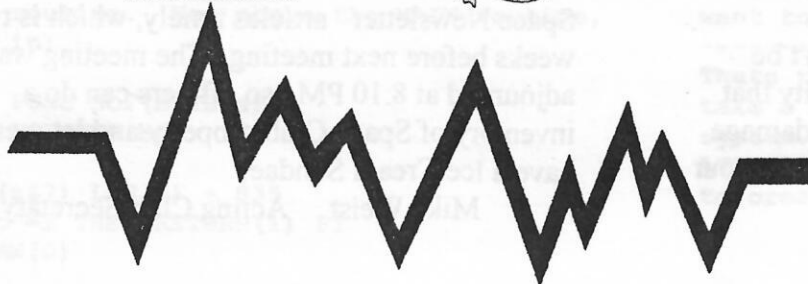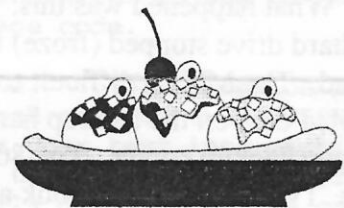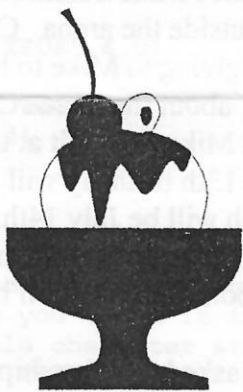**Food**

SPACE DOGS

Fun

SPACE SAUSAGE

Raffle

SPACE

NEWSLETTER   July, 1995

News from the Interim President
by Mike Fitzpatrick

Don't forget to bring your potluck goodies and one item for yourself at the annual SPACE Birthday Party.

With Summer on the only Atari Activity that I'm aware of is the Atari Show in Indianapolis, Indiana this August. I think it is the weekend of 12 and 13 August 1995.

Some members have started the inventory of the clubs assets at the Falcon Heights Community Center. One member is going to start up the ST DOMs. Good Show!

This month's meeting should be for fellowship and fun. Club planning and most other activities should be a priority item for the August and September 95 meetings.

Some items to think about for the August and September meetings are:

Stability and enhancement of club resources. Permanent Officers.

Club activities for enjoyment and education.

BBS news this month isn't very bright. As you all know the BBS was off-line for a week. This time all users will have to logon again as a new user.

What happened was this:

The hard drive stopped (froze) totally and was scrapped. The MIO is difficult to start and scrambled data on the backup hard drive and one of the floppy backup copies. The 800XL is also acting strange. I've asked Rich to look at the MIO and the 800XL.

The ST format BBS is waiting for a high speed modem. Once on-line I'm sure that some of the features offered, that in my opinion are better, will be worth the wait.

Sorry about the BBS failure but that can't be helped. Evidently the thunderstorm activity that caused the bbs problem in May did more damage than what was originally thought. Thanks for your continued patience.

SPACE Minutes June 1995

Mike Fitzpatrick, acting Space Club President, opened meeting at 7:35 PM. Mike asked everyone if they received their newsletters. Mike asked Greg leinter for a Treasurers' report. Greg gave a report. Mike also asked Mike Weist for a minutes report, which he gave. Mike announced after the meeting, there will be a ice cream social.

OLD BUSINESS-- Larry Serflaten asked Mike Fitzpatrick if club flyers are done. Mike said they are being worked on.

NEW BUSINESS---Willie Rora talked to the membership about a discount long distance service that is available through him. Mike Fitzpatrick asked the membership to think about it. The beneficiary of the saving could be the Space Club. Mike Fitzpatrick asked the membership if a motion was in order to sign up for this program. And make Space Club the beneficiary of the savings by using International Tele Data Company as a discount long distance telephone service. *It was approved. Willie Rora handed out flyers.*

BBS REPORT---Mike Fitzpatrick, also Club BBS. SYSOP, reported during a lightning storm damage was done to BBS software, doesn't seem to be any damage to hardware. System may by up by Sunday Nite.

Mike asked the membership if they would be interested in networking between BBS.'s down the road.

The upcoming Electronics show at Aldrich Arena was brought up. Since Mike Schmidt will have a flea market table outside the arena. Club advertising will be giving to Mike to hand out to people at the show about the Space Club. Mike Weist will help out Mike Schmidt at the show.

The Space club's 13th birthday will be held at next meeting, which will be July 14th. Members are urged to come and have a good time. A sign up sheet for bringing potluck items will be circulated after meeting.

Mike Fitzpatrick asked membership to submit Space Newsletter articles timely, which is two weeks before next meeting. The meeting was adjourned at 8:10 PM., so officers can do a inventory of Space Club property and let members have a Ice Cream Sundae.

Mike Weist   Acting Club Secretary

If you felt a little challenged these past few issues, don't be alarmed. I want you to have useful examples, which can be used in your own programs, even if you lack the skills to develop sophisticated software. Time spent doing things you know how to do will increase your skills, as well as your library of reusable code! I will supply a few useful routines you can use in your programs, which you can study and learn from. Not to say I am the worlds best programmer, but I do offer help!

We have covered the Editor, Monitor, and Compiler. Open your manual to the Library table of contents. If you have tried to use the BASIC language, you may recognize many of the supplied procedures and functions. In fact, the library is simply a collection of PROC's and FUNC's that may help the BASIC programmer shift to using ACTION! It is the programmers option, to use any of these routines, or none at all. All of them are included in the cartridge.

Turn to the page containing the EOF(8) routine. Lets design a test to see it operate. With your Editor cleared, make a list of 2-3 words and save it with the filename of "D:TEOF". Clear your Editor and type in this test routine:

```
PROC Main()
BYTE c
CLOSE(4)
OPEN(4,"D:TEOF",4,0)
DO
 c=GetD(4) Put(c)
UNTIL EOF(4)
OD
CLOSE(4)
RETURN
```

Compile and run this program. Is the list exactly as you typed it in? Mine has a funny little character at the end. If yours does too, you will benefit from this next routine. Now above the MAIN routine, type in:

```
BYTE FUNC SOF(BYTE a)
BYTE POINTER bp

bp=((a&7) LSH 4) + 835
IF bp^=3 THEN RETURN(1) FI
RETURN(0)
```

(Main should be here!)

Now change the EOF in the Main procedure, to SOF and compile and run it. Isn't that better? Since you now may have a better routine, rename SOF to EOF and change the Main procedure back to EOF. Try it again. Did you notice the funny extra character?

Naming the new routine 'EOF' will in effect replace the EOF array as used in the library. You can do this for any of the routines. The names of the procedures and functions in the library ARE NOT RESERVED names. In fact, this is why a runtime library allows you to make programs that do not need the cartridge. The supplied routines are called instead of the library routines of the same name.

Take the time to look over the library, studying how to call each routine. Write tests for the harder ones to be sure you understand their usage.

For those of you wanting to dig a little deeper into programming, type this in:

```
PROC See()
BYTE i=$E0,j=$E1

i=0
j=i+1
RETURN
```

After compiling this short procedure, use "* See" in the Monitor to see the compiled machine language code.

You can use the '*' (Dump) option in the Monitor to check out how the ACTION! system changes your text into machine language. By typing in short programs, you can manually disassemble the code to help you learn machine language. It will come in useful when you have larger programs that you want to optimize. You can expect to cut out about half of the machine code that ACTION! uses, if you want to do some optimization.

Thats the ACTION! system, next month we take a brief look at the ATARI computer system. After a few key points about the ATARI computer, we can then, finally, get to creating our own library.

```
+--------------------------------------+
|              Larry's                 |
|          ACTION! TUTORIAL            |
+--------------------------------------+
    #10         THE EFFECT OF CHANGE
--------------------------------------------
```

To program your Atari, you really must understand how the memory is organized, how it is used, and which memory locations cause what effects.

A real good book on this subject is; MAPPING THE ATARI from Compute! Books.

Basically, your computer has RANDOM ACCESS (RAM) and READ ONLY (ROM) memory. RAM is used by the applications to hold program, and user data. ROM is used by the manufacturer to hold the OPERATING SYSTEM (OS), and special purpose chips. The chips may allow user access, but generally you can not write to memory locations above 40960 ($A000-$FFFF).

The special chips perform several of the functions necessary to talk with the outside world. Pokey handles serial port Input and Output (I/O) and interrupt requests, PIA handles the controller jacks, and ANTIC handles the video screen. The OS contains the code and data needed to operate these chips. The PIA and ANTIC are actually microprocessors, the ANTIC chip is even run by a little program!

The OS uses some RAM to hold the variables it needs to use; margins, colors, cursor position and many other attributes change as the computer operates. Knowing where the OS keeps its variables allows the programmer to alter them to produce subtle and major changes in the way the computer operates.

Using these variables is very easy in Action! Simply by assigning an Action! variable to the address of a hardware register, or OS variable, your program can manipulate them as needed. The OS sometimes uses shadow registers which are memory locations used to hold values used in another register. Locations 704-712 are such registers. You can change these color registers at any time, but the change will not be seen until after a vertical blank interrupt. If you instead change the hardware register, the change will take place immediately:

```
PROC registers()
BYTE ch=764, random=53770,
     wsync=54282, toggle
CARD ARRAY regs=[710 53272]
BYTE POINTER bp
```

```
PrintE("Hardware/Shadow    Esc=Exit")
PrintE("Press any key to alternate")
toggle=0
bp=regs(toggle)
PrintE("Shadow")
do
  if ch<255 then
    toggle==!1
    bp=regs(toggle)        ;Change registers
    if toggle=0 then
      PrintE("Shadow")
    else                   ;Toggle=1 (!)
      PrintE("Hardware")
    fi
    if ch=28 then EXIT ;Esc pressed
    else ch=255          ;Reset ch
    fi
  fi
  wsync=1                ;Wait for sync
  bp^=random & $E6       ;Dark colors only
  wsync=1
od
bp=regs(0)               ;Restore original
bp^=148                 ;color
RETURN
```

Location 710 is a shadow register of the hardware register at location 53272. The variable wsync is used to synchronize the processor with the display screen. Any time wsync is written to, the CPU is halted until the scanning beam is at the start of a new scan line. This program demonstrates the difference between the shadow and hardware register used to give color to the background. Changing the shadow register will change the background color, only after the vertical blank period (the time when the scanning beam is turned off, going back to the top of the screen). Changing the hardware register will cause a color change in the middle of displaying the screen. The new value will take effect as soon as it is stored (which happens every couple of lines due to wsync). Remove the wsync statements to see a new effect.

As this was written, SPACE BBS was in the process of being moved to a new location. Perhaps the best way to receive your questions is by mail, otherwise, don't hesitate to ask me about Action!

Next month, practical examples!

Treasurer's Report by Greg Leitner

At the June meeting we finally started the long process of taking a complete inventory of SPACE hardware, software, magazines and literature. You would not believe all the assets the Club has accumulated over the years.

We are still missing some issues of magazines that were checked out long ago, but because we have not had a Paper Librarian for some months now, we are not sure what, when or who is involved with the missing items. When we have completed our inventory we will have a better idea of what is missing and who had them last. In the meantime please check at home to see if you may have an item that belongs to SPACE. We know it is easy to set something aside and forget about them if there is no one to remind you. Then these things end up on a shelf or in a closet until someone jars our memory. That is why we really need a volunteer to be our Paper Librarian in the future.

Now for some really good news about the treasury for June 1995. We took in a total of $109.00 which included two memberships, Dom sales and also $22.00 from the Ice Cream Social thanks to the Fitzpatrick's. Our only expenses for the month were the June BBS phone bill and the expense for April (no May> and June Newsletter. Our expenses only totaled $52.49 so we increased our bank balance by $57.51 which gives us a balance of $505.49 for the month ending June 30,1995.

At the July meeting we will be celebrating our Club's birthday and we will be having a Pot Luck. Please bring something for everyone to enjoy and let's all have a good time. See you all then.

Be sure to mark your calendars!!! July 14th!!!!!!!
Be sure to invite a friend or call old Space members and invite them to come. Be sure to bring a potluck item or items to party. Be sure to be prepared to have a fun time! Here is a list of what some members will be bring to party.

Don Langford	cookies & Vienna sausages
Mike Fritzpatrick	Plates and forks & spoons
Greg Leinter	Cold Pop
Willie Rora	Food Party Tray
Ray Wafer	Potato Salad
Larry Serflaten	? Surprise
Mike Schmidt	? Surprise
Al Nobles	Special K Bars
Bill Cotter	Delicious Meatballs
RED	Potato Chips
Lance Ringquist	? Surprise
Mike Weist	Meat items

Space Birthday Party
July 14, 1995

Just think about it, Space Club will be 13 years old, July 14, 1995. Happy Birthday SPACE!!!!!!!!. While other Atari Clubs are disappearing. Space Club is hanging in there. When you think about Space Birthday parties, what comes to mind. Could it be Ray Wafer's famous potato salad? Bill Cotter's special meatballs? Al Nobles famous Special K Bars? Nathan Block's famous Mcdonald's orange drink? etc. Or could it be just having a fun time?

CLUB OFFICIALS

President	Vacant	xxx-xxxx
Vice President	Vacant	xxx-xxxx
Secretary	Mike Weist(Temp)	xxx-xxxx
DOM Librarian	Terry Streeter	xxx-xxxx
Paper Librarian	Vacant	xxx-xxxx
Software Librarian	Earline Fitzpatrick	xxx-xxxx
Membership Chairman	Glen Kirschenmann	786-4790
SPACE Treasurer	Greg Leitner	429-4909
SPACE Newsletter Editor	Michael Schmidt	757-4192

Saint Paul ATARI Computer Enthusiasts (SPACE)
meets on the second friday of each month at 7:30 PM
in the Falcon Heights Community Center at
2077 West Larpenteur Ave. Doors open at 7:00 PM.

Falcon Heights
Community Center
2077 W. Larpenteur Ave.

Gibbs Museum

Cleveland Ave.

Snelling Ave.

North

Larpenteur Ave.

U of M
ST. Paul Campus

S.P.A.C.E.

P.O. Box 120016
New Brighton MN 55112
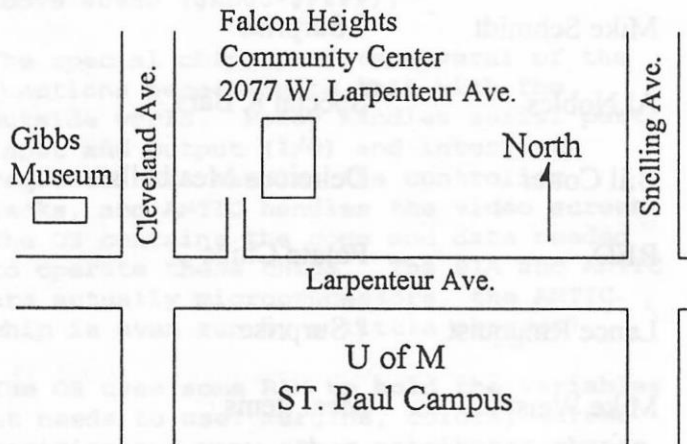
SPACE BBS

BBS Phone: (612)-427-4317
Sysop: Mike Fitzpatrick
Co-Sysop: Open Position
Supporting:
ATARI 8-Bit Computers
ATARI ST Computers

MINNEAPOLIS. MN
PM
8 JUL
1995

Old Glory

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