Font Bureau/Type Network- Varaible Fonts background material

An introduction to Roboto Extremo project plan finds Roboto Extremo described as a continuation of work done to begin the development of variable versions of Roboto, and research by Font Bureau on other fonts.

Brochures; typenetwork.com/brochure/opentype-font-variations/

On Decovar; www.typenetwork.com/brochure/decovar-a-decorative-variable-font-by-david-berlow#?

On Axes proposals; variationsguide.typenetwork.com

On Amstelvar and Decovar Alpha; typenetwork.com/brochure/opentype-variable-fonts-moving-right-along/

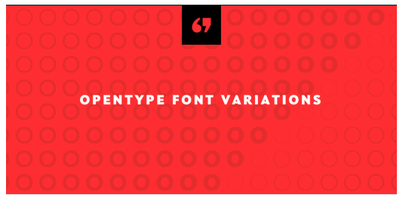
On AmstelvarAlpha and RobotoDelta; variablefonts.typenetwork.com

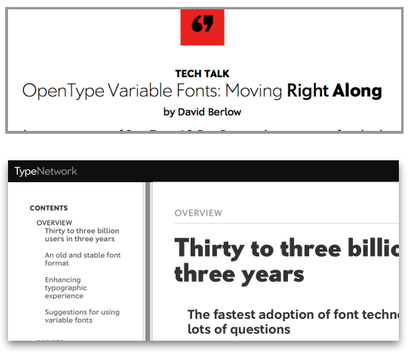
Repositories;
github.com/TypeNetwork/Opentype-1.8-Axis-Proposal
github.com/TypeNetwork/Amstelvar
github.com/TypeNetwork/Decovar
github.com/TypeNetwork/Amstelvar/tree/amstelvar-alpha

Proofing tools;
typetools.typenetwork.com
videoproof.typenetwork.com

github.com/TypeNetwork/variable-type-tools

Variable font background sites





Roboto Ancestors

Background on Roboto "Classic"
The first Roboto variable font was a conglomeration of the .ttfs that existed into a design space that contained the original styles and everything in between. The second variable font only contained the extreme ttfs of Roboto, [2], interpolating the other original styles and containing the family in a smaller file. This included a slight extension of the design space, as the original .ttfs were just missing one extreme to have more complete condensed style in the design space.

github.com/TypeNetwork/Roboto/blob/master/fonts/Roboto-VF.ttf

github.com/TypeNetwork/Roboto/blob/master/fonts/Roboto-min-VF_hinted.ttf
(This "min" version is currently under development being rehinted by another party.)

Roboto Delta began the experimentation on a Roboto that went beyond the original design space of the family. Following the design of Amstelvar, which contained weight, width, optical size axis and 11 parametric axes, Delta explored how that might apply to a san serif. It also brought out the need for a web app that allowed testing of basic variable font typography.

github.com/TypeNetwork/Roboto-Delta/blob/master/fonts/RobotoDelta-VF.ttf

typetools.typenetwork.com/family/Roboto-Delta

Roboto Extremo became the current code name for a variable based on Roboto Regular, with an optical size axes, parametric axes, and weight and width axes that go as far as the Amstelvar design space, as applicable to a san serif design.

!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

Font Bureau/Type Network- Varaible Fonts Project Sheet

Command Sheet –

Bringing together the deliverables (by number in column A), from the service agreement, to a schedule, and acting as the central tracking sheet for links to deliverables in the service agreement in (the circled column G).

docs.google.com/spreadsheets/d/1nECpQuJanbpzR8wT4h0oypOHdoiiq0Bl6xFt5OlpPDY/edit#gid=1246227689

A	B	C	D	E	F	G
	Deliverable Type	**Project**	**Description**	**Start Date**	**End Date**	**Link to deliverable**
6.1.1	Project Plan	Roboto	Develop a detailed project plan.	2019-10-15	2019-11-01	xtremo/issues/69
6.1.2	Concept	Roboto	Design a concept that extends the Latin design	2019-11-02	2019-11-14	
6.1.3	Presentation	Roboto	Presentation of the project	2019-11-15	2019-11-15	
6.2.1	Prototype	Roboto	Develop a prototype with all letters (28 upper, 28 lower) and numerals (10). Draw the design and build both variable and static binaries with fontmake	2019-11-16	2019-12-05	
6.1.3	Presentation	Roboto	Presentation of the project	2019-12-06	2019-12-07	
6.2.2	Basic	Roboto	Develop fonts with support for the Google Latin Core glyph set. Draw the design and build both variable and static binaries with fontmake. Export and mastering of source and binary files, with OpenType layout features (including kerning, anchor placement, and conjuncts), and quality assurance (QA) testing, for all Languages.	2019-12-08	2020-02-15	
6.1.3	Presentation	Roboto	Presentation of the project	2020-02-16	2020-02-18	
6.3.1	Full	Roboto	Develop fonts with support for the Google Latin Expert glyph set. Draw the design and build both variable and static binaries with fontmake. Export and mastering of source and binary files, with OpenType layout features (including kerning, anchor placement, and conjuncts), and quality assurance (QA) testing, for all Languages.	2020-02-19	2020-03-18	
6.1.3	Presentation	Roboto	Presentation of the project		2020-03-25	
6.4.1	Final	Roboto	Finalize the font family, including with hinting to improve text-rendering on screens	2020-03-26	2020-04-20	
6.5.0	Presentation	Roboto	Presentation of the final project	2020-04-21	2020-05-01	
6.1.1	Project Plan	Amstelvar	Develop a detailed project plan	2019-10-01	2019-10-28	
6.1.2	Concept	Amstelvar	Design a concept that extends the Latin design	Oct 29 2019	Nov 4 2019	
6.1.3	Presentation	Amstelvar	Presentation of the project	2019-11-05	2019-11-11	

Font Bureau/Type Network- Varaible Fonts Glyph Lists

The advancing glyph repertoire is one key element in plan (from ascii, to full Latin, to basic and then full Greek and Cyrillic).

The design concepts that are part of the Latin expansion include:

- the development of case-specific diacritics
- complete proportional and tabular figures and monetary symbols
- local consulation on correct diacritic design and positioning

This is being done on the Latin with one eye on the upcoming Greek and Cyrillic expansion to be sure to include any consideration of those scripts in the Latin expansion decisions.

Master List: docs.google.com/spreadsheets/d/1HQEKIFPT64_IYGfwYLrurSpxi0uM8JBQnVNsSp359dg/edit?ts=5c13ffd1#gid=192368910

Latin and extended Latin

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MNOPQRSTUVWXYZ[\]^_
`abcdefghijklmnopqrstuv
wxyz{|}~

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Greek and extended Greek

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ΤΥΦΧΨΩαβγδεζηθικλνξο
πρςστυφχψωμ

ΗΟΑΆΒΓΔΈΕΖΉΗΘΙΊΪΚΛ
ΜΝΞΟΌΠΡΣΤΎΥΫΦΧΨΩΏ
οαάβγδεέζηήθιΐίϊκλνξοό
πρςστυΰϋύφχψωώ

Cyrillic and extended Cyrillic

АБВГҐДЂЕЄЖЗЅИІЈКЛЉМН
ЊОПРСТЋУФХЦЧЏШЩЪЫЬ
ЭЮЯ

ЀЁЂЃЄЅІЇЈЉЊЋЌЍЎЏАБВГДЕЖЗИЙКЛМНОПР
СТУФХЦЧШЩЪЫЬЭЮЯабвгдежзийклмнопрсту
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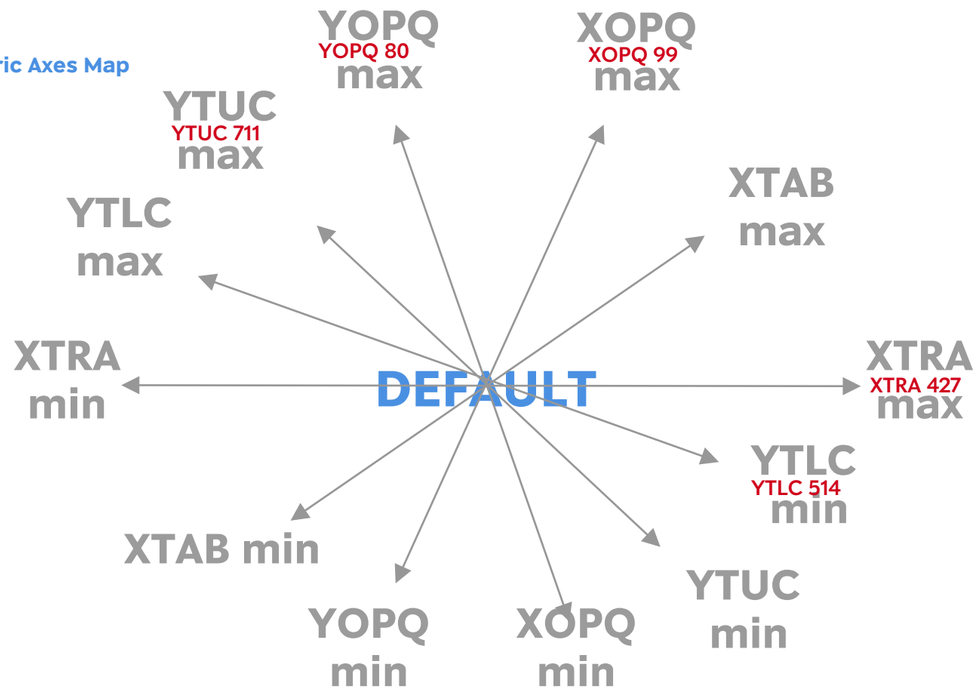
AXES IN Beta VF Roboto
Axes map

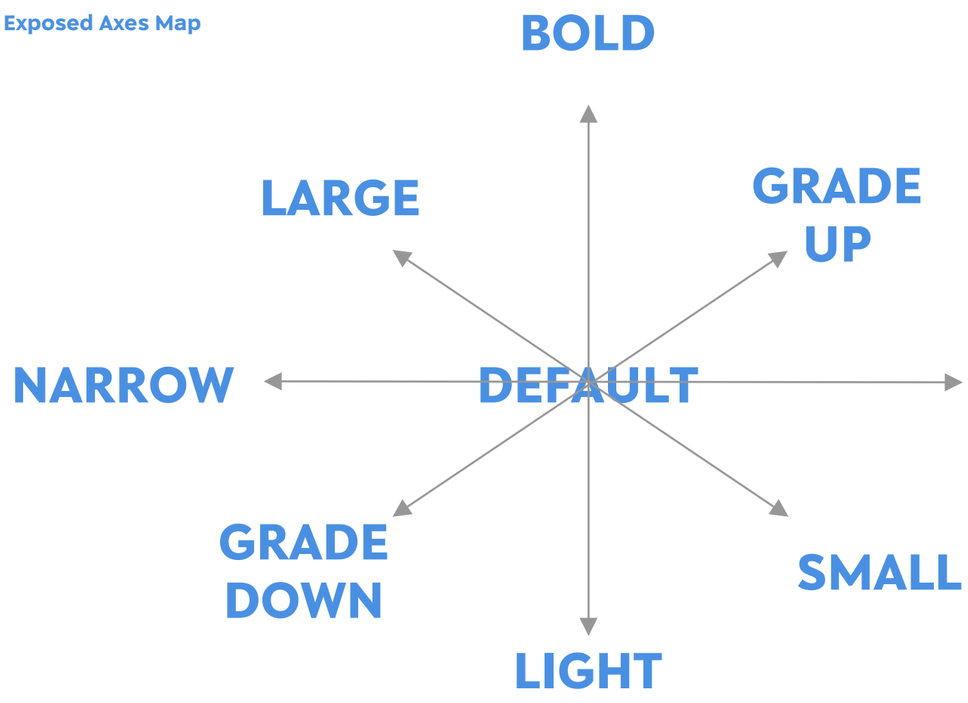
The evolving design space is the other key element in progress, from a single master to parametric axes that are blended, (red values in top diagram), to form the extremes of the registered axes, (like the widest, as shown in the example formed in the bottom diagram).

Parametric axes will also be used to adjust the registered axes and their combinations as required. After these design uses, if the parametric axes are desired for use, a user or program can adjust them for purposes ranging from justification (XTRA), to linespacing adjustments (YTDE), and multiple parametric axes sued for adjusting Latin to other scripts.

Roboto Extremo Parametric Axes Map



Roboto Extremo Exposed Axes Map



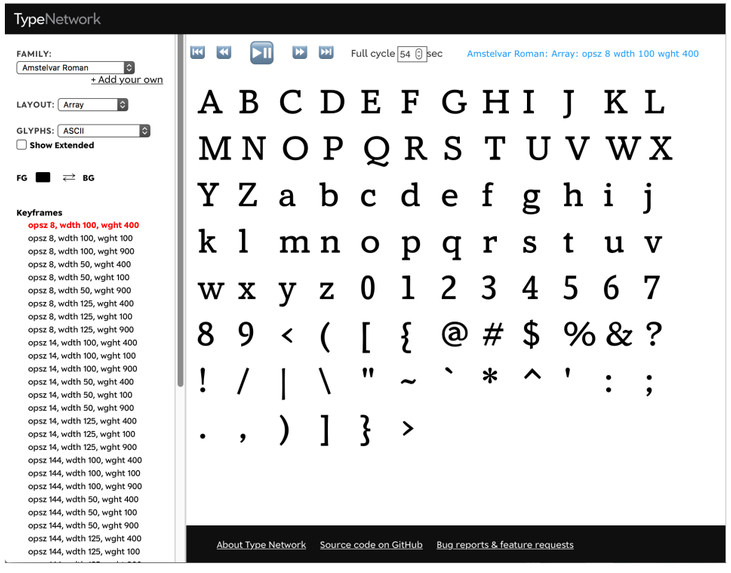
ROBOTO EXTREMO fourteen point wide

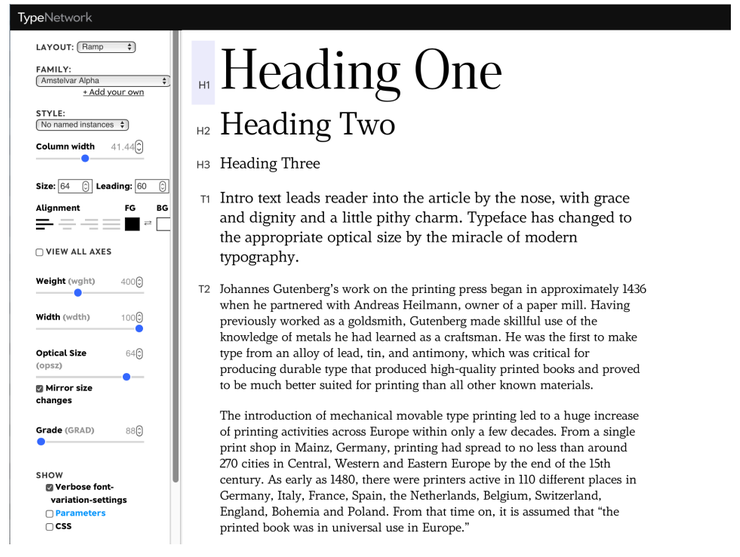
Testing tools

During initial variable developments no applications were available to do font testing for QA that then relied on the font tools for all quality. With Safari, Chrome and other browsers quickly adopting variables, FB developed Typetools (@typenetwork.com), to be able to compose text, navigate the design space and have interactive control over lines and blocks of text.

While still useful, the demand typetools placed on text coming from input, and the user experience and patience needed to manually navigate slides or supply numerical input to and between instances of interest within the variable design space, called for a new set of tools. So Videoproof was developed to include the use of more predefined text, the ability to display common subset of glyphs, and the use of video to allow the quick but thorough survey of predefined swaths of variable design space.

In software for Non-interactive use, we've developed a python script that uses a design space file and the index numbers of glyph contour points to generate a sheet containing the parametric values of a design space automatically. And we are working to scale glyph positioning data, (kerning), via python script.





Source

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Source	UPM	XOPQ	XOPQ ‰	XOUC	XOUC ‰	XOLC	XOLC ‰	XOFI	XOFI ‰	XTRA	XTRA ‰	XTUC	XTUC ‰	XTLC	XTLC ‰
2	RobotoExtremo-Regular.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
3	RobotoExtremo-XTRAmin.ufo	**2048**	192	94	192	**94**	0	0			454	222	454	222	444	
4	RobotoExtremo-XTRAmax.ufo	**2048**	192	94	192	**94**	0	0			1014	496	1014	496	973	
5	RobotoExtremo-XOPQmin.ufo	**2048**	54	27	54	**27**	0	0			734	359	734	359	534	
6	RobotoExtremo-XOPQmax.ufo	**2048**	350	171	350	**171**	0	0			734	359	734	359	820	
7	RobotoExtremo-YOPQmin.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
8	RobotoExtremo-YOPQmax.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
9	RobotoExtremo-YTLCmin.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
10	RobotoExtremo-YTLCmax.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
11	RobotoExtremo-YTUCmin.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
12	RobotoExtremo-YTUCmax.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
13	RobotoExtremo-YTASmin.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
14	RobotoExtremo-YTASmax.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
15	RobotoExtremo-YTDEmin.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
16	RobotoExtremo-YTDEmax.ufo	**2048**	192	94	192	**94**	0	0			734	359	734	359	666	
17	RobotoExtremo-GRADmin.ufo	**2048**	131	64	131	**64**	0	0			816	399	816	399	705	
18	RobotoExtremo-GRADmax.ufo	**2048**	254	124	254	**124**	0	0			641	313	641	313	646	
19	RobotoExtremo-wghtmin.ufo	**2048**	90	44	90	**44**	0	0			779	381	779	381	618	
20	RobotoExtremo-wghtmax.ufo	**2048**	421	206	421	**206**	0	0			439	215	439	215	662	
21	RobotoExtremo-opszmin.ufo	**2048**	205	100	205	**100**	0	0			779	381	779	381	728	
22	RobotoExtremo-opszmax.ufo	**2048**	110	54	110	**54**	0	0			690	337	690	337	575	
23	RobotoExtremo-wdthmin.ufo	**2048**	184	90	184	**90**	0	0			594	290	594	290	547	
24	RobotoExtremo-wdthmax.ufo	**2048**	202	99	202	**99**	0	0			874	427	874	427	828	
25	RobotoExtremo-opszmax-wdthmax.ufo	**2048**	110	54	110	**54**	0	0			1100	538	1100	538	819	
26	RobotoExtremo-opszmax-wdthmin.ufo	**2048**	98	48	98	**48**	0	0			104	51	104	51	191	
27	RobotoExtremo-opszmax-wghtmax.ufo	**2048**	600	293	600	**293**	0	0			90	44	90	44	662	
28	RobotoExtremo-opszmax-wghtmin.ufo	**2048**	10	5	10	**5**	0	0			850	415	850	415	661	
29	RobotoExtremo-opszmax-wghtmin-wdthmax.ufo	**2048**	10	5	10	**5**	0	0			1260	616	1260	616	908	
30	RobotoExtremo-opszmax-wghtmin-wdthmin.ufo	**2048**	6	3	6	**3**	0	0			138	68	138	68	112	
31	RobotoExtremo-opszmax-wghtmax-wdthmax.ufo	**2048**	600	293	600	**293**	0	0			500	245	500	245	906	
32	RobotoExtremo-opszmax-wghtmax-wdthmin.ufo	**2048**	490	240	490	**240**	0	0			30	15	30	15	508	
33	RobotoExtremo-opszmin-wdthmax.ufo	**2048**	215	105	215	**105**	0	0			919	449	919	449	889	
34	RobotoExtremo-opszmin-wdthmin.ufo	**2048**	197	96	197	**96**	0	0			639	312	639	312	609	
35	RobotoExtremo-opszmin-wghtmax.ufo	**2048**	322	157	322	**157**	0	0			639	312	639	312	731	
36	RobotoExtremo-opszmin-wghtmin.ufo	**2048**	103	51	103	**51**	0	0			824	403	824	403	679	
37	RobotoExtremo-opszmin-wghtmax-wdthmin.ufo	**2048**	314	154	314	**154**	0	0			499	244	499	244	631	
38	RobotoExtremo-wghtmax-wdthmin.ufo	**2048**	413	202	413	**202**	0	0			299	146	299	146	587	
39	RobotoExtremo-opsz18wghtminwdthmin.ufo	**2048**	72	35	72	**35**	0	0			635	310	635	310	492	
40	RobotoExtremo-opsz24wghtminwdthmin.ufo	**2048**	56	27	56	**27**	0	0			629	307	629	307	482	
41	RobotoExtremo-opsz36wght100wdthmin.ufo	**2048**	38	19	38	**19**	0	0			597	292	597	292	454	
42	RobotoExtremo-opsz36wght600wdthmin.ufo	**2048**	317	155	317	**155**	0	0			319	156	319	156	508	
43	RobotoExtremo-opsz18wght700wdthmin.ufo	**2048**	360	176	360	**176**	0	0			317	155	317	155	542	
44	RobotoExtremo-opsz24wght700wdthmin.ufo	2048	375	183	375	183	0	0			278	136	278	136	534	
45	RobotoExtremo-opsz24wght100.ufo	2048	63	31	63	31	0	0			812	397	812	397	635	
46	RobotoExtremo-opsz36wght100.ufo	2048	45	22	45	22	0	0			833	407	833	407	646	
47	RobotoExtremo-opsz18wght700.ufo	2048	370	181	370	181	0	0			461	226	461	226	665	
48	RobotoExtremo-opsz24wght700.ufo	2048	388	190	388	190	0	0			428	209	428	209	662	
49	RobotoExtremo-opsz36wght700.ufo	2048	409	200	409	200	0	0			385	188	385	188	658	
50	RobotoExtremo-opsz18wght900.ufo	2048	491	240	491	240	0	0			280	137	280	137	665	
51	RobotoExtremo-opsz24wght900.ufo	2048	522	255	522	255	0	0			226	111	226	111	664	

Roboto Extremo Prototype Material

This project plan (repo issue #69, SA-6.1.1), along with other documents associated with deliveries, are on the Extremo repository. At right is shown thumbnails of the Presentation of the Prototype, (repo issue #70 6.1.3), currently in progress.