

## GLYPHS IN PROTOTYPE

The specification began with the requirement of no apparent change to the regular weight (CSS 400), which is to be assigned an optical size axis value of 14 pts. and 100% width, (CSS wdh).

The contour point structure had to be designed to enable large amounts of weight and width to be possible as well be suitable outlines for all possible parametric axes.

The lone composite in the ASCII set, "%", is restructured to match that of the figure zero, and is composed from a superior figure zero and fraction bar.

The alignments of the font match the original on a different size em, changing from 1000 to 2000 to ensure future accuracy of the broad design space.

opsz 14 @14pt

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 0 1 2 3 4 5 6 7 8 9 . , ; ! ? ( ) [ ]  
{ } / | \ # \$ % @ ' " \* ~ ^ \_ ` = + < > -

opsz 14 @42pt

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 0 1  
2 3 4 5 6 7 8 9 . , ; ! ? ( )  
[ ] { } / | \ # \$ % @ ' " \* ~ ^  
\_ ` = + < > -

opsz 14 @28pt

Two ideas altered the design of the printing press radically: First, the use of steam power for running the machinery, and second the replacement of the printing flatbed with the rotary motion of cylinders. Both elements were first successfully implemented by the German printer Friedrich Koenig in a series of press designs devised between 1802 and

opsz 14 @14pt

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HHAHH HHBHH HHCHH HHDHH HHEHH HHFHH HHGHH HHHHH  
HHIHH HHJHH HHKHH HHLHH HHMHH HHNHH HHOHH HHPHH  
HHQHH HHRHH HSHH HHTHH HHUHH HHVHH HHWHH HHXHH  
HYHH HHZHH nnann nnbnn nncnn ndnn nnenn nnfnn nngnn nnhnn  
nninn nnjnn nnknn nnlnn nmnn nnnnn nnnonn npnn nnqnn nnrnn  
nsnn ntnn nnunn nvnn nwnn nxnn nynn nznn 00000 00100  
00200 00300 00400 00500 00600 00700 00800 00900 HH<HH HH(HH  
HH[HH HH{HH HH@HH HH#HH HH\$HH HH%HH HH&HH HH?HH HH!  
HH HH/HH HH|HH HH\HH HH"HH HH~HH HH`HH HH\*HH HH^HH  
HH'HH HH:HH HH;HH HH.HH HH,HH HH)HH HH]HH HH HH>HH

opsz 14 @28pt (on 24 pt linespace)

HHAHH HHBHH HHCHH HHDHH  
HHEHH HHFHH HHGHH HHHHH  
HHIHH HHJHH HHKHH HHLHH  
HHMHH HHNHH HHOHH HHPHH  
HHQHH HHRHH HSHH HHTHH  
HHUHH HHVHH HHWHH HHXHH  
HYHH HHZHH nnann nnbnn nncnn  
ndnn nnenn nnfnn nngnn nnhnn  
nninn nnjnn nnknn nnlnn nmnn  
nnnnn nnnonn npnn nnqnn nnrnn  
nsnn ntnn nnunn nvnn nwnn  
nxnn nynn nznn 00000 00100  
00200 00300 00400 00500 00600  
00700 00800 00900 HH<HH HH(HH  
HH[HH HH{HH HH@HH HH#HH  
HH\$HH HH%HH HH&HH HH?HH HH!  
HH HH/HH HH|HH HH\HH HH"HH  
HH~HH HH`HH HH\*HH HH^HH  
HH'HH HH:HH HH;HH HH.HH HH,HH HH)

## GLYPHS IN PROTOTYPE

The contours are native drawn quadratic beziers.

The figures are Tabular and the width of the default figures is 1/2 em.

The Regular style is a nearly identical match when swapped with the existing Roboto.

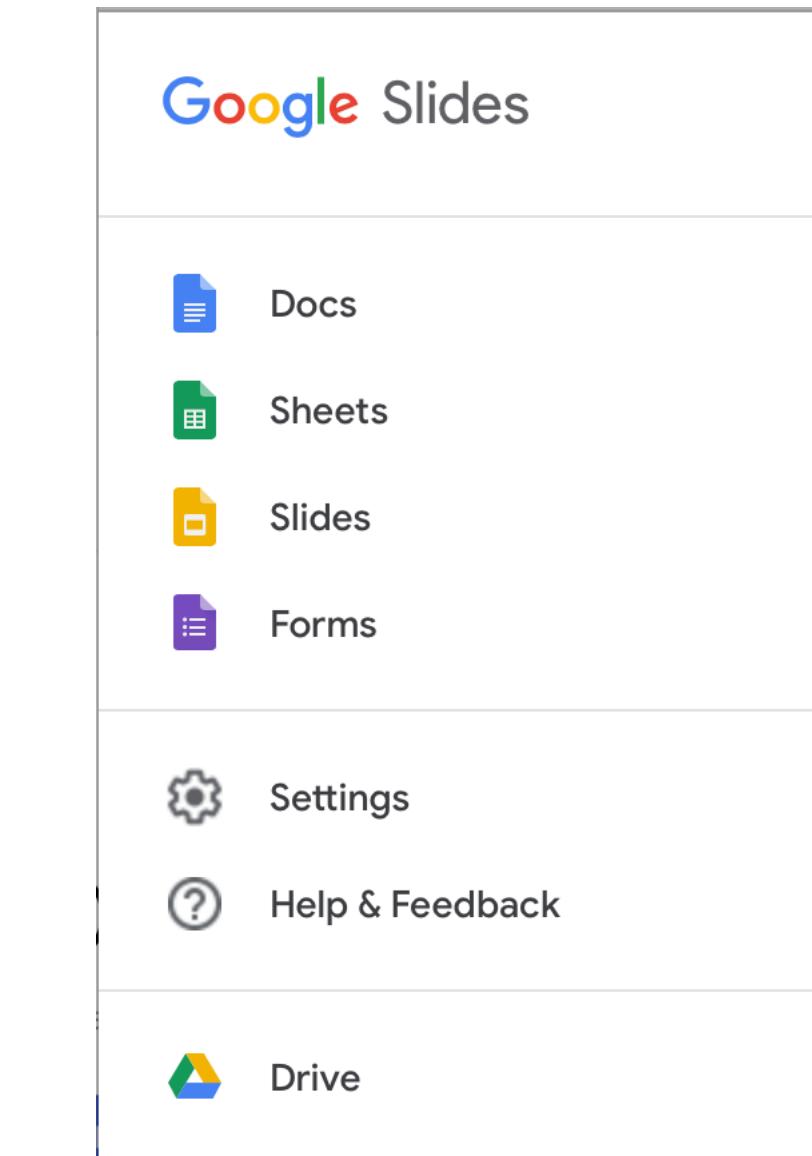
opsz 14 @14pt

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 0 1 2 3 4 5 6 7 8 9 . , ; ! ? ( ) [ ]  
{ } | \ # \$ % @ ' " \* ~ ^ \_ ` = + < > -

0123456789  
1234567890  
2345678901  
3456789012  
4567890123

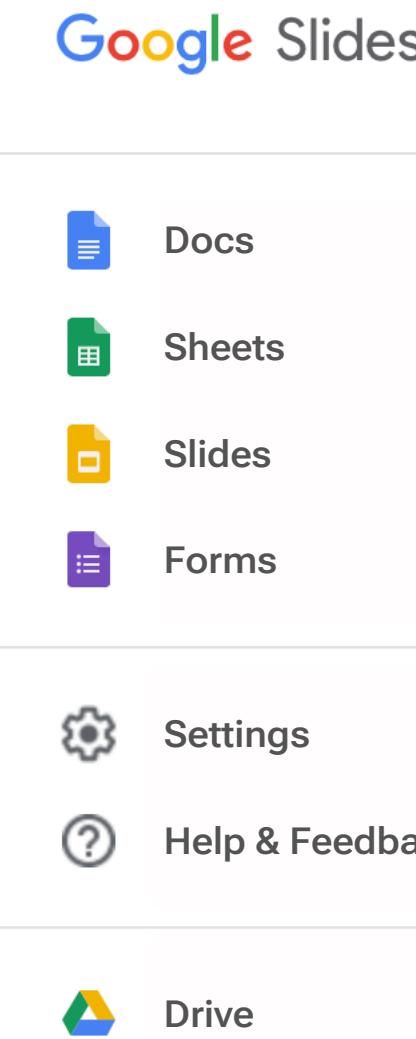
PROTOTYPE IN UI

## Deployed



## Extremo

Matching size and weight



14 pt opsz14 wght550 wdth115

## AXES IN ALPHA VF opsz

The design space began with envisioning and then designing an unbalanced range of size masters upon which to base the weight and width axes. the optical sizes floor at 8 point, and ceiling at 72 in the first design space. so as to provide more weight change at larger sizes, where it's possible to use very bold and very light instances, and less range as the optical size of use gets smaller.

opsz 72 @24pt

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 0  
1 2 3 4 5 6 7 8 9 . , ; ! ? ( ) [ ]  
{ } / | \ # \$ % @ ' " \* ~ ^ \_ ` =  
+ < > -

opsz 14 @24pt

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 0  
1 2 3 4 5 6 7 8 9 . , ; ! ?  
( ) [ ] { } / | \ # \$ % @ ' " \*  
~ ^ \_ ` = + < > -

opsz 8 @24pt

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 0 1 2 3 4 5 6 7 8  
9 . , ; ! ? ( ) [ ] { } / | \ # \$  
% @ ' " \* ~ ^ \_ ` = + < >  
-

opsz 72 @72pt

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

opsz 14 @14pt

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  
0 1 2 3 4 5 6 7 8 9 . , ; ! ? 0 [ ] 8 / | \  
# \$ % @ ' " \* ~ ^ \_ ` = + < > -

opsz 8 @8pt

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 0 1 2 3 4 5 6 7 8  
9 . , ; ! ? 0 [ ] 8 / | \  
# \$ % @ ' " \* ~ ^ \_ ` = + < > -

**AXES IN ALPHA VF: MASTERS Default**  
wght & wdth

The maximim and minimum weights and widths for 14 point were then drawn and tested at actual size.

opsz 14, wght and wdth masters @14pt

MEMORABLE Planning sessions  
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opsz 14 wght 900 @24pt

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 0 1 2 3 4 5 6 7 8  
9 . , : ; ! ? ( ) [ ] { } / \ # \$  
% @ ' " \* ~ ^ \_ = + < > -

opsz 14 wdth 50 @24pt

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 0 1 2 3 4 5 6  
7 8 9 . , : ; ! ? ( ) [ ] { } / \  
# \$ % @ ' " \* ~ ^ \_ = + <  
> -

opsz 14 @24pt

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 0  
1 2 3 4 5 6 7 8 9 . , : ; ! ?  
( ) [ ] { } / \ # \$ % @ ' " \*  
~ ^ \_ = + < > -

opsz 14 wdth 125 @24pt

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 0 1 2 3 4 5 6 7 8  
9 . , : ; ! ? 0 { } / \ # \$  
% @ ' " \* ~ ^ \_ = + < > -

opsz 14 wght 100 @24pt

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 0 1 2 3 4  
5 6 7 8 9 . , : ; ! ? ( ) [ ] { } / |  
\ # \$ % @ ' " \* ~ ^ \_ = +  
< > -

## AXES IN ALPHA VF: MASTERS

### Parametric Axes

Parametric axes, i.e. variations to the underlying single parameters that combine to make the changes from one style to another, and from one size master to another, were drawn. These include the six axes shown here. XTRA modifies the counter width of glyphs. YTUC changes uppercase height. YTLC changes lowercase height. XOPQ changes stem weight. YTAS changes lowercase ascender height and YOPQ changes hairline weight.

opsz 14 XTRA minimum

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

opsz 14 XTRA maximum

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

opsz 14 YOPQ minimum

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

opsz 14 YOPQ maximum

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

opsz 14 YTUC minimum

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

opsz 14 YTUC maximum

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

opsz 14 @24pt

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 0  
1 2 3 4 5 6 7 8 9 . , ; ! ?  
( ) [ ] { } / | \ # \$ % @ ' " \*  
~ ^ = + < > -

opsz 14 YTAS minimum

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

opsz 14 YTAS maximum

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

opsz 14 YTLC minimum

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

opsz 14 YTLC maximum

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

opsz 14 XOPQ minimum

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

opsz 14 XOPQ maximum

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

## AXES IN ALPHA VF: Corners

Together with the wght and wdth masters, (grey), and the default in the middle, the combination of five masters define their combinations, (black). The parametric axes were used to make minor adjustments to for the completed style sof the 14 point master.

opsz 14 wght 900 wdth 50 @24pt

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 0 1 2  
3 4 5 6 7 8 9 . , : ; ! ? ( ) [ ]  
{ } / \ # \$ % @ ' " \* ~ ^ \_  
= + < > -

opsz 14 wdth 50 @24pt

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 0 1 2 3 4 5 6  
7 8 9 . , : ; ! ? ( ) [ ] { } / | \  
# \$ % @ ' " \* ~ ^ \_ = + <  
> -

opsz 14 wght 100 wdth 50 @24pt

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 0 1 2 3 4 5 6 7 8  
9 . , : ; ! ? ( ) [ ] { } / | \ # \$ %  
@ ' " \* ~ ^ \_ = + < > -

opsz 14 wght 900 @24pt

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 0 1 2 3 4 5 6 7 8  
9 . , : ; ! ? ( ) [ ] { } / | \ # \$ %  
@ ' " \* ~ ^ \_ = + < > -

opsz 14 @24pt

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 0  
1 2 3 4 5 6 7 8 9 . , : ; ! ?  
( ) [ ] { } / | \ # \$ % @ ' " \*  
~ ^ \_ = + < > -

opsz 14 wght 100 @24pt

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 0 1 2 3 4  
5 6 7 8 9 . , : ; ! ? ( ) [ ] { } / | \  
\ # \$ % @ ' " \* ~ ^ \_ = + <  
> -

opsz 14 wght 900 wdth 125 @24pt

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 0 1 2 3  
4 5 6 7 8 9 . , : ; ! ? ( ) [ ]  
0 . / \ # \$ % @ ' " \* ~ ^ \_  
= + < > -

opsz 14 wdth 125 @24pt

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 0 1 2 3 4 5 6 7 8  
9 . , : ; ! ? ( ) [ ] { } / | \ # \$ %  
@ ' " \* ~ ^ \_ = + < > -

opsz 14 wght 100 wdth 125 @24pt

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 0  
1 2 3 4 5 6 7 8 9 . , : ; ! ?  
( ) [ ] { } / | \ # \$ % @ ' " \*  
~ ^ \_ = + < > -

The specification began with envisioning and designing a range of size masters upon which to base the weight and width axes, so as to provide more weight change at larger sizes, where it's possible to use very bold and very light instances, and less range as the optical size of use gets smaller.

**opsz 14, wght and wdth masters @24pt**

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**opsz 14, wght and wdth masters @14pt**

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**opsz 72 wght 100 wdth 125, 100 & 25 @72pt**

A B C D E F G H I J K L M N O P Q R  
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 &  
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 &  
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

## AXES IN Beta VF

The specification began with envisioning and designing a range of size masters upon which to base the weight and width axes, so as to provide more weight change at larger sizes, where it's possible to use very bold and very light instances, and less range as the optical size of use gets smaller.

opsz 144 @24pt

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 0  
1 2 3 4 5 6 7 8 9 . , ; ! ? ( ) [ ]  
{ } / | \ # \$ % @ ' " \* ~ ^ \_ =  
+ < > -

opsz 14 @24pt

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 0  
1 2 3 4 5 6 7 8 9 . , ; ! ?  
( ) [ ] { } / | \ # \$ % @ ' " \*  
~ ^ \_ = + < > -

opsz 8 @24pt

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 0 1 2 3 4 5 6 7 8  
9 . , ; ! ? ( ) [ ] { } / | \ # \$  
% @ ' " \* ~ ^ \_ = + < >  
-

opsz 144 @144pt

A B C D E F G H I J K  
L M N O P Q R S T U  
W X Y Z & a b c d e

opsz 144 wght 100 wdhth 125, 100 & 25 @144pt

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

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

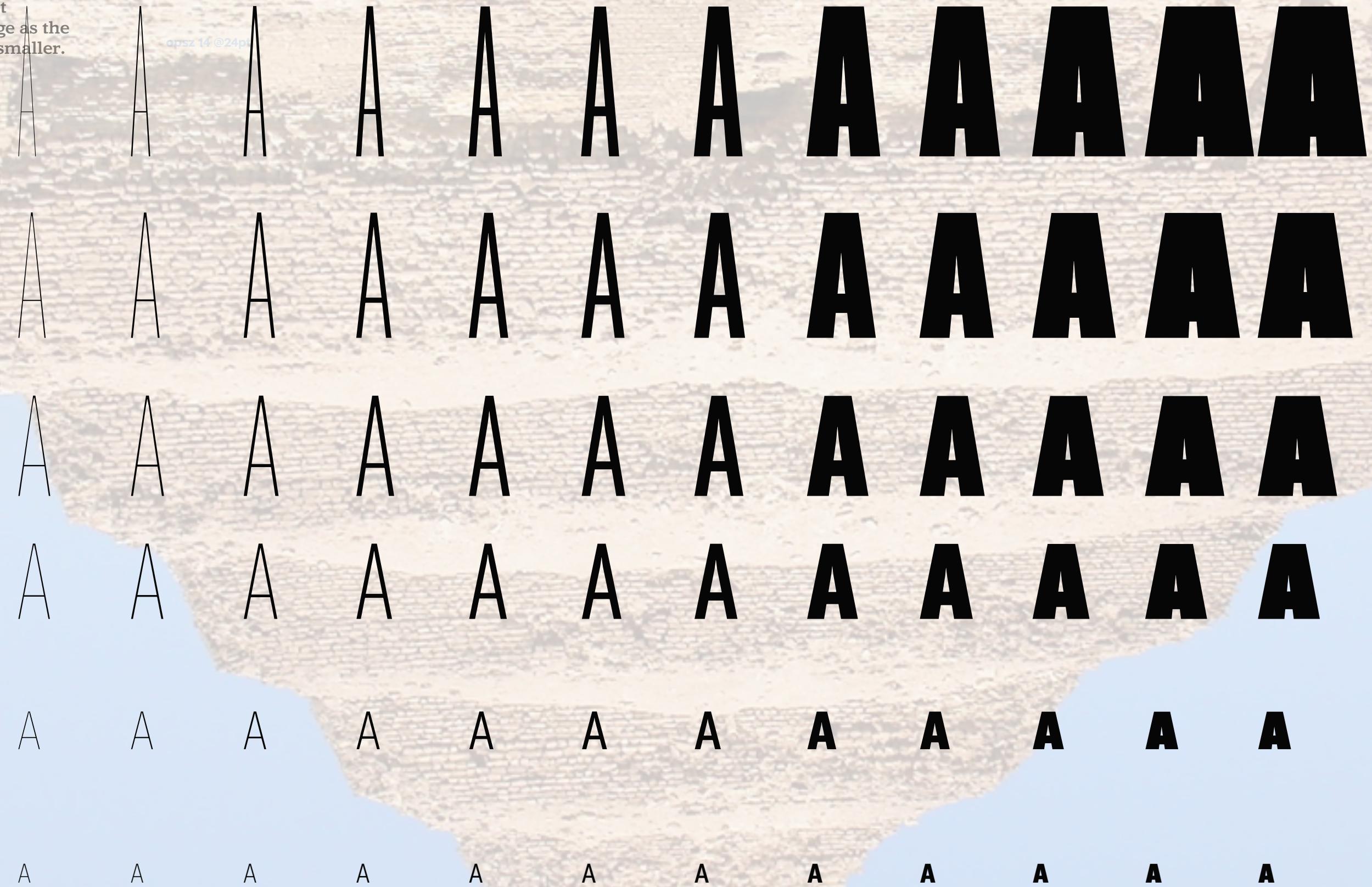
A B C D E F G H I J K  
L M N O P Q R S T U



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