

SPEC INTRO

The latest Material Design ramp is a broad spectrum of 15 sizes, from which a series of sizes are to be selected for three, (or more?) viewport sizes.

Link to specification here: <https://m3.material.io/styles/typography/overview>

Paying particular attention to the excellent quote from the link above, and the section "Customizing the typeface":

"Sizes on the rendered type scale should aim to provide impactful contrast between sizes by avoiding small differences."

This advice is the tale of much of user's choices of styles within the design space. This advice on size selection, though only 1/2 of that which can easily be given, can be seen in good typography.

There should be small size steps in the small range of font sizes, and larger steps in the large of size range. In weight, there should be larger steps in smaller sizes and there can be smaller steps in larger sizes. In width, small steps can be used in small sizes, and large steps are best in larger sizes

NEW MATERIAL DESIGN *Text Scale* WITH ROBOTO VF

ROBOTO DELTA.VF % change between sizes of one range (L no opsz, R opsz)

	57	Display L	Display L
203%	28	Headline L	Headline L
155%	18	Title L	Title L
128%	14	Body L	Body L
140%	10	Label L	Label L

ROBOTO DELTA.VF 5 sizes of three ranges and emphasized with opsz

	57	Display L	Display L
	28	Headline L	Headline L
	18	Title L	Title L
	14	Body L	Body L
	10	Label L	Label L
	44	Display M	Display M
	22	Headline L	Headline L
	16	Title L	Title L
	12	Body L	Body L
	8	Label L	Label L
	32	Display S	Display S
	18	Headline S	Headline S
	15	Title S	Title S
	10	Body S	Body S
	7	Label S	Label S

ROBOTO DELTA.VF % change of one range between sizes.

Original display on top, headline below	
Daring charter value	
Orientations inspired by recognition tokens	
Headline condensed to width 85	
Daring charter value	
Orientations inspired by recognition tokens	
Display extended to width 107	
Daring charter value	
Orientations inspired by recognition tokens	
Display condensed to width 85	
Daring charter value	
Orientations inspired by recognition tokens	
Display emphasized condensed to width 60	
Daring charter value	
Orientations inspired by recognition tokens	

Demonstration of effects using small width changes on two different sizes. Top: width 100 for both sizes. Middle: headline size condensed. Bottom: Display is extended.

Showing more apparent change in width of a larger display font, than width of the smaller headline font.

Demonstration of the minimumr ecommended difference, (width 85 vs 100), between normal and condensed Display.

Demonstration of the minimumr ecommended difference, (width 85 vs 100), between normal and condensed Display.

wght 480	Meaningful vocation
wght 500	Meaningful vocation
wght 480	Property taxes due on receipt of payment for our services
wght 500	Property taxes due on receipt of payment for our services

wght 480	Sufficient funding was appropriated in the first fiscal year for a program
wght 500	Sufficient funding was appropriated in the first fiscal year for a program
wght 480	PLAY RECORD FILE BALANCE EXIT PHONE MESSAGE CALL FLAG MARK RESEND CROP DELETED
wght 500	PLAY RECORD FILE BALANCE EXIT PHONE MESSAGE CALL FLAG MARK RESEND CROP DELETED
wght 700	PLAY RECORD FILE BALANCE EXIT PHONE MESSAGE CALL FLAG MARK RESEND CROP DELETED

STEP 1

The existing Material Design ramp is recreated above using Roboto.vf, the variable version of Roboto that contains all of the same styles in all the same locations as the original Roboto Truetype styles of the family.

OPTICAL SIZE COMPARE

wght200
auto opsz

144	H
24	Heroes of the ages of bronze, iron and steel

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

wght400
auto opsz

144	H
24	Heroes of the ages of bronze, iron and steel

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

wght500
auto opsz

144	H
24	Heroes of the ages of bronze, iron and steel

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

wght700
auto opsz

144	H
24	Heroes of the ages of bronze, iron and steel

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

eyeball200
no opsz

wght100	H
wght200	Heroes of the age of bronze, iron and steel
wght400	

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

wght400
auto opsz

wght100	H
wght400	Heroes of the ages of bronze, iron and steel
wght450	

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

wght500
auto opsz

wght300	H
wght500	Heroes of the age of bronze, iron and steel
wght600	

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

wght700
auto opsz

wght500	H
wght700	Heroes of the age of bronz, iron and steel
wght800	

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 18

opsz 18	H
---------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 18

opsz 18	H
---------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 18

opsz 18	H
---------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 18

opsz 18	H
---------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 8

opsz 8	H
--------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 8

opsz 8	H
--------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 8

opsz 8	H
--------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 8

opsz 8	H
--------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 144

opsz 144	H
----------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 144

opsz 144	H
----------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 144

opsz 144	H
----------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 144

opsz 144	H
----------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

wght200
auto opsz

144	H
57/44	Bond linked
24	Heroes of the ages of bronze, iron and steel

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

wght400
auto opsz

144	H
57/44	Bond linked
24	Heroes of the ages of bronze, iron and steel

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

wght500
auto opsz

144	H
57/44	Bond linked
12	Heroes of the ages of bronze, iron and steel

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

wght700
auto opsz

144	H
57/44	Bond linked
12	Heroes of the ages of bronze, iron and steel

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 18

opsz 18	H
---------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 18

opsz 18	H
---------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 18

opsz 18	H
---------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 18

opsz 18	H
---------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 8

opsz 8	H
--------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 8

opsz 8	H
--------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 8

opsz 8	H
--------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 8

opsz 8	H
--------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 144

opsz 144	H
----------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 144

opsz 144	H
----------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 144

opsz 144	H
----------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

opsz 144

opsz 144	H
----------	---

Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

144	H	H	H	H
57/44	Bond linked	Bond linke	Bond linke	Bond linked
24	Heroes of the ages of bronz, iron and steel	Heroes of the ages of bronz, iron and steel	Heroes of the ages of bronze, iron	Heroes of the ages of bronze, iron and steel
12	Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus	Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus	Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus	Heros of the ages of bronze, iron and steel which was critical for producing durable type that produced high-quality printed books often referred to as the being of the "Golden Age of Printing. Thus

SIMPLIFYING MATERIAL DESIGN RAMP WITH ROBOTO!

ROBOTO DELTA.VF

wght400

Far quick brown foxes
Sweep over the lazy sleeping dogs
Pack my bag with six dozen jugs of wine
Jabbering boulevard strangers quizzed puzzled visitors on
Parking attendants worried when the zebras quite juggling the sleeping shepherd
Masterful planning before the trip enabled the client, a Quaker family to all the peace and quiet

Everyone knew that the particle accelerator would not function in zero gravity but planned the experiment nonetheless
Practical application of the necessary variables created a greatly simplified hierarchy over the broad range of nutritional requirements
The typical North American composition of text does not normally involve extensive testing for legibility at each size
Magnification of issues into unmanageable specifications, quietly but certainly, raised the price of everything they did, geometrically
FILE EDIT PRINT VIEW ARRANGE WINDOW PAGE MORE LESS STANDINGS STATISTICS SIGN IN LOG OUT YOU
This year's winning photograph from the south of England was taken on January 2 in Queen Anne's Park, South Chouldchester, between the M4 and M1
ECUADOR EGYPT EL SALVADOR EQUATORIAL GUINEA ETHIOPIA FIJI FINLAND FRANCE GABON GAMBIA GEORGIA GERMANY AND MASSACHUSETTS

Body 1 The typical North American composition of text does not normally involve extensive testing for legibility at each size Magnification of issues into unmanageable specifications, quietly but certainly, raised the price of everything they did, geometrically. This year's winning photograph from the south of England was taken on January 2 in Queen Anne's Park, South Chouldchester, between the M4 and M1. Practical application of the necessary variables created a greatly simplified hierarchy over the broad range of 2020 nutritional requirements.

Body 2 The typical North American composition of text does not normally involve extensive testing for legibility at each size Magnification of issues into unmanageable specifications, quietly but certainly, raised the price of everything they did, geometrically. This year's winning photograph from the south of England was taken on January 2 in Queen Anne's Park, South Chouldchester, between the M4 and M1. Practical application of the necessary variables created a greatly simplified hierarchy over the broad range of 2020 nutritional requirements.

Caption This year's winning photograph from the south of England was taken on January 2 in Queen Anne's Park, South Chouldchester, between the M4 and M1

STEP 2

The existing Material Design ramp is recreated using RobotoExtremo.vf, the stylistically extended version of Roboto containing a smooth range styles covering the same locations as the original Roboto Truetype styles of the family. These original styles were determined to be good for size 14, and around that was added an optical size axis, (opsz), and a broader range of weights and widths.

This includes making the appearance of weights transition more smoothly over a range of sizes, without the need to change styles. So, all the sizes of this ramp are the regular weight, (400), and the regular width (100).

In addition, the use of the optical size axis reduces the need to negative track larger sizes, as tighter spacing is built in, and users will not notice a significant difference given the lengths of text at larger sizes. The only tracking done here is for the user's benefit, where plus tracking was transferred from the original ramp to the two "Body" sizes, where the untracked Extremo are best suited for print. Using the same tracking value on Extremo that Roboto had for online use 100%, makes the two identical in Body 1 and Body 2.

* The only other difference to note in the ramp comparison, is the use of all-caps in two styles of the ramp. The old ramp used letter spacing and weight change to improve the appearance. This is probably best accomplished with an OpenType feature, 'case' which allows glyph substitution of wider, bolder uppercase letters and realigns dashes and other punctuation best centered on Caps. Here, for demo purposes, I increased the GRAD axes, and letter-spaced the Regular.

Headline 1
Headline 2
Headline 3
Headline 4

Headline 5
Headline 6

Subtitle 1
Subtitle 2

Body 1
Body 2

BUTTON

Caption
OVERLINE

ROBOTO.VF

Mixed Styles

Far quick brown fox
Sweep over the lazy sleeping dog
Pack my bag with six dozen jugs of wine
Jabbering boulevard strangers quizzed puzzled visitors

Parking attendants worried when the zebras quite juggling the sleeping shepherd
Masterful planning before the trip enabled the client, a Quaker family to all the peace and quiet

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Caption This year's winning photograph from the south of England was taken on January 2 in Queen Anne's Park, South Chouldchester, between the M4 and M1

Scale Category	Typeface	Font	Size	Fea Case	Letter spacing
H1	RobotoExtremo	Regular	96	Sentence	0
H2	RobotoExtremo	Regular	60	Sentence	0
H3	RobotoExtremo	Regular	48	Sentence	0
H4	RobotoExtremo	Regular	34	Sentence	0
H5	RobotoExtremo	Regular	24	Sentence	0
H6	RobotoExtremo	Regular	20	Sentence	0
Subtitle 1	RobotoExtremo	Regular	16	Sentence	0
Subtitle 2	RobotoExtremo	Regular	14	Sentence	0
Body 1	RobotoExtremo	Regular	16	Sentence	.5
Body 2	RobotoExtremo	Regular	14	Sentence	.25
BUTTON	RobotoExtremo	Regular	14	Case*	0
Caption	RobotoExtremo	Regular	12	Sentence	0
OVERLINE	RobotoExtremo	Regular	10	Case*	0

STEP 3

continued

ROBOTOEXTREMO.VF

ALL MEDIUM

Far quick brown foxes
Sweep over the lazy sleeping dogs
Pack my bag with six dozen jugs of wine
Jabbering boulevard strangers quizzed puzzled visitors on
Parking attendants worried when the zebras quite juggling the sleeping shepherd
Masterful planning before the trip enabled the client, a Quaker family to all the peace and quiet

Everyone knew that the particle accelerator would not function in zero gravity but planned the experiment nonetheless

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Magnification of issues into unmanageable specifications, quietly but certainly, raised the price of everything they did, geometrically

FILE EDIT PRINT VIEW ARRANGE WINDOW PAGE MORE LESS STANDINGS STATISTICS SIGN IN LOG OUT YOU

This year's winning photograph from the south of England was taken on January 2 in Queen Anne's Park, South Chouldchester, between the M4 and M1

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ROBOTOEXTREMO.VF

ALL BOLD

Far quick brown fox
Sweeps over the sleeping dogs
Pack my bag with 6 dozen jugs of wine
Jabbering boulevard stranger quizzes puzzled visitors
Parking attendants worried when the zebras quite juggling the sleepy sheep
Masterful planning on the trip enabled the client, a Quaker family to all the peace and quiet

Everyone knew the particle accelerator would not function in zero gravity but planned the experiment nonetheless

Practical application of the all our necessary variables, create a simpler hierarchy, over a broad range of nutritional requirements

The typical American composition of text does not normally involve extensive testing for legibility at all small sizes

Magnification of issues of unmanageable specifications, quietly but certainly, raise the price of everything done non-geometrically

FILE EDIT PRINT VIEW ARRANGE WINDOW PAGE MORE LESS STANDINGS STATISTICS SIGN IN LOG OUT YOU

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ECUADOR EGYPT EL SALVADOR EQUATORIAL GUINEA ETHIOPIA FIJI FINLAND FRANCE GABON GAMBIA GEORGIA GERMANY AND MASSACHUSETTS

Headline 1
Headline 2
Headline 3
Headline 4

Headline 5

Headline 6

Subtitle 1

Subtitle 2

Body 1

Body 2

BUTTON

Caption

OVERLINE

Headline 1
Headline 2
Headline 3
Headline 4

Headline 5

Headline 6

Subtitle 1

Subtitle 2

Body 1

Body 2

BUTTON

Caption

OVERLINE

Scale Category	Typeface	Font	Size	Fea Case	Letter spacing
H1	RobotoExtremo	Medium	96	Sentence	0
H2	RobotoExtremo	Medium	60	Sentence	0
H3	RobotoExtremo	Medium	48	Sentence	0
H4	RobotoExtremo	Medium	34	Sentence	0
H5	RobotoExtremo	Medium	24	Sentence	0
H6	RobotoExtremo	Medium	20	Sentence	0
Subtitle 1	RobotoExtremo	Medium	16	Sentence	0
Subtitle 2	RobotoExtremo	Medium	14	Sentence	0
Body 1	RobotoExtremo	Medium	16	Sentence	0
Body 2	RobotoExtremo	Medium	14	Sentence	0
BUTTON	RobotoExtremo	Medium	14	Case*	0
Caption	RobotoExtremo	Medium	12	Sentence	0
OVERLINE	RobotoExtremo	Medium	10	Case*	0

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H2	RobotoExtremo	Bold	60	Sentence	0
H3	RobotoExtremo	Bold	48	Sentence	0
H4	RobotoExtremo	Bold	34	Sentence	0
H5	RobotoExtremo	Bold	24	Sentence	0
H6	RobotoExtremo	Bold	20	Sentence	0
Subtitle 1	RobotoExtremo	Bold	16	Sentence	0
Subtitle 2	RobotoExtremo	Bold	14	Sentence	0
Body 1	RobotoExtremo	Bold	16	Sentence	0
Body 2	RobotoExtremo	Bold	14	Sentence	0
BUTTON	RobotoExtremo	Bold	14	Case*	0
Caption	RobotoExtremo	Bold	12	Sentence	0
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