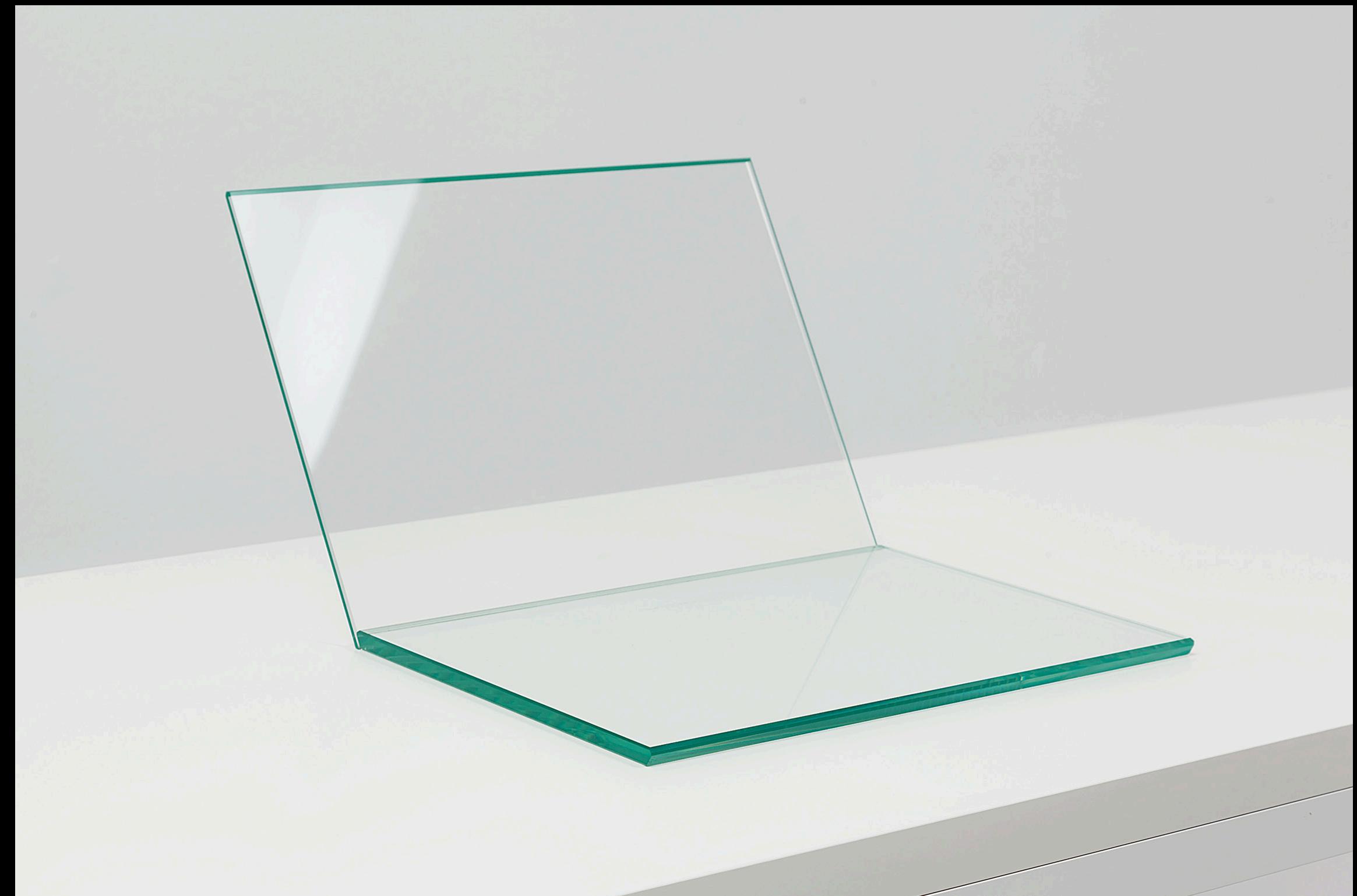


# Class 3:

# A Crystal Goblet



GlassPhone, 2014  
GlassBook, 2013  
Tilman Hornig

# Skipping History (Again)

- Moveable type
- Dot matrix
- IBM Selectric typewriter
- Phototypesetting
- ...
- Sketchpad
- PostScript



Xerox Alto, 1973  
Xerox PARC

Welcome to Smalltalk  
5.5k XM November 24

Top View

UserView workspace

## XEROX - Learning Research Group

user screenextent: 640@808 tab: 0@0.

Classes

SystemOrganization  
'Kernel Classes'  
'Numbers'  
'Basic Data Structures'  
'Sets and Dictionaries'  
'Graphical Objects'  
'Text Objects'  
'Windows'  
'Panes and Menus'  
'Files'

Browse Window  
Code Window  
ClassDefinition  
ClassOrganization  
File  
Initialization  
Scheduler  
Editing  
Image  
Strike format

help

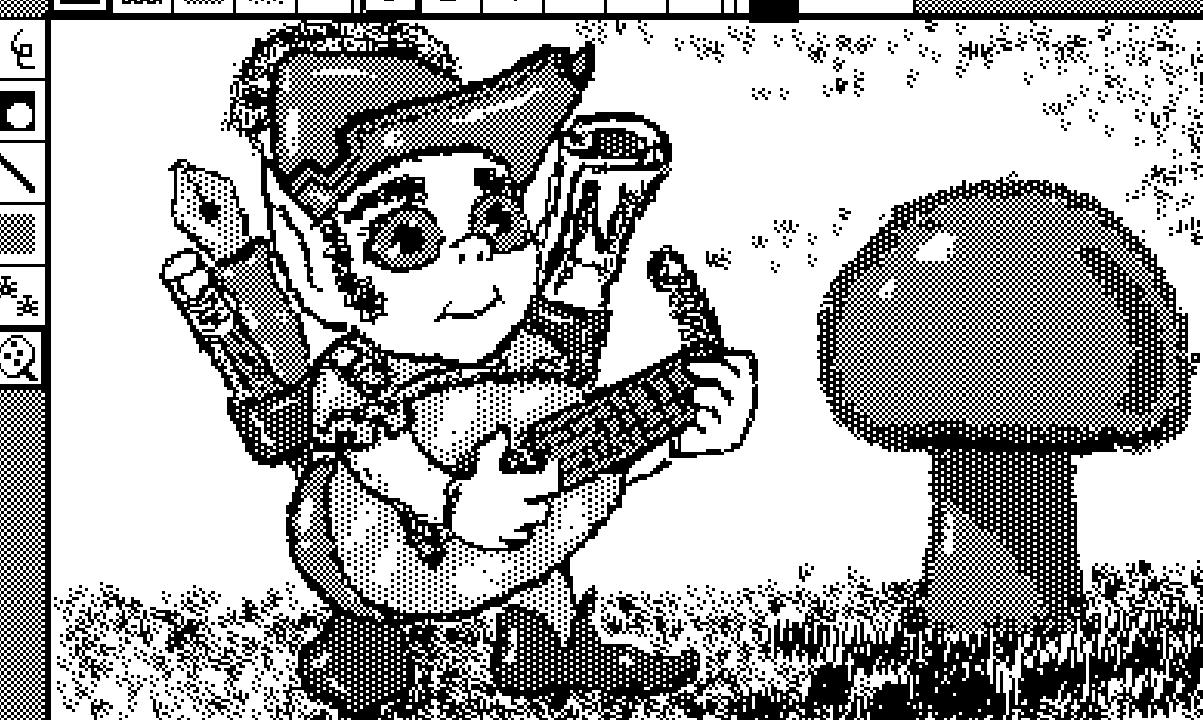
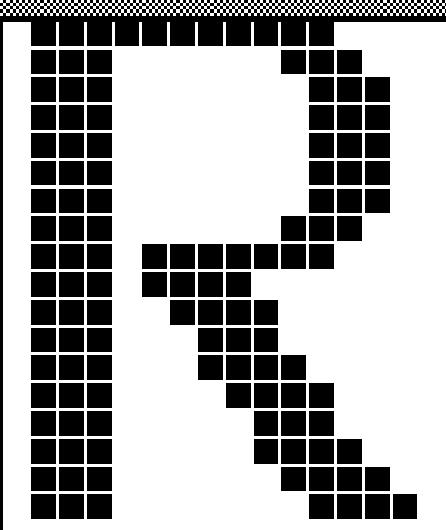
[  
\*\* sysFontWindow UserView workspace Walk dictionary, and bound to the font window displayed on the screen. You can change the font, style and size of text anywhere in a very easy way to play with.

Regular **bold italic Underlined**  
**Bold-italic Bold-underlined** italic-Underlined  
**Bold-italic-underlined**

Cream10 Cream12  
TimesRoman9 TimesRoman10 TimesRoman12  
Helvetica18

\*\* to create a new

yourfont ← FontV  
max: 177 as  
#from edit menu



SET USE block draw line BITS PENS STAMP

1 2 4 8 16 32

command central

quit then 'dmr.boot.'  
notes mdcfs ev @erase.  
usersetup.ft usereditor.ft  
usertextwindow.ft userfileseg.ft  
window.ft format.ft diana.ft  
blits.ft commander.ft tiles.ft  
filin 'press.ft. dsff. & pi+pressfile  
'jumbo.press. pf bitmap  
STDISPLAY rectangle. pf close.  
dsca  
sched + figwindow 'coreuse'  
sch

dina.ft

usecat.ft

usersetup.ft

userpic.ft

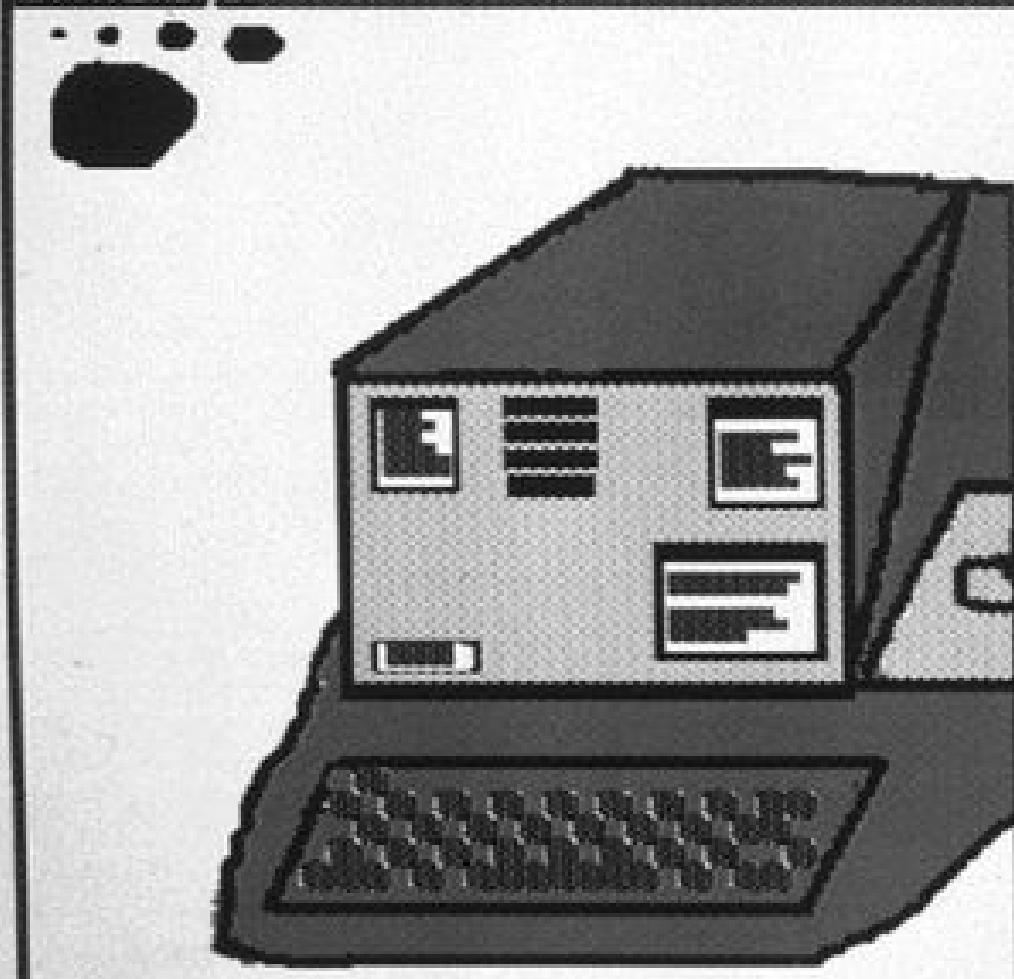
format.ft

userpicools.ft

notes

avoid full show for ex,  
cut, paste, (...)  
auto-cleanup  
get Larry's views  
Clean windows  
para, file, font  
fig, pic, clock  
debugger, view  
write up  
boolean exprs  
code obj  
bootstrap  
read run, files  
new/init  
Glenn's mods  
scheduling - interrupts

nettaker.pic



Heading

XEROX  
PALO ALTO RESEARCH CENTER  
Learning Research Group  
November 29, 1978

undo  
copy  
paste  
cut  
do it!  
(...)  
open  
include

text

To: SMALLTALK Interest

From: Dan Ingalls as scribe

Subject: Message syntax

Filed on: (INGALLS)STInterpreter.Bravo

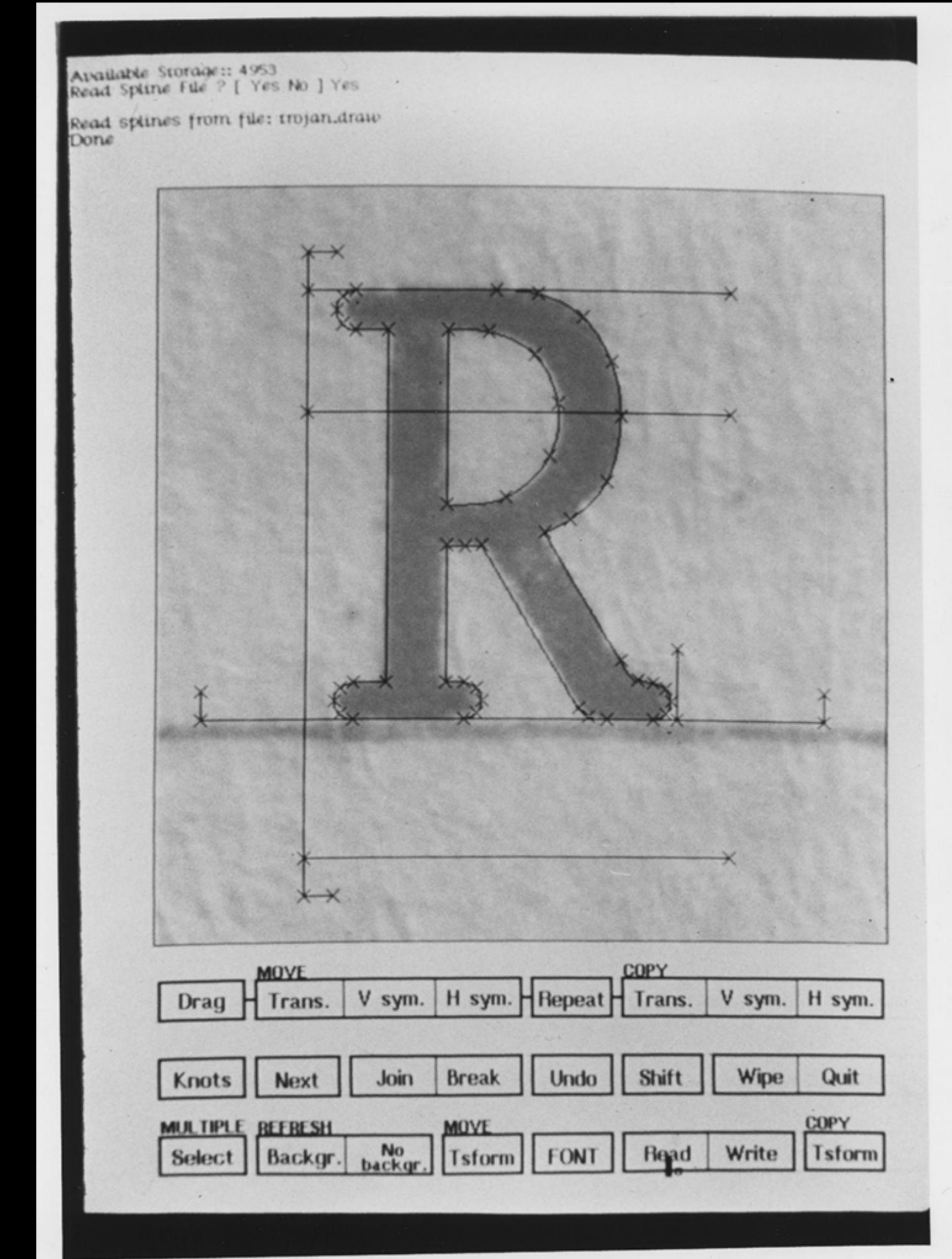
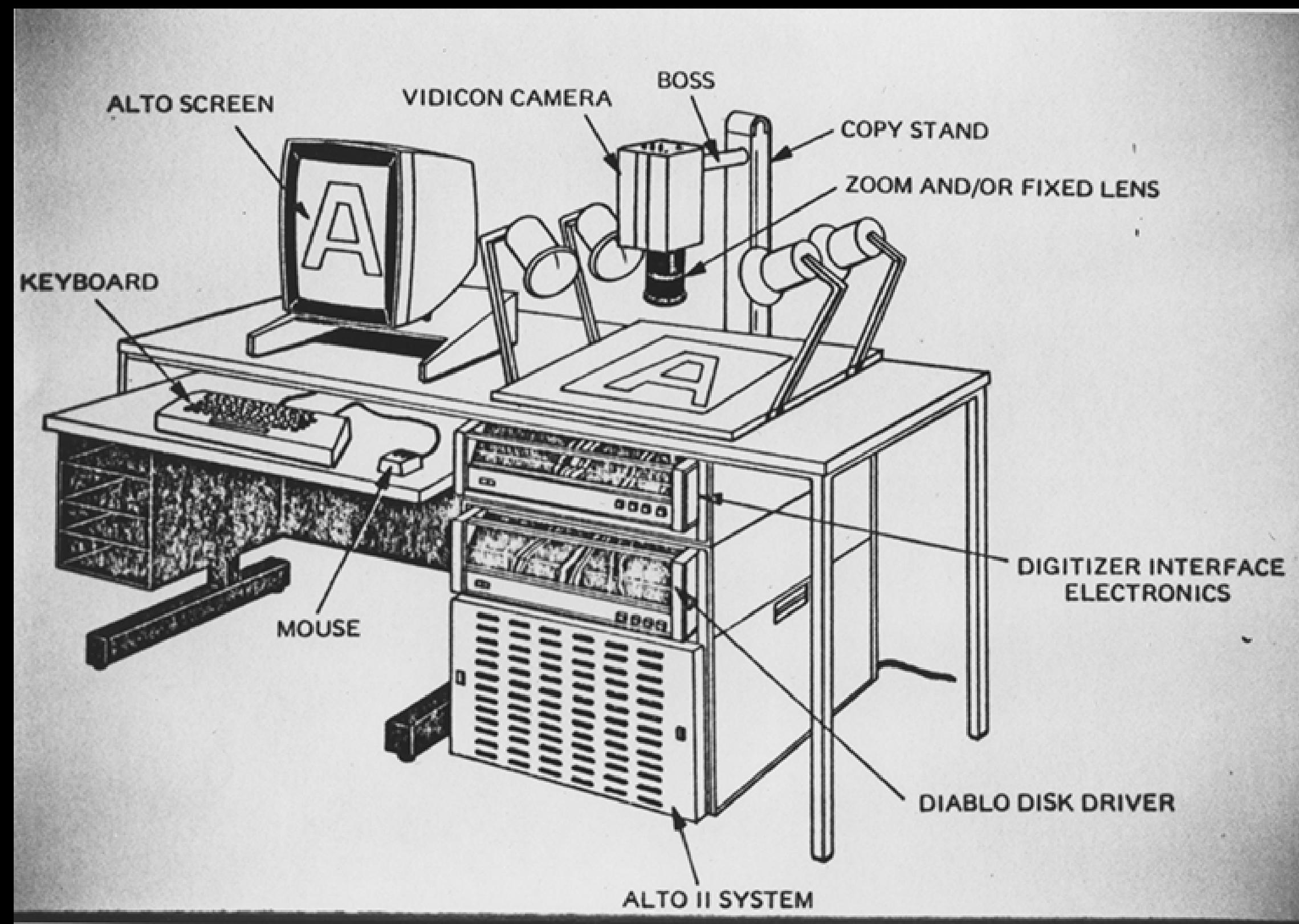
This is a working paper describing the next SMALLTALK system. It is the result of many proposals and discussions among LRG and friends.

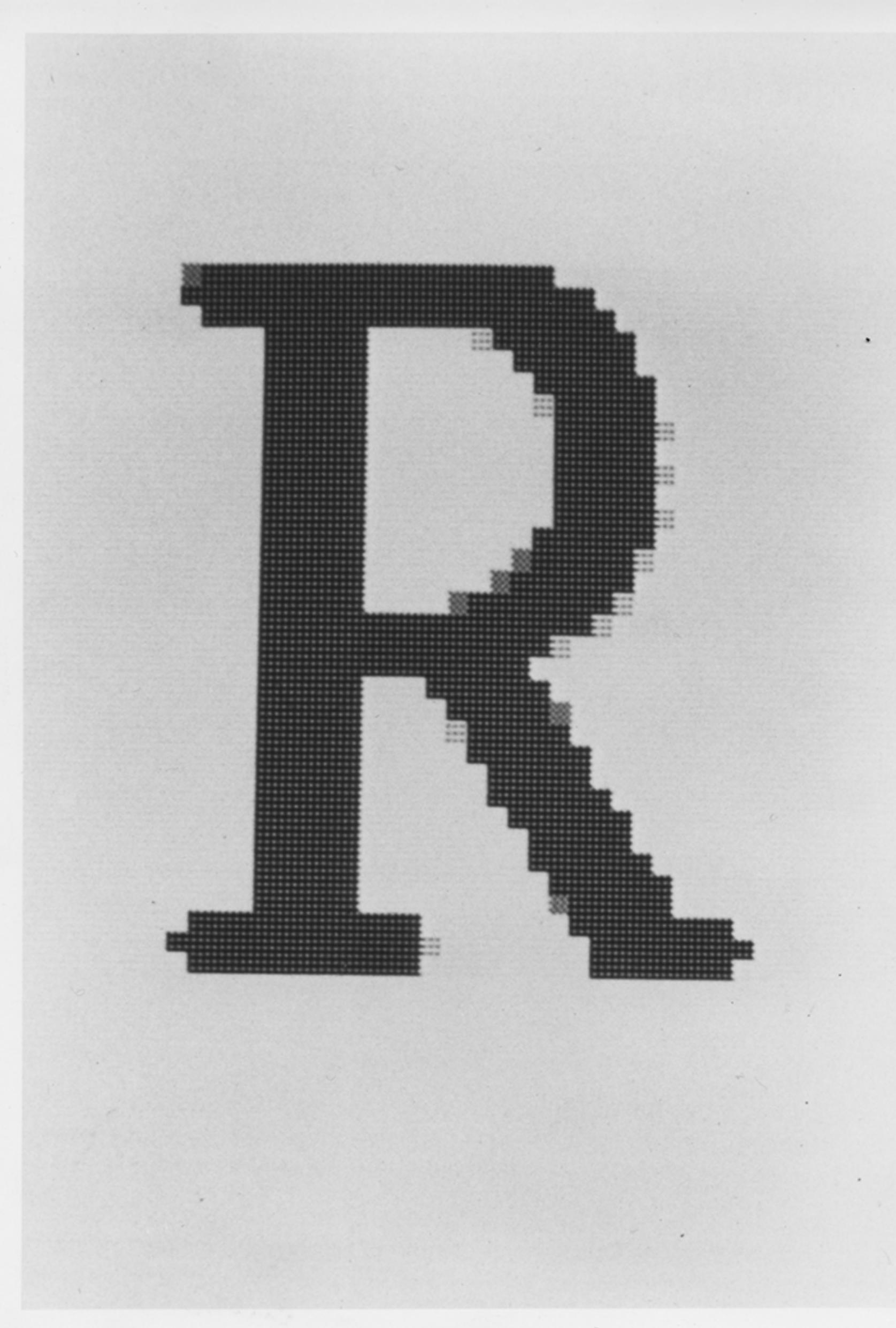
Interpretation

The operation of the bytecode interpreter is very simple. The code consists of sequences such as  $d_1$ ,  $d_2$ ,  $d_3$ ,  $s_n$ , or three data bytes followed by a selector byte. Each of the data bytes in turn gets resolved to a full (16-bit) object pointer and pushed onto the stack.

clock

Thursday  
February 3, 1977  
11:11am





```
READY: Select operand or type command
Last command was LOOK
*{no.perso...computer} {c} 0

Steve Job's Commencement Address
[The Mac] was the first computer with beautiful typography. If I
had never dropped in on that single course in college, the Mac would
never had multiple typefaces or proportionally spaced fonts. And since
Windows just copied the Mac, it's likely that no personal computer
would have had them. If I had never dropped out, I would have never
dropped in on this calligraphy class, and personal computers might not
have the wonderful typography that they do. →
```

# Oakland

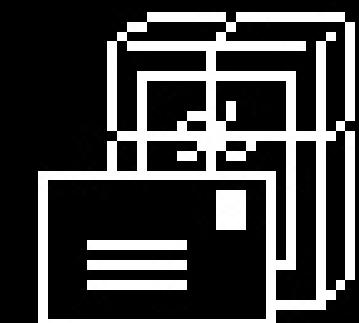
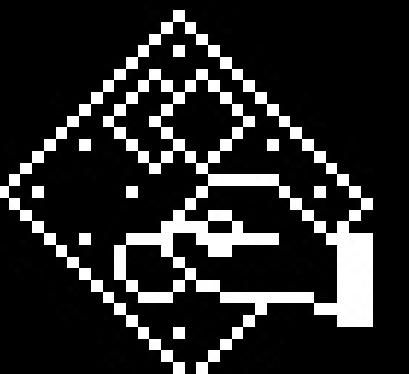
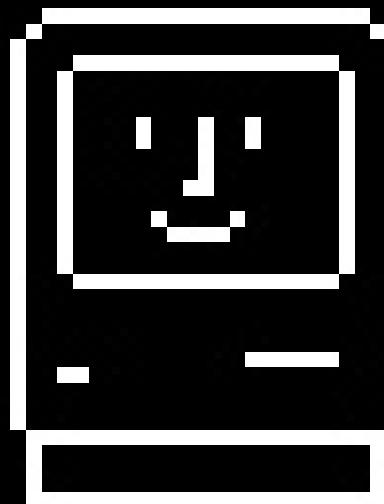
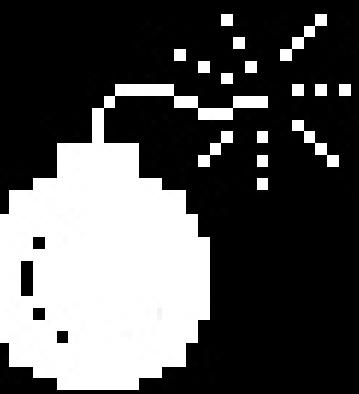
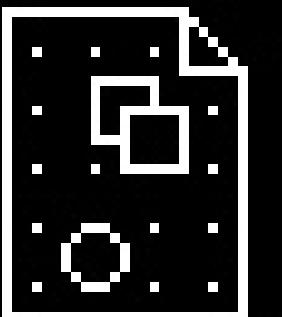
Oakland, Ten

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj  
Kk Ll Mm Nn Oo Pp Qq  
Rr Ss Tt Uu Vv Ww Xx Yy Zz  
1 2 3 4 5 6 7 8 9 0



Chicago, 1984  
Susan Kare

The quick brown  
fox jumps over  
a lazy dog.



FF Beowolf

E E E E

E E E E

E E E E

FF Beowolf, 1990

Just Van Rossum and Erik Van Blokland

# Verdana

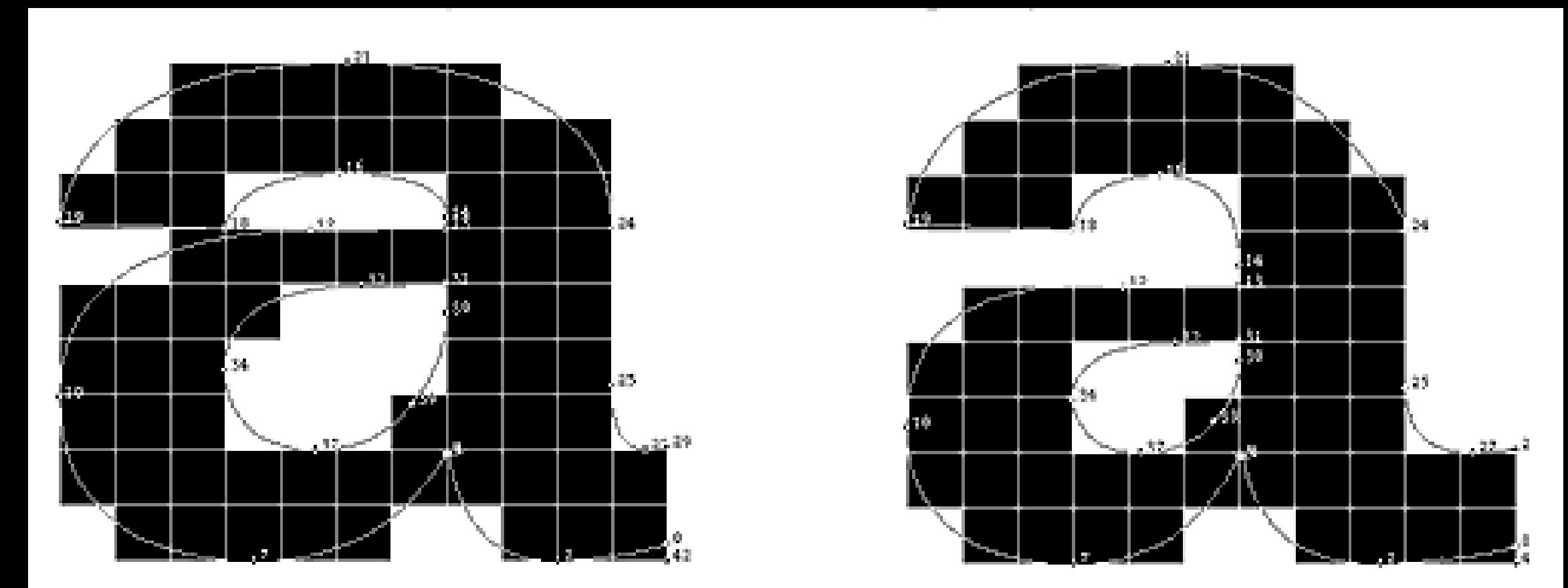
Verdana, Regular

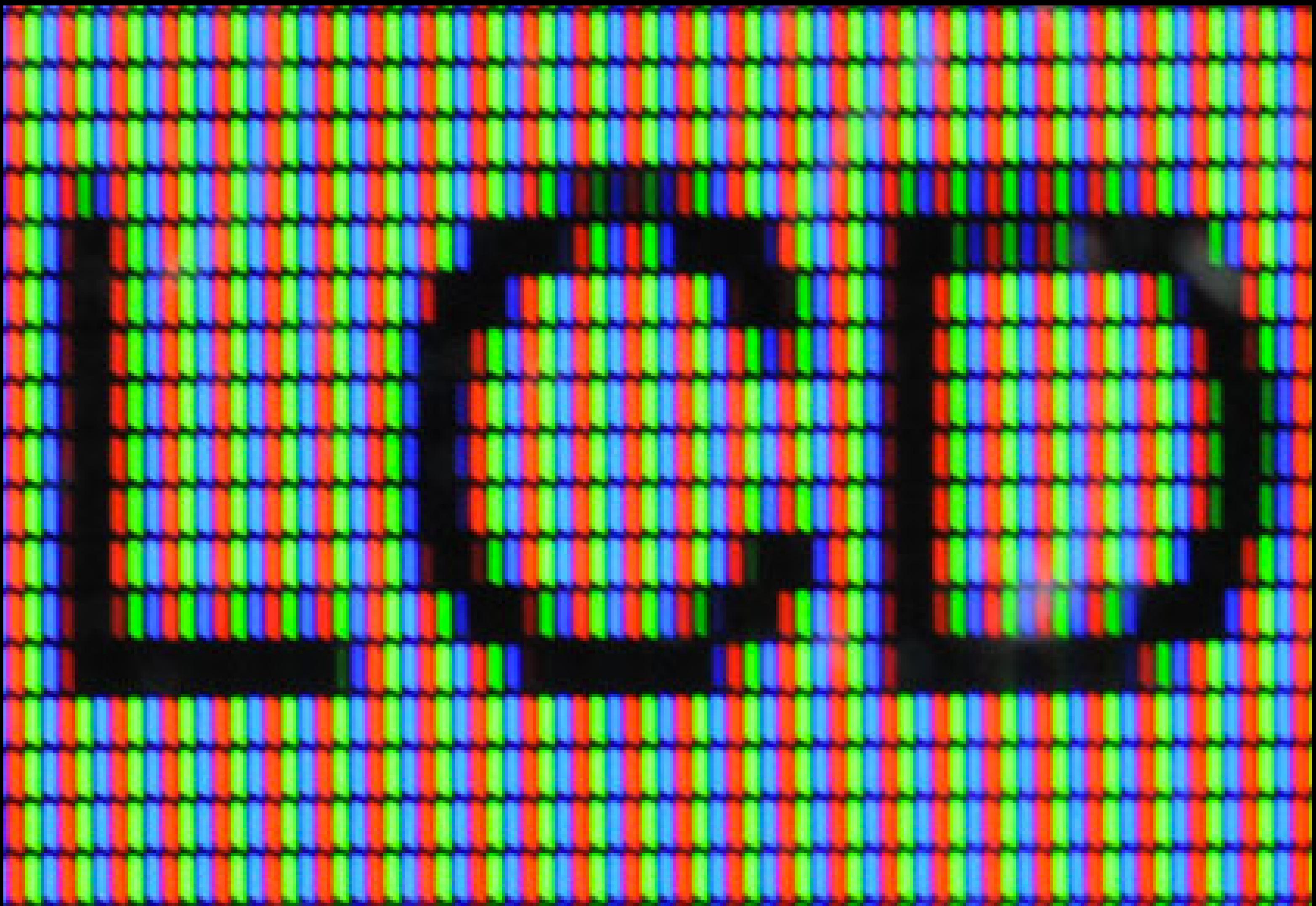
Aa Bb Cc Dd Ee Ff Gg  
Hh Ii Jj Kk Ll Mm  
Nn Oo Pp Qq Rr Ss Tt  
Uu Vv Ww Xx Yy Zz  
1 2 3 4 5 6 7 8 9 0

# Font Hinting

Font hinting is the use of mathematical instructions to adjust the display of an outline font so that it lines up with a rasterized grid.

At low screen resolutions, hinting is critical for producing clear, legible text. It can be accompanied by antialiasing and (on liquid crystal displays) subpixel rendering for further clarity.





abcf  
gop AO *abcf  
gop*

維基百科  
維基百科國際  
維基百科  
維基百科國際

abcf  
gop

abcf  
gop

維基百科

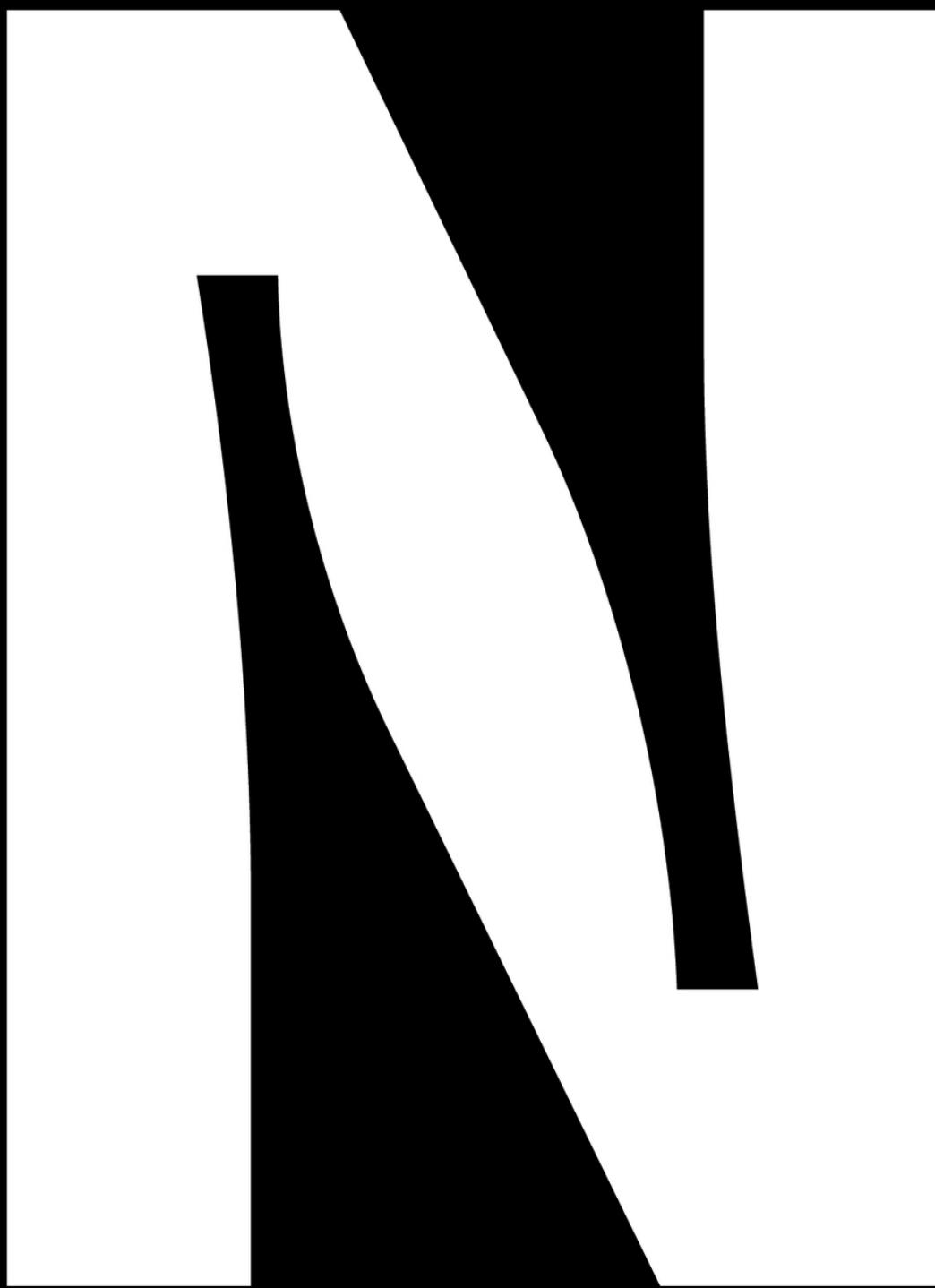
維基百科國際

維基百科

維基百科國際



# Bell Centennial

A large, bold, black outline of the letter 'N' is centered on a white rectangular background. The 'N' is formed by two thick, slightly curved lines meeting at a point on the right side. The white area to the left of the 'N' and below the rectangle is black.

Bell Centennial, 1978  
Matthew Carter

The World Wide Web project    +

Not Secure | info.cern.ch/hypertext/WWW/TheProject.html

popup    Reading    Remove CSS    Scatter Everything    Submit a New Issue...    Present to Everyone

# World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#) , [Policy](#) , November's [W3 news](#) , [Frequently Asked Questions](#) .

[What's out there?](#)  
Pointers to the world's online information, [subjects](#) , [W3 servers](#), etc.

[Help](#)  
on the browser you are using

[Software Products](#)  
A list of W3 project components and their current state. (e.g. [Line Mode](#) ,[X11 Viola](#) ,[NeXTStep](#) ,[Servers](#) ,[Tools](#) ,[Mail robot](#) ,[Library](#) )

[Technical](#)  
Details of protocols, formats, program internals etc

[Bibliography](#)  
Paper documentation on W3 and references.

[People](#)  
A list of some people involved in the project.

[History](#)  
A summary of the history of the project.

[How can I help ?](#)  
If you would like to support the web..

[Getting code](#)  
Getting the code by [anonymous FTP](#) , etc.

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m  
n o p q r s t u v w x y z

Handgloves

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m  
n o p q r s t u v w x y z

Handgloves

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m

n o p q r s t u v w x y z

Handgloves

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m

n o p q r s t u v w x y z

Handgloves

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m  
n o p q r s t u v w x y z  
H a n d g l o v e s

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m  
n o p q r s t u v w x y z  
H a n d g l o v e s

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m  
n o p q r s t u v w x y z  
H a n d g l o v e s

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m  
n o p q r s t u v w x y z  
H a n d g l o v e s

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m  
n o p q r s t u v w x y z  
H a n d g l o v e s

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m  
n o p q r s t u v w x y z  
H a n d g l o v e s

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m  
n o p q r s t u v w x y z  
H a n d g l o v e s

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m  
n o p q r s t u v w x y z  
H a n d g l o v e s

A B C D E F G H I J K L M  
N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m  
n o p q r s t u v w x y z  
H a n d g l o v e s

ABCDEFGHIJKLM  
NOPQRSTUVWXYZ  
abcdefghijklm  
nopqrstuvwxyz  
Handgloves

Times New Roman

ABCDEFGHIJKLM  
NOPQRSTUVWXYZ  
abcdefghijklm  
nopqrstuvwxyz  
Handgloves

Georgia

ABCDEFGHIJKLM  
NOPQRSTUVWXYZ  
abcdefghijklm  
nopqrstuvwxyz  
Handgloves

Arial

ABCDEFGHIJKLM  
NOPQRSTUVWXYZ  
abcdefghijklm  
nopqrstuvwxyz  
Handgloves

Verdana

ABCDEFGHIJKLM  
NOPQRSTUVWXYZ  
abcdefghijklm  
nopqrstuvwxyz  
Handgloves

Helvetica

ABCDEFGHIJKLM  
NOPQRSTUVWXYZ  
abcdefghijklm  
nopqrstuvwxyz  
Handgloves

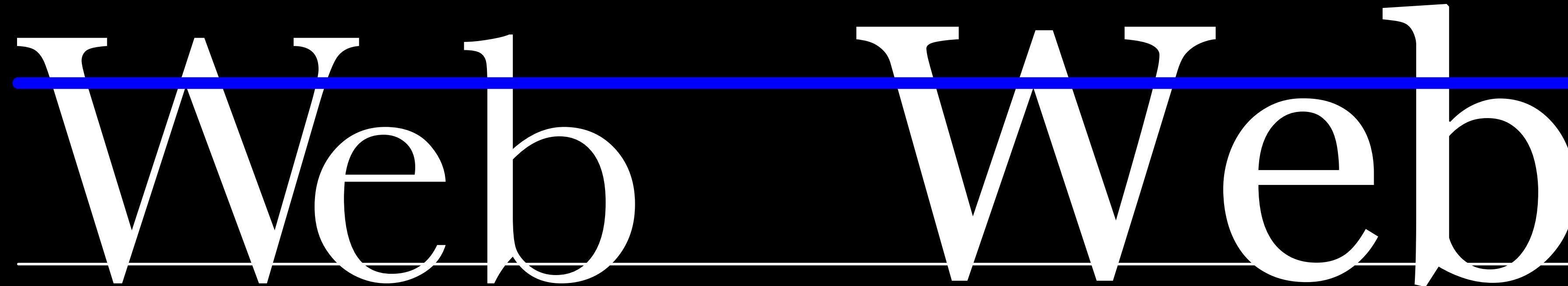
Trebuchet

# What Makes a Good Screen Typeface?

- Context
- Extensibility
- What is “good”?

# What Makes a Good Screen Typeface?

---



The image displays two instances of the word "Web" in white on a black background. A horizontal blue line is positioned above the top of the letters in both instances. Below the letters, a thin white horizontal line indicates the baseline. The letters are tall and slender, with a large x-height relative to their total height. The second instance of "Web" is slightly taller than the first, demonstrating a visual comparison of x-height.

→ Tall x-height

# What Makes a Good Screen Typeface?

Web Web

- Tall x-height
- Open apertures & large counters

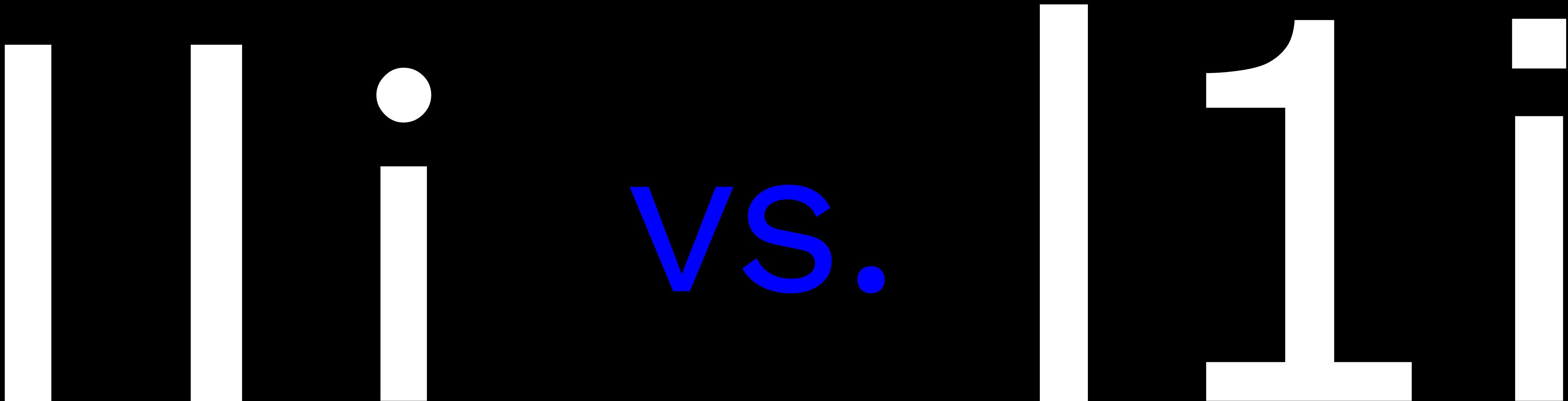
# What Makes a Good Screen Typeface?

shapes shapes

→ Letter spacing

# What Makes a Good Screen Typeface?

i vs. i

The image shows a comparison between two letterforms. On the left, there is a white 'i' character on a black background. It has a thin vertical stem and a small dot at the top. On the right, there is a similar white 'i' character, but it is rendered in a pixelated or blocky style, appearing as a series of black and white squares and rectangles that lack fine detail.

→ Distinct letterforms

# What Makes a Good Screen Typeface?

shean shean

→ Robust, unmodulated strokes

# Typographic Declarations in CSS

h1	p
h2	blockquote
h3	ol
h4	ul
h5	li
h6	small
	strong
	em

# Typographic Declarations in CSS

font-family

font-size

font-style

font-variant

font-weight

line-height

letter-spacing

font

text-align

text-decoration

text-indent

text-justify

text-transform

# Typographic Declarations in CSS

font-family

## Font Stack

Arial, Verdana, “sans serif”

# Typographic Declarations in CSS

font-family  
font-size

Metrics

px vs. %

em vs. rem

vw vs. vh

# Typographic Declarations in CSS

font-family  
font-size  
font-style

normal vs. italic

# Typographic Declarations in CSS

font-family  
font-size  
font-style  
font-variant

normal vs.  
small-caps  
(beware)

# Typographic Declarations in CSS

normal

bold

bolder

lighter

100–900

font-family  
font-size  
font-style  
font-variant  
font-weight

# Typographic Declarations in CSS

font-family  
font-size  
font-style  
font-variant  
font-weight  
line-height

AKA “Leading”

# Typographic Declarations in CSS

AKA “tracking”

font-family  
font-size  
font-style  
font-variant  
font-weight  
line-height  
letter-spacing

# Typographic Declarations in CSS

All in one rule

font: font-style font-variant font-weight font-size/line-height

font-family  
font-size  
font-style  
font-variant  
font-weight  
line-height  
letter-spacing  
font

# Typographic Declarations in CSS

left    center    right

font-family  
font-size  
font-style  
font-variant  
font-weight  
line-height  
letter-spacing  
font  
text-align

# Typographic Declarations in CSS

underline

~~line-through~~

overline

font-family  
font-size  
font-style  
font-variant  
font-weight  
line-height  
letter-spacing  
font  
text-align  
text-decoration

# Typographic Declarations in CSS

This seems fairly  
self-explanatory,  
doesn't it?

font-family  
font-size  
font-style  
font-variant  
font-weight  
line-height  
letter-spacing  
font  
text-align  
text-decoration  
text-indent

# Typographic Declarations in CSS

UPPERCASE  
lowercase  
Capitalize

font-family  
font-size  
font-style  
font-variant  
font-weight  
line-height  
letter-spacing  
font  
text-align  
text-decoration  
text-indent  
text-justify  
text-transform

# Typographic Declarations in CSS

columns

column-count  
column-gap

# @font-face

The @font-face CSS at-rule specifies a custom font with which to display text; the font can be loaded from either a remote server or the user's own computer.

```
@font-face {  
    font-family: FontName;  
}
```

```
@font-face {  
    font-family: FontName;  
    src: url('path/filename.eot');  
}
```

```
@font-face {  
    font-family: FontName;  
    src: url('path/filename.eot');  
    src: url('path/filename?#iefix') format('embedded-opentype'),  
        url('path/filename.woff2') format('woff2'),  
        url('path/filename.woff') format('woff'),  
        url('path/filename.ttf') format('truetype');  
}
```

```
@font-face {  
    font-family: FontName;  
    src: url('path/filename.eot');  
    src: url('path/filename?#iefix') format('embedded-opentype'),  
        url('path/filename.woff2') format('woff2'),  
        url('path/filename.woff') format('woff'),  
        url('path/filename.ttf') format('truetype');  
    font-weight: normal;  
    font-style: normal;  
}
```

```
@font-face {  
    font-family: FontName;  
    src: url('path/filename.eot');  
    src: url('path/filename?#iefix') format('embedded-opentype'),  
        url('path/filename.woff2') format('woff2'),  
        url('path/filename.woff') format('woff'),  
        url('path/filename.ttf') format('truetype');  
    font-weight: normal;  
    font-style: normal;  
}  
body {
```

```
    font-family: 'FontName', Helvetica, Arial, sans-serif;  
}
```

# Reference

[fonts.google.com](https://fonts.google.com)

[fonts.adobe.com](https://fonts.adobe.com)

[fonts.com](https://fonts.com)

[typenetwork.com](https://typenetwork.com)

[monotype.com](https://monotype.com)

[typography.com/cloud](https://typography.com/cloud)

[fontstand.com](https://fontstand.com)

[webfonter.fontshop.com](https://webfonter.fontshop.com)

[typewolf.com/type-sample](https://typewolf.com/type-sample)

[typotheque.luuse.fun](https://typotheque.luuse.fun)

[github.com/grillitype/web-fonts-guide](https://github.com/grillitype/web-fonts-guide)

[typotheque.com](https://typotheque.com)

[theleagueofmoveabletype.com](https://theleagueofmoveabletype.com)

[usemodify.com](https://usemodify.com)

[open-foundry.com](https://open-foundry.com)

[v-fonts.com](https://v-fonts.com)

[metaflop.com](https://metaflop.com)

[copypastecharacter.com](https://copypastecharacter.com)

[ospublish.constantvzw.org/foundry](https://ospublish.constantvzw.org/foundry)

# Reference

Thinking about our upcoming assignment:

[talent.stimuleringsfonds.nl/2016](http://talent.stimuleringsfonds.nl/2016)

[gt-zirkon.com](http://gt-zirkon.com)

[gt-eesti.com](http://gt-eesti.com)

[gt-flexa.com](http://gt-flexa.com)

[googlefonts.github.io/korean](http://googlefonts.github.io/korean)

[blow-up-architecture.com](http://blow-up-architecture.com)

[takachizu.org](http://takachizu.org)

[onpublishing.page](http://onpublishing.page)

[boook.land](http://boook.land)

[act.mit.edu/cavs](http://act.mit.edu/cavs)

[triebwerk.bff.de](http://triebwerk.bff.de)

[elsewhere.space](http://elsewhere.space)

[laurelhalo.com](http://laurelhalo.com)

[gt-maru.com](http://gt-maru.com)

[arch.bard.edu](http://arch.bard.edu)

[trippin.world](http://trippin.world)