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Logo Graphics by (Electronic) Mail

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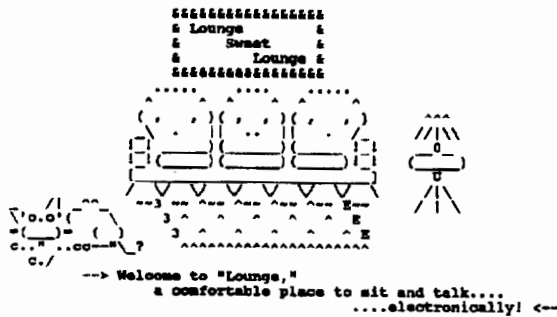## Recommended Citation

Logo LinX

Logo Graphics by (Electronic) Mail
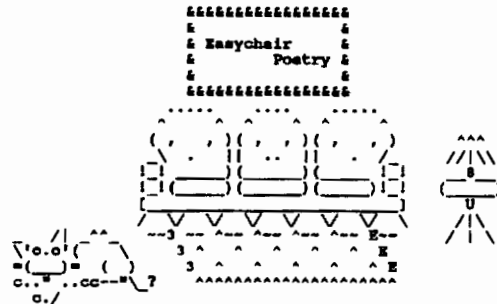
by Judi Harris

Have you ever seen a piece of "ASCII art"? Here is one that welcomes teachers to a public online computer conference in central Virginia called "The Lounge."

As you can see, this picture is made up of text characters. It was (painstakingly) created with a word processor. It is sometimes called "ASCII art" because the characters that comprise it are recognized by all types of computers; they are part of an across-manufacturer "American Standard Code of Information Interchange (ASCII)."
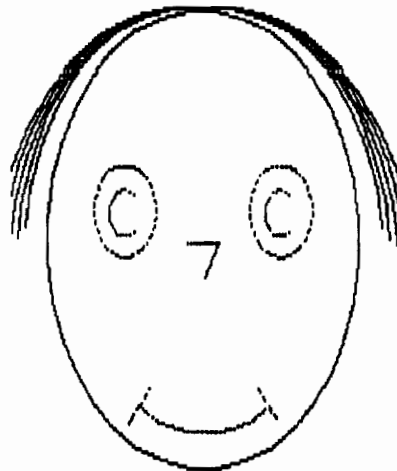
Electrified Art

If I sent this picture to you as an electronic mail message via the modem connected to my IBM PC, you could view and capture it with your Apple IIe, or any type of personal computer connected to a telephone line with a modem. You could save the Lounge welcome screen to your files diskette, load it into your Apple word processor, erase the welcome message, change the sign to read "Easychair Poetry," and then print it out on a ditto master. In this way, the revised Lounge greeting might serve as the title page for your class' most recent creative writing publication.

Pixelated Problems

Many electronic mail systems, online computer conferences, and electronic bulletin board systems will accept, store, and transmit only text characters such as these, or files written in ASCII form. In these electronic forums, only ASCII art can be directly exchanged. Logo graphics, such as this picture drawn by fifth-grade student Patrick Reynolds, are comprised of dots, or *pixels*, instead of text characters, and therefore cannot be transferred directly over many electronic networks.

If Patrick, who lives in Virginia, wanted to send his picture to an electronic penfriend in California, he could transmit the Logo procedures that he used to create it, but if the recipient uses a different version of Logo than Patrick does, translating may be difficult and time-consuming. It is possible, though, to convert a picture such as this one, pixel by pixel, to a text character code that can be transferred electronically, then decoded into pixelated form by whomever receives it. Developers at CompuServe, Inc., a commercial telecommunications service, have developed two picture exchange formats to do this.

RLE, or "Run Length Encoded" format, and GIF, or "Graphics Interchange Format," are two systems that can be used to encode and decode graphics images such as those created with Logo and saved with a SAVEPIC command. GIF pictures can be encoded and decoded in color; RLE pictures decode only to black-and-white images. Unfortunately, although GIF-decoded pictures can be displayed on Apple II series computers in color, Logo pictures created on Apple IIe's and IIc's can be encoded in RLE format only, and therefore decoded after electronic transmission in black-and-white only. It is possible, though, to encode and decode pictures for the IIgs in full-color GIF format.

Here is what Patrick's picture "looks" like after being translated into RLE code.

```
H
                GS
(+*6*, y, *&6&*- m+*&B&*, d+)%N%*+
]*)$X$** V*)$`$)+O* ($h$)* H* ($p$)*
A*)"x"** <"!"!$)"|"*$!"!" 8"!"!$)"
!"*$!"!" 4"!"!$)" %"*$!"!" 0%!$)"
)"*$!% ,%!$)" -"*$!% (%!$)" 1"*$!%
$%!$)" 5"*$!%%!"!!*!
9!+!!"!%(%"!!")" ;"*"!!"%w"!!!!!$*!
?!+!!"!!!!!"t!!&!!+!
A!+"!!!$!!q"!!!!!!"*"
C"+$!!!!!"n!!"!#!!+!
G!,!!#!!"!k"!!!#!"*"
I"+"!%!!i!"!!#!!+!
M!,!!#!!"f!!"!""!+!
O!,!""!"!c"!!!#"!+!
Q!,!"#!!!"`!!"!!!!"!+!
S!,!"!!!!"!!]"!!"!!!"!+!
U!,!"!!!!"!"Z!"!"!!!"!+!
W!,!"!!!"!"X!"!"!!!"!+!
Y"+!"!!!"!"V!"!"#"!+!
\!+!"#"!"!T!"!""#!+!
^!+!#""!"!R!"!!##!+!
`!+!##!!"!P!!"!!!!#!+!
b!+!#!!!!!"M"!!"!!#!+!
d!+!#!!!!"!K!"!"!!!#!+!
f!+!#!!!"!!"H"!"!!!#!,!
f!,!#!!!"!"!F!"!!!!!$!+!
h!+!$!!!"!"!D!"!"!#!+!
j!+!#!"!"!"!B!"!"!"!#!+!k!,!#!"!"!"!@!"
!#!!!!#!,!
l!,!!#!!"!">!"!#!"!#!+!
n!+!#!"!#!"!<!#!"!"!#!+!
o!,!#!"!"!#!;!"!"!#!"!+!
q!,!"#!"!"!:!"!#!"!"!,!
r!,!"!#!"!"!8!"!#!!#!"!+!
s!,!#!"!#!"!6!#!"!#!"!+!
u!,!"!#!"!#!5!"!#!"!"!,!! u!-
!"!"!#!"!#!4!"!#!"!#!+!
w!,!!#!"!#!"!2!#!"!#!"!,!! w!-
!"!#!"!#!0!#!"!#!+!
y!,!#!#!"!"!#!/!"!#!#!"!,!! y!-
!"!#!#!"!#!.!"!#!#!#!+!
{!,!#!#!"!"!,!#!#!#!"!,!! {!-
!"!#!#!"!#!*!#!#!#!+!E"!"!"!"!"w"!"!"!"!
!E!,!#!#!#!!)!#!#!#!"!,!!B!!!.!!!p!!!.!!
!B!-"!#!#!#! (!#!#!#!#!+!A!5"m!4!B!,!#!#
!#!#!!'!#!#!#!"!",!@!8!j!8!@!-!"!#!#!#!&!#
!#!#!#!+!@!;!
$!?!,!#!#!#!#!%!#!#!#!"!,!?! $!-!>!-
!"!#!#!#!$!#!#!#!#!,!^!c!]!-
!#!#!#!#!#!#!#!#!"!-!-!A!
$!<!.!"!#!#!#!"!$!"!#!#!,!>!.!!!r!.!!!0!
```

```
-!-!#!#!"!$!!!#!#!#!#!,!J!!!%!.!_!_!,!!!%!
K!-!#!#!#!#!%!"!#!#!-!-!+!+!+!v!_!<!.!#!
#!"!$!#!#!#!#!-!<!+!w!+!9!;!.!#!#!#!#!#!
"!$!#!-!G!:!]!*!V!.!#!$!"!&!#!#!$!,!<!*!
<!f!<!;!-!$!#!#!%!#!#!$!,!<!)!y!)!=!;!-!
$!#!#!$!$!#!#!-!F!-!(!)!Y!.!#!#!$!#!#!$!
#!-!<!)!-!e!-!;!.!#!$!#!#!#!$!#!,!=!)!y!
)!=!<!-!#!$!#!#!#!$!$!,!G!=!(!)!Z!-!$!#!
#!"!$!#!#!-!>!(!<!f!<!=!.!#!#!$!!!#!$!#!
-!>!)!y!)!;!=!.!#!$!#!!#!$!#!-!I!:!]!*!
X!.!$!#!#!!!$!!1!?!*!8!j!8!>!2!$!#!%!#!
2!@!*!+!!5!+!?!3!#!$!#!$!$!2!L!!!!!!!!!-!
a!+!!!!!!!!!M!3!$!#!#!$!2!A!?!
$!@!3!$!#!#!7!B!
$!-!A!8!#!#!7!_!9!!!!!!!!!!!!!!!!!!!!!9!
^!8!&!8!D!8!N!_!8!D!9!%!8!E"5!N!=!5"E!9!
>!H"/"P!@"/"G!X!K"("S!C"!!!!!J!X!N!!"!"
T!I"!"N!X!
)!!}!X!)!!}!X! (!~!Y! &!~!Z! %!!Z!
%!!Z! $! !!Z! &![! $!\!
$!\! $!\! $!]! "!^! "!^!
"!^! "! ! !`! !a! }!b! }!c!
{!d! {!e! y!f! y!g! w!h! w!i!
u!j! u!k! s!l! s!m! q!o! o!q!
n!q! m!s! k!u! j!v! h!w! g!y!
f!z! d!!! b!~! `! !! ^! #! \!
%! Y" `!H!e!G! *! /!E! ,!D! .!
7!8!#!m!""7! :";"j!$!5" =!3! (!f"(!2!
@!1!,!a!,!0! B".!/""/"<"
E!,!2!!"R"!">! H"B"!"H"!!A"
K"E!!"!!;!!"!!D"
O"I!!"!'!"!"!"!"!"!"!!H" S" )" W"
%" [" !" "|" c"x" g$p$ m$h$
u$ `$ }$X$ &%N% /&B& :&6&
F6
```

<div align="center">g N</div>

It may be hard for us to recognize, but to an RLE decoder program, this is a smiling face. Files such as the one above can be sent as parts of class-to-class electronic exchanges, or stored on computer bulletin board or conference systems as components of student graphics libraries as easily as text-only electronic mail is generated and received.

Do You Need a Captain Marvel Ring?

Encoding and decoding procedures are a lot less mysterious than they may sound. In CompuServe's "PICS Forum," software written for many different brands of personal computers can be downloaded and used to encode and decode pictures. All of the software stored in the PICS Forum is either freeware (legally copied and distributed for free) or shareware (legally copied and tested for free, but requiring a registration fee for continued use).

In addition, CompuServe maintains two very large online databases of encoded pictures that can be downloaded and decoded, then saved in binary picture file form, so that the downloaded graphics may be used in Logo programs. More complicated pictures (that take longer to download) are stored in the GALLERY Forum, and pictures that can be downloaded quickly are available from the QPICS Forum. Depending on modem speed, pictures can be downloaded in 4 - 15 minutes each.

Easy-to-use ProDOS RLE decoders for Apple II computers are stored in files called SAVRLE.EXE and RLEHNL.TXT in the PICS Forum. An Apple GIF decoder is available in the same place under the file name IIGIF.BNY. For IIgs users, a shareware program called SHRConvert can be downloaded as the file SHRCNV.BNY, then used to encode and decode both RLE and GIF pictures. The only program posted to date in the forum that will encode Apple II Logo pictures (saved with the SAVEPIC command) to RLE format is in a file called MRLE.EXE.

Want to Try it? Just ASCII!

Readers who do not have access to CompuServe or who are not comfortable with uploading and downloading procedures may send me a 5.25" diskette in a self-addressed, stamped diskette mailer. I will copy Apple II ProDOS RLE encoding and decoding programs onto the diskette, and enclose directions for use.

If you decide to browse in the PICS, GALLERY, and QPICS databases yourself, you may also want to visit the LOGOFORUM on CompuServe, where Logo-using educators from across the United States and Canada post classroom ideas, share Logo programs, and debate Logo philosophies. Any of the forums can be accessed by typing the command GO, followed by the name of the forum, at any ! prompt (e.g., GO LOGOFORUM). CompuServe subscription information can be obtained by calling their customer service department at 1-800- 848-8990 (in Ohio, 614-457-8650).

You've probably heard it said that one picture is worth a thousand words. In this case, a 256 X 192-pixel graphic is worth (at least) 350 text characters, which, in turn, can facilitate many new Logo connections.

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