PROJECT 3 / 2021

A Multi-script Font for Signages

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Introduction

SIGNAGES

Whenever we step outside or travel, we rely upon on-road signages to recognize the place we are in or the direction we have to take to the destination we want to reach. Even with the arrival of digital navigational technology, we still desire a physical confirmation to make sure we have not lost our way. Similarly, hazard signs and other essential signages help maintain a smooth flow of traffic.

Anyone who has traveled inside a vehicle would know how little time one gets to glance at such important safety/navigational symbols on the road. And not to mention the readability issues caused by different weather and lighting conditions that are out of the reader's control. One factor which contributes significantly to the successful viewing of signages is the typeface used to showcase them. Specific characteristics of such a typefaces can determine the distance from which the content is visible. These characteristics are critical in reducing road accidents as the viewing distance can influence split-second decisions. The design decisions taken while crafting such typefaces should favor increasing the viewing distance. Therefore, building and checking for more excellent readability of typefaces used in these conditions is essential.

INDIC SCRIPT

The diversity of our country is something that we proudly present to the rest of the world. One of the main aspects of this diversity is the diversity of language. This diversity opens up many new areas of learning and problem solving that are in rarity anywhere else. Nowadays, when information consumption is more significant than ever before, it becomes necessary to display the information to the reader as it should be. Most people in India prefer information written in their local language.

Therefore, well-designed Indic typefaces are a necessity in itself. However, scripts like Bengali, Devanagari, Gurmukhi, Kannada, Malayalam, Oriya, Tamil, etc., tend to be much more complex than the Latin script. With the emergence of new technology, more people have the means to design and manipulate type digitally. As designers, we tend to pick out minute details/problems due to improper/typography and letterforms wherever we see them. It is up to us to ensure the proper use of Indic scripts in print and web.

Objective

This project aims at designing a variable font family in Roman and Malayalam scripts for signage use cases, while learning the foundations of typeface design and developing a keen eye for balance and a natural rhythm among letters.

The outcome will be a variable font file that varies in the width axis. This variability in width allows the signage designer to choose the width he/she sees fit for signage boards with a specified size. The typeface will be crafted, allowing easiness in long-distance readability. This font will be available in two scripts, namely Latin and Malayalam. The open-type technology will allow the type designer to enable arrows and other functional symbols in the glyph-set using font features like glyph alternates or ligatures.

Existing Signage Fonts

Over the years, many fonts have made their way into signage boards and road signages. Fonts like Helvetica, Din, Futura, Franklin Gothic, and Arial are widely used for signages in cities, institutions, and subways. Some of them are entirely dependent on the identity design of the city or area. Therefore, the consistency and simplicity of the typeface are given more importance. However, when it comes to road signages, the viewing conditions might differ such that the reader will be in a constant state of motion. This scenario calls for prioritizing legibility/letter recognition while maintaining consistent visual grammar throughout the typeface. Therefore, certain fonts like Highway Gothic, Clearview, and Wayfinding Sans Pro, are designed keeping this specific use-case of signages in mind.

Img 1: Helvetica, the chosen typeface of the New York City subway.

HIGHWAY GOTHIC

Highway Gothic—formerly known as FWHA series fonts—is a sans-serif typeface developed by the United States Federal Highway Administration and the Meeker and Associates design firm. This font was road signage in America, including the U.S.,

Canada, and Latin American countries. One thing we notice while taking a look at Highway Gothic is the boldness of the typeface. Even though later studies have shown that legibility benefits from letter-boldness, the thicker strokes also results in tighter counter spaces which in turn creates legibility issues. Highway Gothic is a font with too low of a contrast between the horizontal and the vertical strokes. It is almost perfectly monolinear with little to no scaling at the joineries. The x-height is a comfortable 73% of the cap height, making it quite legible from a distance. However, a bright light shone onto the signage board, causes the strokes of a letter to bleed into one another, rendering the letters unreadable.

Img 2: Highway Gothic font specimen

Img 3: Highway Gothic used in signage boards

CLEARVIEW

In 2004, the U.S. Federal Highway Administration (FHWA) issued an "Interim Approval for the use of Clearview Font for Positive Contrast Legends on Guide Signs." This document allowed different states to replace the signages written in Highway Gothic with ones written in the Clearview font. Studies showed that Clearview, a humanist sans-serif typeface outperformed Highway Gothic in highway sign legibility. The Pennsylvania Transportation Institute and Texas Transportation Institute found that drivers could read the Clearview typeface as much as 80 feet farther away than Highway Gothic.

Img 4: Clearview font used in a signage board

The test involved driving the vehicle at 45 mph (72.42 kph), which means drivers had 1.2 seconds longer to read the signs with Clearview font. The font's design also reduced halation by slightly decreasing the font weight and opening up the counter spaces.

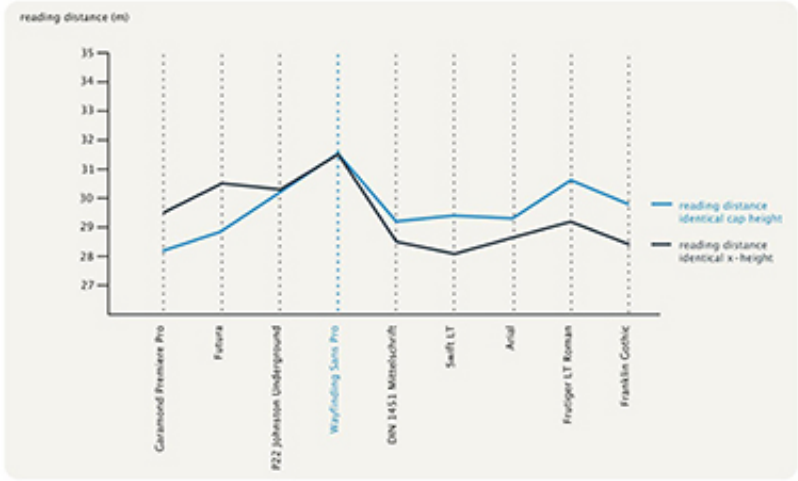
However, in 2016 the FHWA reversed its position on Clearview's usage after discovering that Clearview compromises on legibility when used in positive contrast legends such as warnings or other signs which contain black letters on a white or yellow background.

Img 5: Comparing Clearview vs Highway Gothic (FHWA) text

WAYFINDING SANS PRO

The Wayfinding Sans Pro font family results from an extensive field study and signage system documentation from all over Europe. Even though not officially used on highway signages, the typeface is a humanist sans-serif font that claims superior legibility over other commonly used signage-typefaces like Futura, Johnston Underground, Din, Arial, Frutiger, and Franklin Gothic. The designer of the font, Ralf Herrmann, observed that modern retro-reflective signages create an over-glow effect when brightly lit by a vehicle's headlight. A similar phenomenon occurs in the case of backlit signages in hospitals and office buildings.

Img 6: Wayfinding Sans Pro Specimen



Img 7: Graph showing the maximum reading distance of different fonts for text set in identical point sizes.

Ralf also developed an OSX application called Legibility Test Tool for designing this typeface that allows a real-time simulation of different viewing conditions. Different sliders inside the application allowed him to set a value to the distance, contrast, and over-glow effects to a text set in the particular font. This way, the designer could remove the guesswork and optimize the design for different signage conditions.

Img 8 (top): The Legibility test tool OS X application developed by Ralf Herrmann to produce real-time simulations of signage conditions on road.

Img 9 (left): Comparison of Wayfinding Sans Pro and the Spanish & Italian Road Signage font showcasing the halation effect.

SIGNAGE FONTS IN INDIA

It is virtually impossible to step outside into a city and not see any signages in India. The most exciting thing about Indian signages—at least for type designers—is that almost all signboards will contain multiple scripts, Latin and Devanagari in the minimum. Other scripts like Bengali, Gujarati, Gurumukhi, Kannada, Malayalam, Oriya, Tamil, and Telugu also emerge as we move to different parts of the country.

While providing us with unique, beautiful letter-forms, this rich diversity in scripts can also mean that a relatively lesser number of people work on each script. This diversity creates an imbalance in the development of fonts across different scripts. Multi-scripted road signages portray an example of such an imbalance of this inconsistency. When the Latin scripts use signage-specific fonts, the Indic type uses fonts designed for print media. Even though people are not bothered by such differences, it covertly creates a bias against people who are not English-literate.

There has been considerable development in Indic type design. Sophisticated software that allows us to create and edit font files created a significant rise in type designers.

Img 10 (top) & Img 11 (bottom): Multi-script road signages in India.

The Malayalam Script

WHAT IS MALAYALAM SCRIPT?

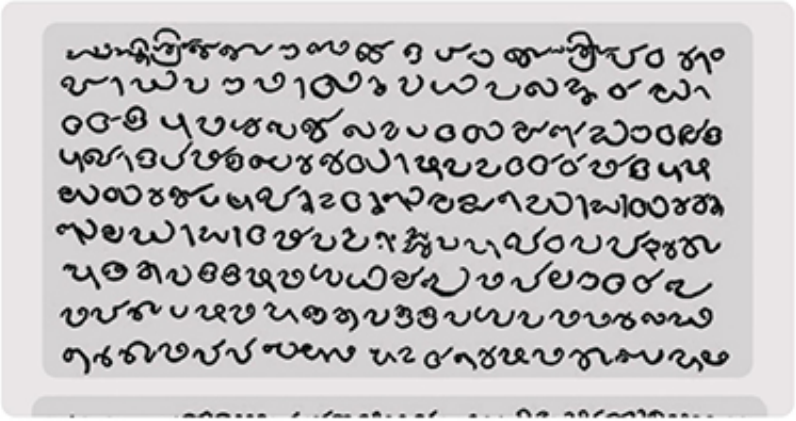
Malayalam is the name of both the language and the script. It is used mainly in southern India, especially in Kerala. Unicode has encoded around 18 vowels and 37 consonants, some of them being very old-fashioned.

Malayalam script is an abugida or alphasyllabary. Meaning, the consonant-vowel sequences are written as a single unit. Each unit has a base consonant or conjunct letter, and the vowel notation is secondary. The use of diacritics and vowel signs which modify the base consonant, help denote the vowel sounds in the script. Vowels have independent existence only at word beginnings, a common characteristic of the Brahmic family from South and Southeast Asia.

The script has its uniqueness with its complex-shaped ligatures formed by the consonants and conjuncts with signed vowel forms. The conjunct grapheme usually has a shape smoothly blended from the constituent consonants. The Malayalam script that we know today results from drastic changes over a long period. Until the 16th century, the Vattezhuthu script was the basis of Malayalam writings. Then, due to some limitations of Vattezhuthu when transliterating from Sanskrit, the Grandha Script—which has its roots in Brahmi—came into use.

Img 12: The word 'Malayalam' written using 30 fonts in the Malayalam script.

The Malayalam script was printed for the first time in the book Hortus Malabaricus. Even though it is a Latin book, many area-specific plant names were listed in local languages, including Malayalam. The type-setters used hand-made copper blocks for printing Malayalam in this book. Later, for printing the first Malayalam book Sampkshepa Vedartham in Rome in 1772, printing molds were made under the priest Clement Peanices. For this, he chose the Grantha script that was then in use for writing Sanskrit, Tamil, and Malayalam. It was used from the time of Thunchathu Ezhuthachan.



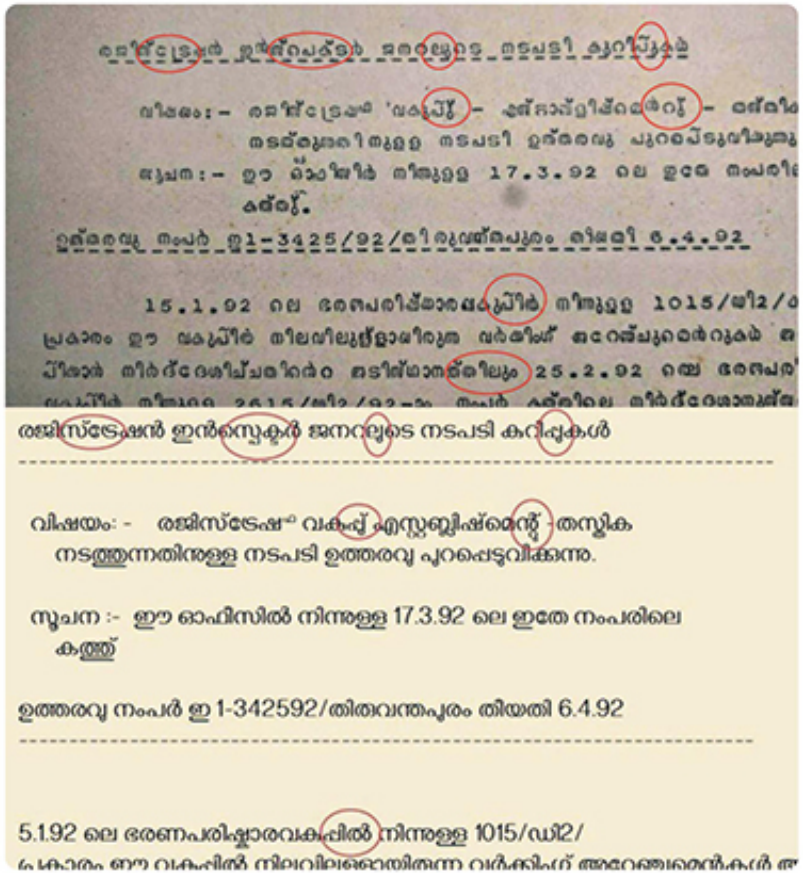
Img 13: Cochin's Jewish copper plates (It is engraved in Vattezhuthu and Grantha scripts in the Old Malayalam language.)

Img 14: Malayalam wood type shown at a local exhibition. (Photograph by Liju KV)

ANATOMY OF THE SCRIPT

Unlike Latin, Malayalam does not have very well-known terms that can describe its anatomy. People who work extensively in this area have developed helpful terminologies to describe the letter-forms and their structure. Terms like Baseline, Ascender, Descender are common to both Latin and Malayalam. Later on, some additional terms specific to the letter construction of Malayalam were added for utility. These include loops, loop intersections, curvilinear joints, hooks, horns, and hairpins.

Img 15: Anatomy of Malayalam Letter-form in Meera Regular



രജിസ്ട്രേഷൻ ഇൻസ്പെക്ടർ ജനറലുടെ നടപടി കുറിപ്പുകൾ

വിഷയം:- രജിസ്ട്രേഷ൯ വകുപ്പ് - എസ്റ്റാബ്ലിഷ്മെന്റ് - തസ്തിക നടത്തുന്നതിനുള്ള നടപടി ഉത്തരവു പുറപ്പെടുവിക്കുന്നു.

സൂചന:- ഈ ഓഫീസിൽ നിന്നുള്ള 17.3.92 ലെ ഇതേ നംപരിലെ കത്ത്.

ഉത്തരവു നംപർ ഇ1-3425/92/തിരുവനന്തപുരം തിയതി 6.4.92

15.1.92 ലെ ഭരണപരിഷ്കാരവകുപ്പിൽ നിന്നുള്ള 1015/ഡി2/ പ്രകാരം ഈ വകുപ്പിൽ നിലവിലുള്ളതിനു പകരം പുതിയ തസ്തിക സൃഷ്ടിച്ചതിന്റെ അടിസ്ഥാനത്തിലും 25.2.92 ലെ ഭരണപരി

രജിസ്ട്രേഷൻ ഇൻസ്പെക്ടർ ജനറലുടെ നടപടി കുറിപ്പുകൾ

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ഉത്തരവു നംപർ ഇ 1-342592/തിരുവനന്തപുരം തിയതി 6.4.92

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Img 16 (top): Malayalam script typed by a typewriter; (bottom): The same text rendered in a traditional orthography in the Unicode font Gayathri.

THE ORTHOGRAPHY REFORM

The advent of typewriters in Kerala in the 1960s triggered the Malayalam script reformation. As the typewriters followed the English alphabet layout, all the complex conjuncts of Malayalam could not fit into the limited number of keys. The resultant prints came out with all the ligatures split up using Chandrakala (്)—equivalent to halants in Devanagari—in between different graphemes. For example, the conjunct ക്ഷ (ksha) can be split up into ക (ka) + ് + ഷ (sha). This split up led to severe problems in readability. Splitting up conjuncts also meant that the content required more space to be printed.

Demands from newspapers and publishing companies forced the government to adopt a new script to reduce grapheme usage in Malayalam by about 75%. The vowel notations were now split from the base grapheme and were made a common symbol and could be used in conjunction with other graphemes.

Img 17 (top): Baloo Chettan font developed by Ektype.
Img 18 (bottom): Gayathri Malayalam font by SMC.

MALAYALAM IN DIGITAL SPACE

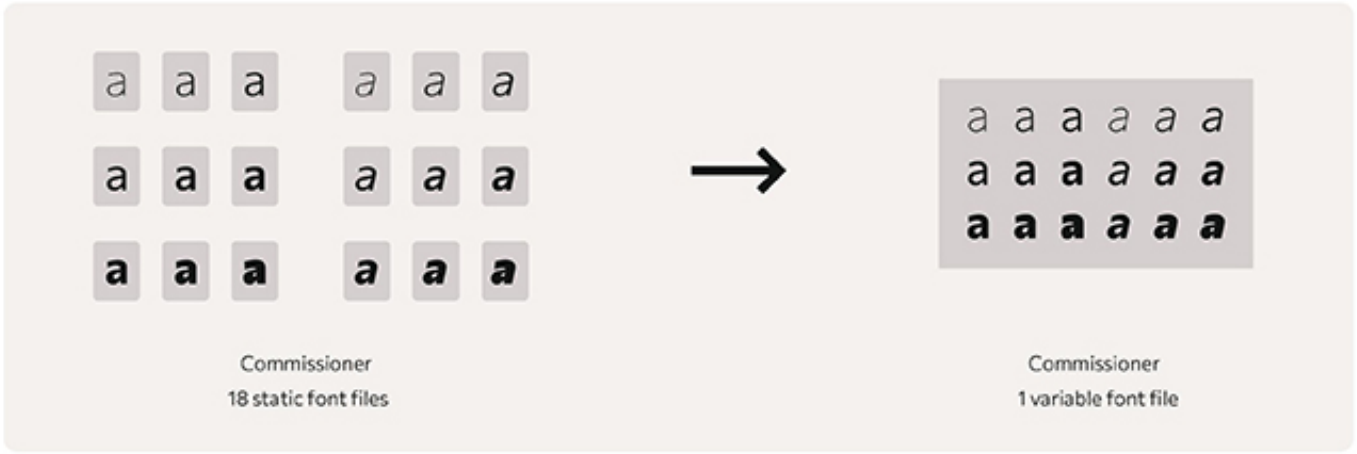
Even though Malayalam is still nascent in type design, it has seen a significant rise lately. Because of its complex nature and same character conjuncts combining in multiple ways (e.g., horizontal conjunct and vertically stacked ത്സ), Software collectives such as Swathanthra Malayalam Computing (SMC) have dedicated their time and skills to crafting and developing beautiful Malayalam typefaces, especially for the web. Even design professionals from outside Kerala and even India have made great efforts to include Malayalam and other major Indic scripts in their projects to contribute to localization. With this pace of development, we see a rise in the usage of the script even outside the usual world of print and web, such as electronic signages, public information systems, LED screen display of buses and scoreboards, small screen gadgets, prototypes for startups focusing on localization of content and accessibility of services.

Variable Fonts

WHAT ARE VARIABLE FONTS?

The requirement for using typefaces in print media design is considerably different from the ones used for the web. The type-setter could use various fonts and styles as per his/her requirement to make the reading delightful. The number and styles used were only limited by the print technology of the respective period. However, when designing for the web, the constraints extend even more towards optimizing files that the server can load and in a reasonable amount of time. Until recently, if the designer wanted to add different styles inside a web page, he/she would have to install or load those styles as separate font files into their system. In some cases, these files can take a longer time to load up on web pages.

The variable font technology has been introduced to solve this issue. This technology enables font designers to incorporate multiple font variations into a single file, drastically reducing the font's file size. For example, for a scale of the file size difference, a static font folder of the font Commissioner containing all 54 versions of the font amounts to about 9.2 Megabytes, whereas a variable font file with all these styles amounts to just 745 Kilobytes.



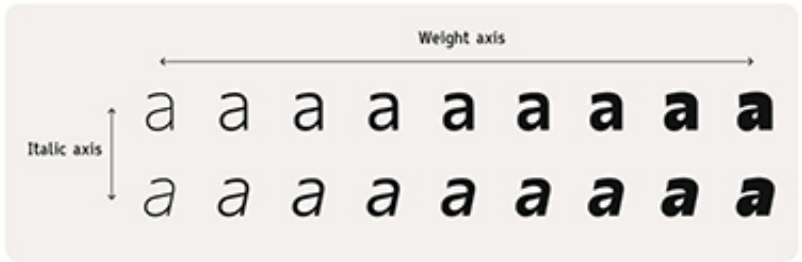
*Img 19: The Commissioner static font files ad upto about **9.2 MB**s, whereas commissioner variable font file is merely **745 KB**s.*

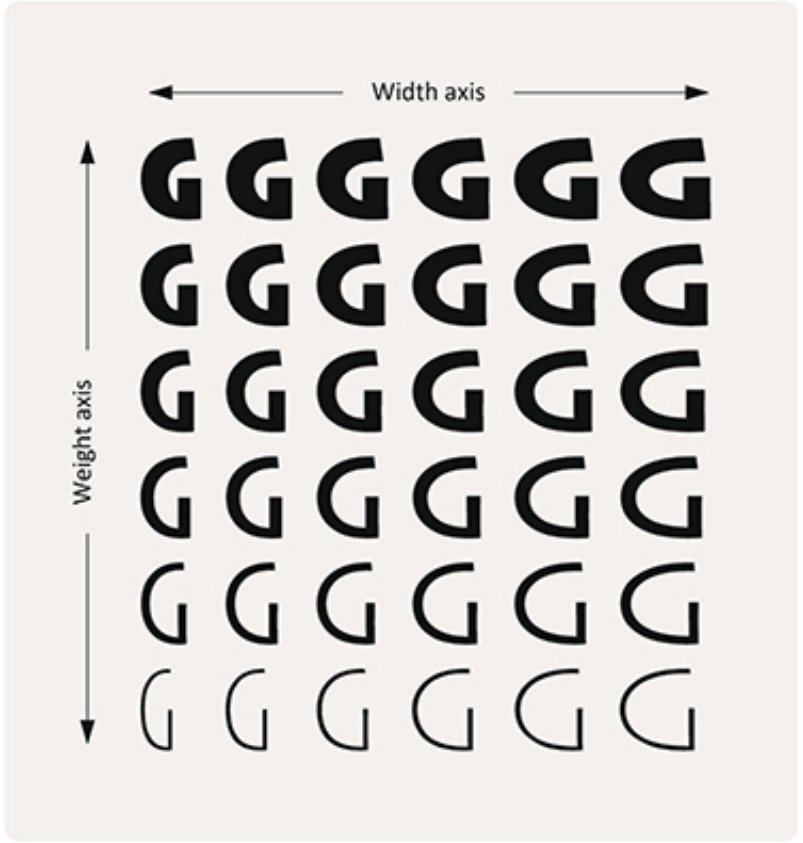
VARIABLE FONT TERMINOLOGIES

There are various terminologies associated with variable fonts. some of the most important ones that are mentioned in this document are **axes** (plural for axis), **masters, & instances.**

There are various characteristics by which a font can be made variable. These characteristics are known as axes. A font can have variability axes in weight, width, slant, or even other creative ways just limited by the designer's imagination. In the image shown, the letter 'G' increases in its width as one moves from left to right, and increases in its weight as we move from bottom to top.

Axis can be a range as well as well as a binary choice. The weight of a font might range from 1–999, whereas the italic style might be 0 or 1 (off or on).





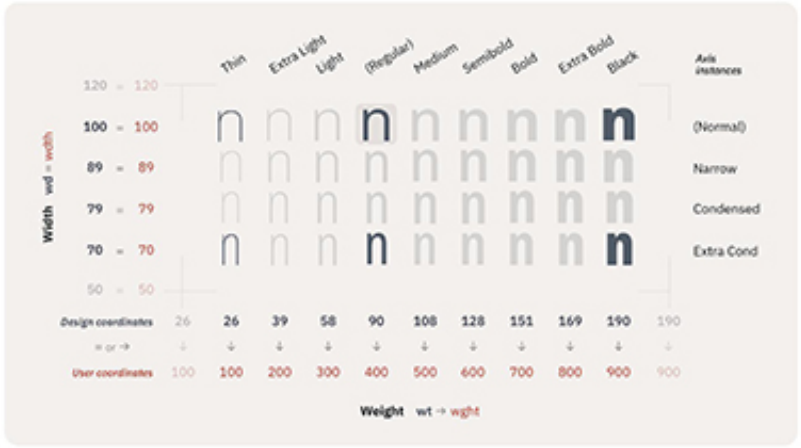
Img 20 (top): The letter 'G' increasing in the width and weight axes

Img 21 (left): An axis can be a range as well as binary.

All variable fonts contain at least two or more masters—that is, original font styles. Masters set the allowable range through which a font can vary. For example, in a font with varying weight, the designer has to draw at least the most lightest and the most boldest font styles. These font styles that are manually created by the designer are known as **masters**.

The font design softwares provides a useful feature that can mathematically interpolate the curves between the two masters. These font styles which are not created by the designer per se, but interpolated from the masters are known as **instances**. The software also allows one to specify the number of instances according to the requirement. The number of anchor points on both the masters should be equal and their positions should be set consistently for the interpolation to work as desired.

Img 22: Masters and interpolated instances



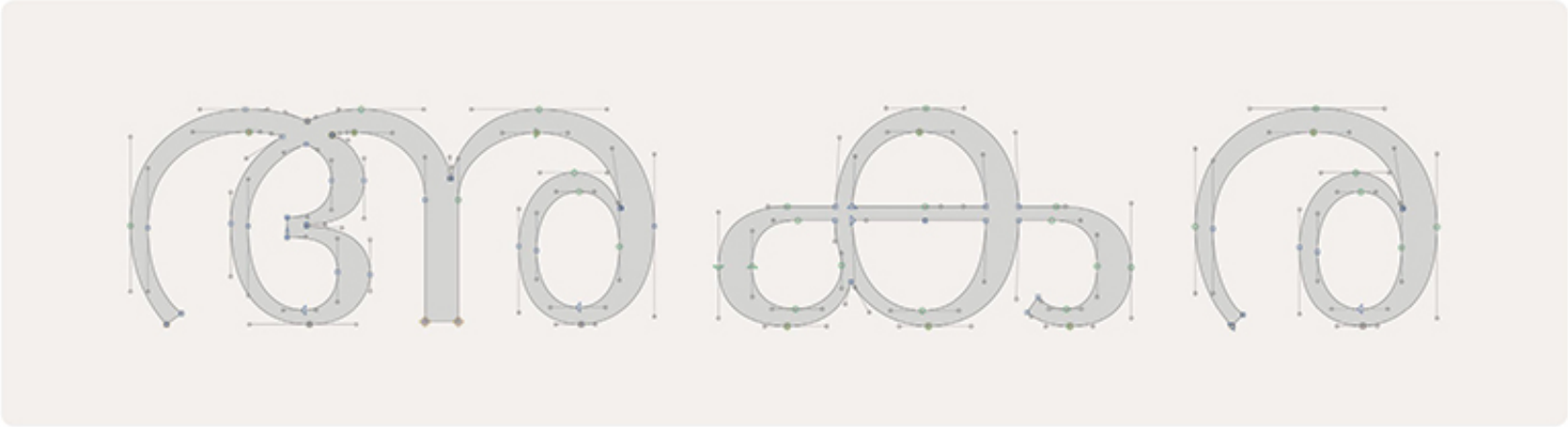
Img 23: Thin, Regular, and Black in the rows Normal and Extra Cond are the masters in this font. The rest grayed-out 'n's are the interpolated instances.

Building the Font

As described above, the objective is to build a typeface with increased legibility in multiple scripts. Currently, the scripts in scope are Latin and Malayalam. There have been many studies on how fonts can be constructed while keeping legibility in mind. The key idea is to keep the skeleton of the letterforms to be as recognizable and straightforward as possible. Reasonably successful attempts of such designs have been made in Latin. However, a script like Malayalam has a lot more complexity in its form. Therefore, familiarity with reading the Malayalam script plays a significant role in comprehending letter shapes in poor visibility conditions, especially when reading while in motion.

LETTER WIDTH

The main factors that determine the characteristics of the typeface are the width, stroke-to-height ratio, and the x-height. The letter width of this project is loosely based on an earlier project which attempted to design a font designed specifically for low-vision people, along with some optical corrections.

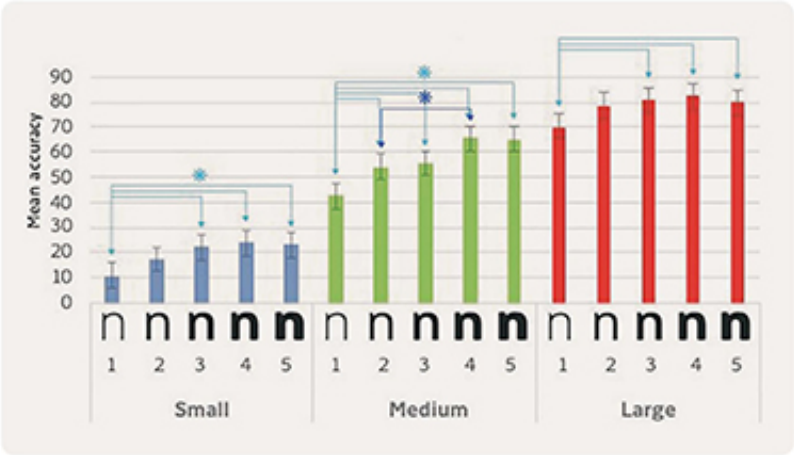


Img 24: The width of the letter is taken from the project 'An Experimental Text Font in Malayalam for Low-vision Readers'.

Specific parameters like reading distance and minimum visual angle of the resolution were obtained, which helped calculate an optimal width for the letters.

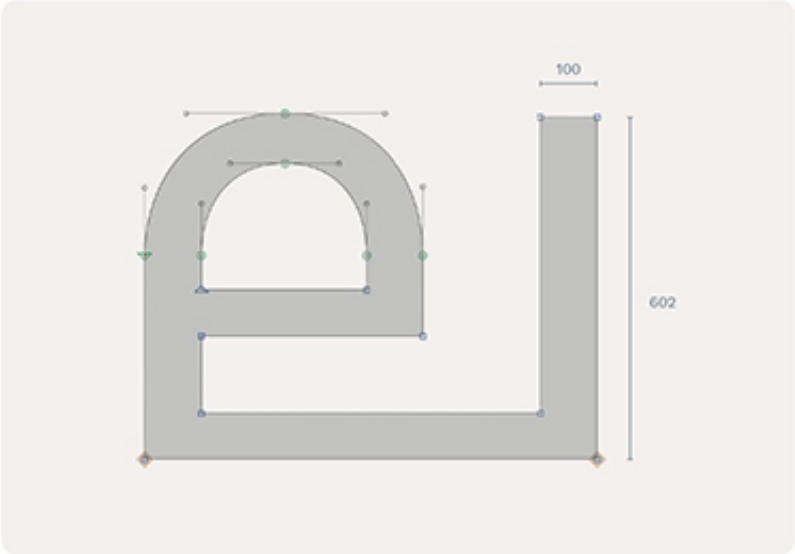
LETTER WEIGHT

The amount of boldness also determines how legible a typeface is. Letter boldness enhances legibility. However, according to a research paper from Sophie Beier, it peaks at a stroke-to-height ratio of 1:6.



Img 25: Mean accuracy of the responses across size and weight conditions. The blue bars represent Small size conditions, the green bars represent Medium size conditions, and the red bars represent Large size conditions. Numbers on the x-axis represent the weight conditions

The image shown below is a sample image of the designed font where the width and height of the vertical stroke is 100 and 602 units respectively. This stroke-to-height ratio is approximately 1:6 which is the recommended weight for optimal legibility.



Img 26: The letter ല(la) in Malayalam showing the stroke-to height ratio.

Simpler letters like ര(ra), റ(rra), ഠ(dha), ല(la), ന(na), and വ(va) were tried out with the mentioned letter width and stroke-to-height ratio. Different sizes were observed from 8pt to 72pt sizes to get an idea of how they appear in small and large sizes.

Img 27: Simple Malayalam letterforms in point sizes varying between 8pt and 72pt.

X-HEIGHT

Majority of the unique details of letters in lower-case are found within their x-height. Hence, x-height can be said to define the perceptual size of the font. That is, larger the x-height, larger the font is perceived to be.

However, there is a limit to which how much the x-height can be increased. Image 28 (right) shows a study by Elizabeth Roethlein who tested the distance legibility of indivual letters in different typefaces. Here, the font New Gothic is found to have the greatest distance threshold (236.4) among the selected fonts. Therefore, an x-height similar to that of New Gothic was adopted for the font.

Img 28: The newly created font has a similar x-height as New Gothic.

New Gothic	236.4
Bulfinch	233.6
Clearface	229.5
Century O.S.	228.0
Century Exp.	226.7
Cheltenham W	224.3
Jenson	214.7
Della Robbia	214.7
Cushing O.S.	206.4
Cheltenham O.S.	206.4
De Vinne	204.8

Img 29: A selection of the fonts tested by Elisabeth Roethlein [1912] with their distance thresholds (right column). This table demonstrates that large x-heights tend to be read at greater distances than small x-heights.

TERMINALS

After trying out different versions, the terminals of the font were designed to be closer to the humanist style with an almost. This would allow the strokes to end more naturally and also helps avoid sharper corners or even tight apertures.

Img 30: Simple Malayalam letterforms in point sizes varying between 8pt and 72pt.

COUNTER SPACES

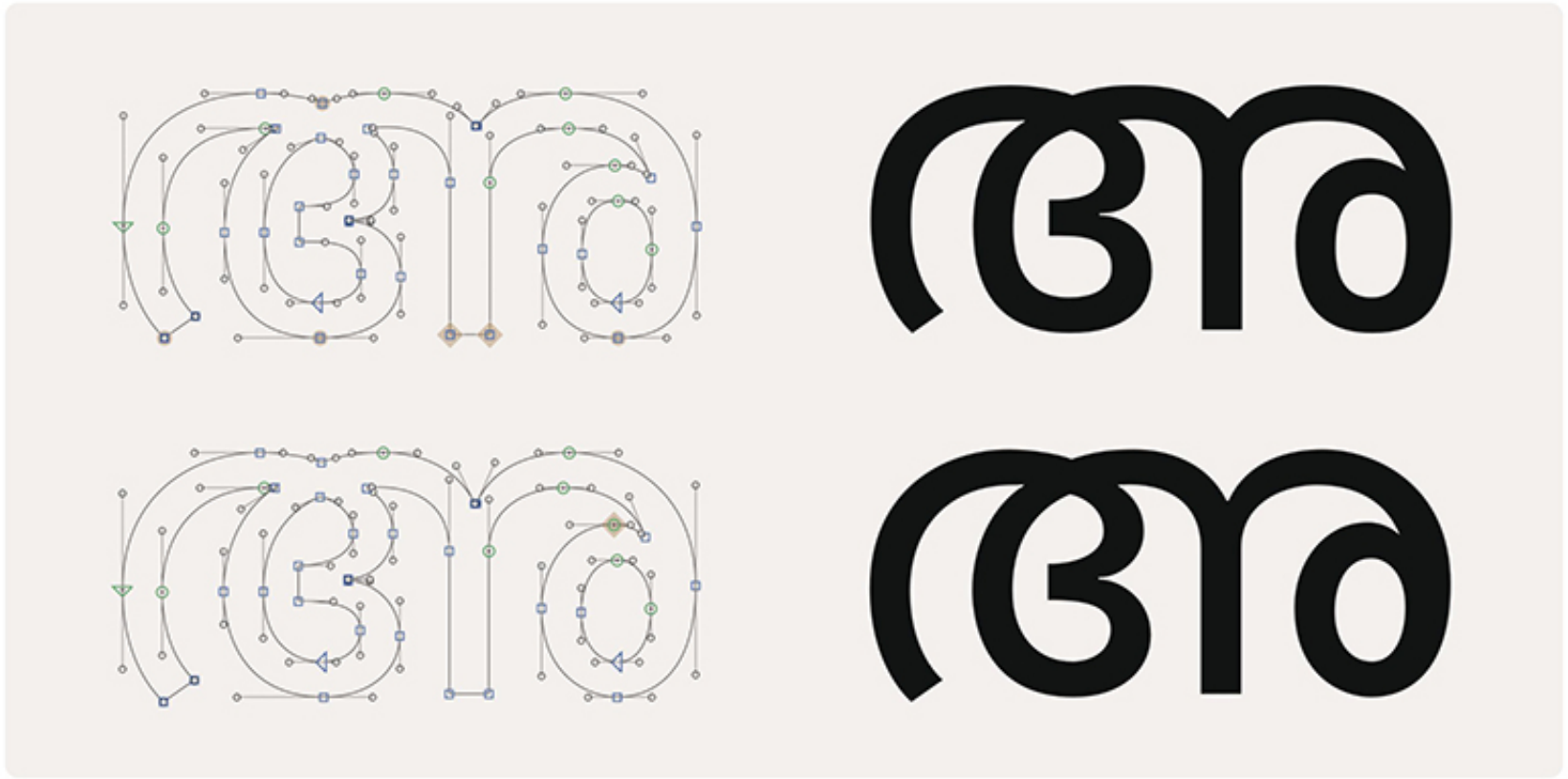
Counter spaces of a font play a significant role in letter recognition. They should be optimized such that the stroke are not too close together, while preserving the integrity of a single letterform. Simulating the viewing conditions of a typeface is a great way to grasp an idea on how the counters should be adjusted. The Glyphs software provides such a feature to set a live blurred preview while designing the font.

Img 31: A blurred live preview of the letter അ (a-malayalam)

EXPLORATION

Keeping the said things in mind, the form of the typeface was explored digitally on the Glyphs 2 software. The design included first vowels in 3 scripts, Malayalam, Latin, and Devanagari.

Img 32: The letter അ(a) in Malayalam in a slightly squared style vs a more rounded style.



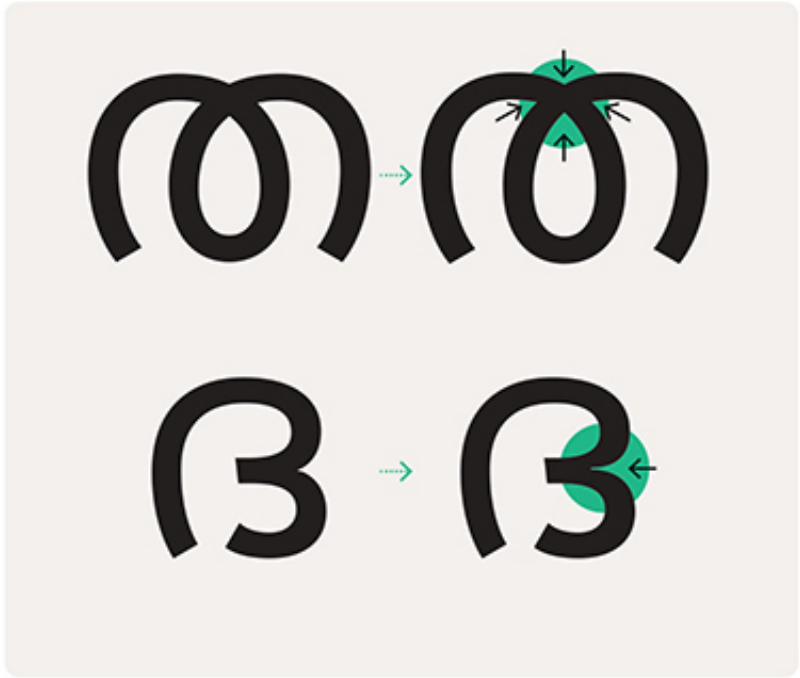
Img 33 (top): The first vowel in Devanagari Script अ (a) varying in it's width.
Img 34 (left): The first vowel A/a in uppercase and lowercase Latin script

Img 35: The Malayalam letter അ(a) varying in its width from condensed to normal width.

Img 36: Letter അ(a) in condensed style.

SCALING JOINERIES

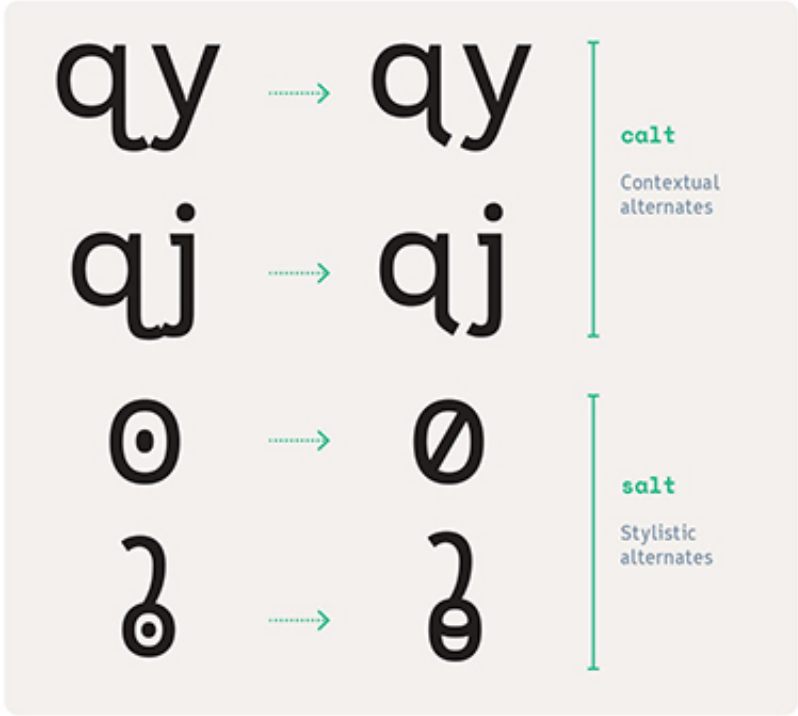
The letterforms in Malayalam script has a variety of joints. It is therefore important to optimize the letter width at those areas where two stroke intersect. This correction helps balance out the grey value throughout the script.



Img 37: Scaling in the joinery of the letter ത(ta-malayalam) and ഭ(da-malayalam)

GLYPH ALTERNATES

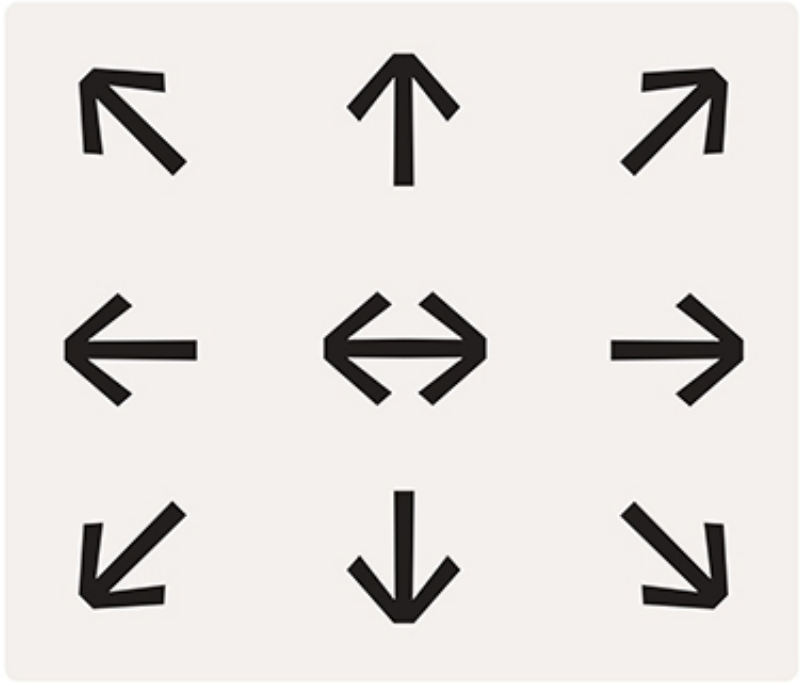
OpenType font technology allows the designer to provide stylistic, or contextual alternates to the letters. This can be used for either fun purposes, or to solve issues when combining specific glyphs.



Img 38: `calt` *(Contextual alternates) and* `salt` *(Stylistic alternates)*

ARROWS

The glyph set also includes a set of arrows useful for creating directional boards for road signages.



Img 39: Arrows currently included in the glyphset

DESIGN OF NUMERALS

The design of numerals is also equally important as designing letterforms, especially when designing for signage systems. Studies on different numeral styles conclude certain numeral styles outperform others on legibility.

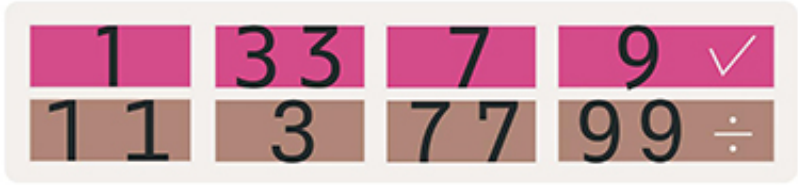
ID	a	b	c	d	e	f	g	h	i
digit	1	1	1	2	2	2	3	3	3
variable	narrow	wide	cross bar	open count.	round spin	close count.	open count.	diagon. top	close count.

ID	j	k	l	m	n	o	p	q	r
digit	4	4	4	5	5	5	6	6	6
variable	close top	open top	cross bar	open count.	close count.	square loop	regular bowl	small bowl	large bowl

ID	s	t	u	v	w	x	y	z	A
digit	7	7	7	8	8	8	9	9	9
variable	straight leg	bended leg	serif at top	soft cross	sharp cross	wide	open counter	close counter	straight loop

Img 40: Numerals have been studied for their legibility with respect to different styles.

For example, the narrowness benefits the digit ‘1’, is supported by a study into reading distances, which found that serifs on the top and bottom of the stem resulted in a greater number of misreadings between the letters ‘i’ and ‘l’. In another distance study, the results indicated that a serif on top without a large cross bar at bottom made the character more legible compared to one version with a cross bar and another sans serif version.



Img 41: The characters of the top row were all found to be significantly more legible than the corresponding characters in the bottom row.

Img 42: Numerals in condensed width

Img 43: Numerals in normal width

OPTICAL CORRECTIONS

Ambuigity in letterforms leads to confusion while reading. This is exactly what we want to prevent while driving a vehicle. The most commonly confused letterforms like 'I', 'l', '1' have been slightly modified to avoid confusion. Similarly, the numerals have been reduced in height to be recognizable quicker when placed alongside alphabets.

Img 44 (top): Sample license plate number showing numerals alongside alphabets.
Img 45 (left): Most commonly mistaken letterforms I,l, and 1.

GRID FOR MALAYALAM SCRIPT

Img 46: A basic grid for Malayalam script with Ner Variable font specimen.

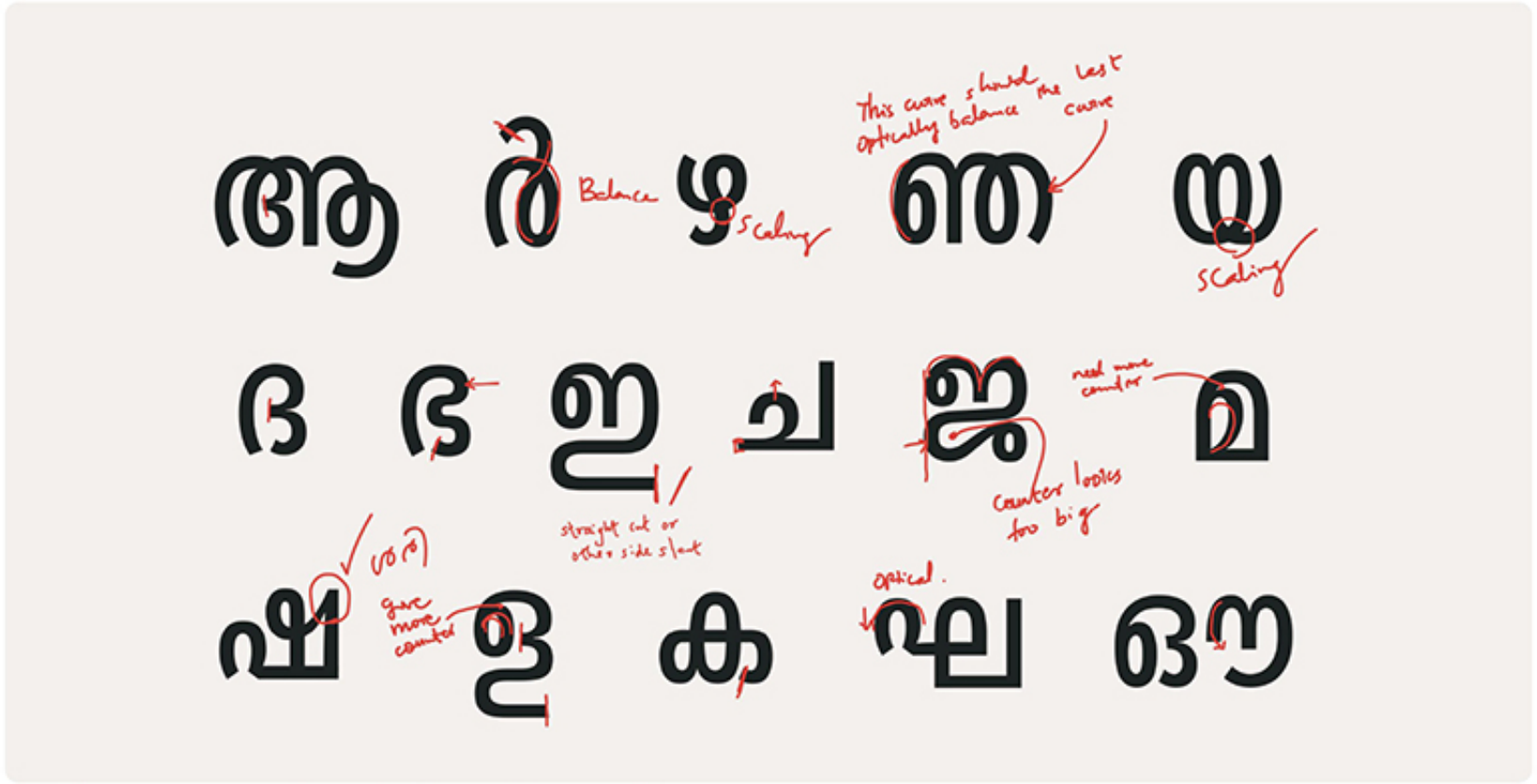
GRID FOR LATIN SCRIPT

Img 47: A basic grid for Latin script with Ner Variable font specimen.

DESIGN ITERATIONS (NORMAL WIDTH)

Img 48: Optical corrections marked for some digitally drawn glyphs (normal)

DESIGN ITERATIONS (CONDENSED WIDTH)



Img 49: Optical corrections marked for some digitally drawn glyphs (condensed)

FINAL FORM (NEGATIVE CONTRAST)

അ ആ ഇ ഈ ഉ ഊ ഋ
എ ഏ ഐ ഒ ഓ ഔ
ക ഖ ഗ ഘ ങ
ച ഛ ജ ഝ ഞ
ട ഠ ഡ ഢ ണ
ത ഥ ദ ധ ന ണ
പ ഫ ബ ഭ മ
യ ര റ ല ള ഴ വ
ശ ഷ സ ഹ
ൺ ൻ ർ ൽ ൾ

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
0 1 2 3 4 5 6 7 8 9 0

അ ആ ഇ ഈ ഉ ഊ ഋ
എ ഏ ഐ ഒ ഓ ഔ
ക ഖ ഗ ഘ ങ
ച ഛ ജ ഝ ഞ
ട ഠ ഡ ഢ ണ
ത ഥ ദ ധ ന ണ
പ ഫ ബ ഭ മ
യ ര റ ല ള ഴ വ
ശ ഷ സ ഹ
ൺ ൻ ർ ൽ ൾ

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
0 1 2 3 4 5 6 7 8 9 0

അ ആ ഇ ഈ ഉ ഊ ഋ
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ച ഛ ജ ഝ ഞ
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Aa Bb Cc Dd Ee
Ff Gg Hh Ii Jj Kk
Ll Mm Nn Oo Pp
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Vv Ww Xx Yy Zz
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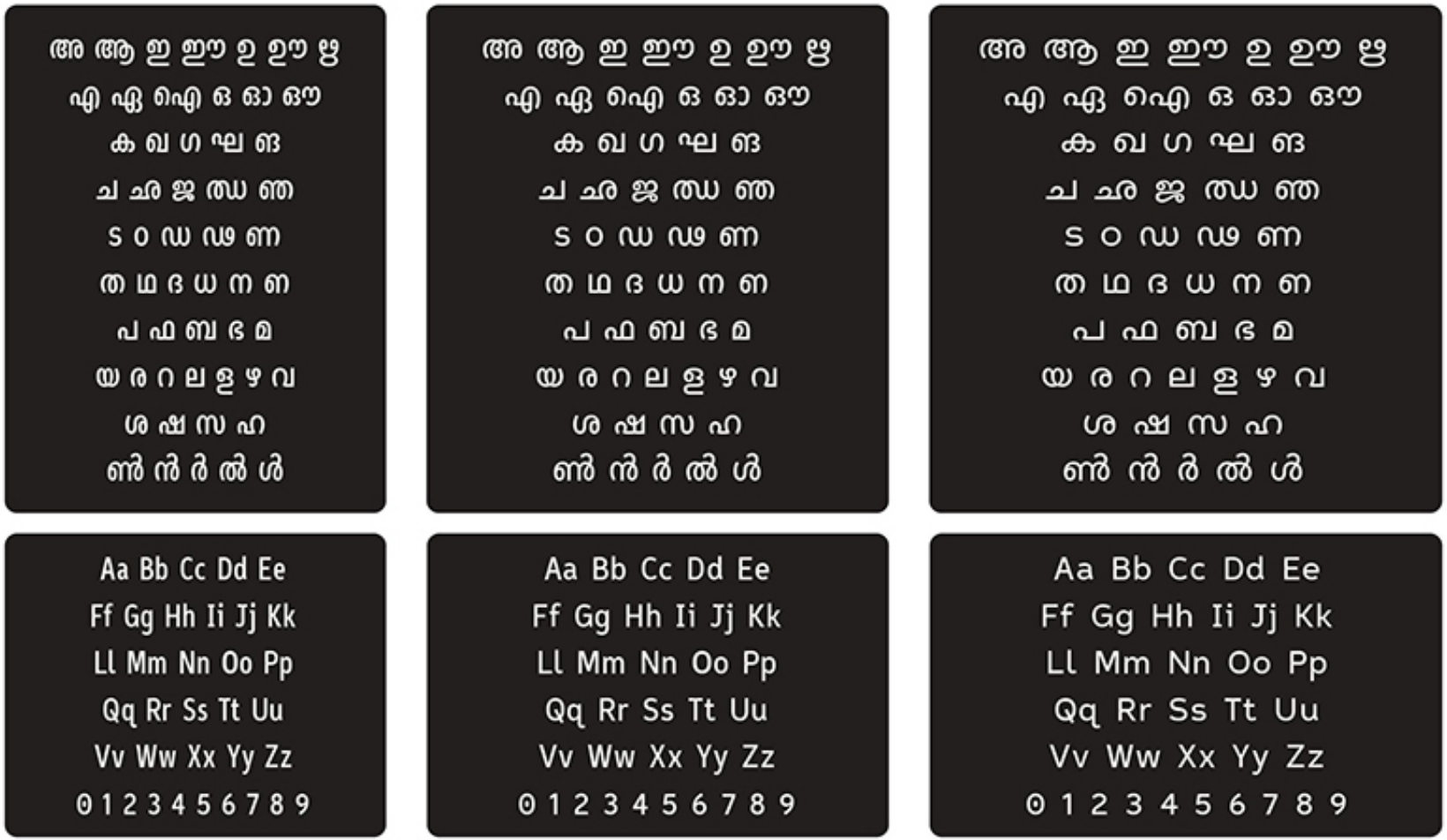
FINAL FORM (POSITIVE CONTRAST)



Naming the Font

നേർ

noun (Malayalam)

Right, Truth, Honesty, Verity, Straight

നേർവഴി - *Nervazhi*

(Right way/Straight way)

נר

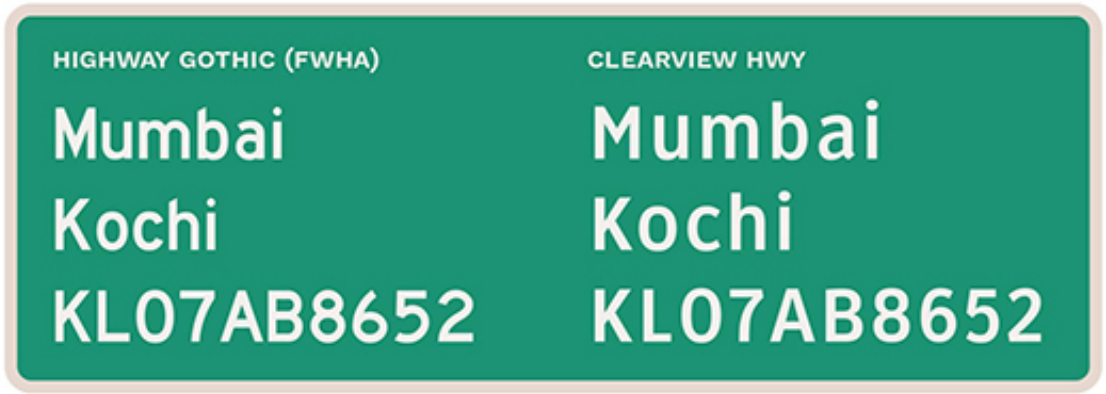
noun (Hebrew)

Light, Lamp, Candle

אֲבִנֵר - *Abner/Avner*

(My Father is Light)

Comparing Fonts



Even though the cap-height of FWHA is lesser than Clearview and Ner, all three typefaces are fairly similar in their x-height to cap-height ratio. Ner Variable seems the lightest of the three. Only proper testing in negative and positive contrast situations will reveal if this is advantageous or not.

The counters/apertures increase in size from FWHA to Ner even though by not much. Ner also has serifs and tails in the 'i' and 'l' which make the letters easier to recognize.

Type Specimen

Airport Banner

A Road Signage in Kerala

Vehicle License plate

Skateboard Graphic

ഹിരോഷ്	അനിർവിന	Hirosh	Anirvina
അലൻ	മുദ്ദസ്സിർ	Alen	Muddassir
സോഹം	ദെബ്ലീന	Soham	Deblina
ദെബജീത്	വിവേക്	Debojit	Vivek
അനുഭവ്	ശിവാലിക	Anubhav	Shivalika
അപർണ്ണ	ലിജു	Aparna	Liju
ഡാൽവി	ബോകീൽ	Dalvi	Bokil
അനുരാഗ്	ബാലൻ	Anurag	Balan
ശ്രീകുമാർ	നവനീത്	Sreekumar	Navaneeth

Conclusion

The main objective of this project, was to build on the existing project 'An Experimental Text Font in Malayalam for Low-vision Readers' and create a typeface for signages. The variability of the font also allows the designer to choose the width when designing for signages in tight spaces. Even though multiple scripts were not included in the initial idea, it seemed to be an interesting and challenging attempt. The study done for the previous project—An Experimental Malayalam Font for Low-vision Readers—also helped pace up the concept phase, hence contributed to creating Malayalam as well as Latin script.

LEARNINGS

The project also introduced me to the scripting side of type design. It helped me experiment with and implement basic OpenType features like variations, stylistic, and contextual alternates. As a Computer Science Engineer, who is already in love with type, this learning had me piqued even more.

Maintaining the visual grammar throughout the glyph set was a bit challenging. The font design software provides features called components which was assumed to help with keeping consistency, but turned out otherwise. A key learning was that visual consistency should be prioritized over mathematical consistency. Long hours of working on a particular letter-form/style can result in fatigue and overlooking of certain anomalies. Even though the letters are finalized as a first version, they need refinements and corrections through an experienced set of eyes.

WHAT'S NEXT?

Some glyph positioning and substitutions are left to be done in case of Indic Scripts. One pass of optimizing the side-bearings have been completed, but needs more refinement. The kerning pairs have to be figured out for all letter-forms. The letters also need to be tested for legibility.

More glyph alternates like height adjusted numerals could be added. The arrows could be made easier to type by mapping them to combination of letters/symbols. The script could also expand into the Devanagari script along with an addition of a weight axis. The process could go on and on in a never ending circle.

Resources

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Wayfinding Sans Pro

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An Experimental Text Font in Malayalam for Low-vision Readers

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Kavya Manohar, Santhosh Thottingal.

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Designing the ultimate wayfinding typeface

https://fdi-type.de/blog/designing-the-ultimate-wayfinding-typeface-r5/

The Official US Highway Sign Font Is Changing From Clearview to Highway Gothic

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'Clearview' Road Sign Font to Slowly Disappear from US Highways

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fvar — Font Variations Table (OpenType 1.8.2) - Typography

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IMAGES

Img 1

https://www.smartsign.com/blog/short-history-new-york-city-signage/

Img 2

https://www.johngrimwade.com/blog/2017/10/23/clearview/

Img 3, 4

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Img 5

https://www.green-coursehub.com/research-blog/noticing-the-inconspicuous-road-signs

Img 6, 7, 8

https://fdi-type.de/fonts/wayfinding-sans-pro/

Img 9

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Img 10

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Img 11

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Img 12

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Img 13

https://en.wikipedia.org/wiki/Jewish_copper_plates_of_Cochin

Img 17

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Img 18

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Img 20

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Img 22

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Img 23

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Img 25

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Img 28, 29

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Img 40, 41

https://www.researchgate.net/publication/331822112_Numeral_Legibility_and_Visual_Complexity

FONTS USED

Work Sans - *Wei Huang*

Charter - *Matthew Carter*

SOFTWARE

Glyphs 2

Adobe Illustrator

Adobe Photoshop

Adobe InDesign

MOCKUP IMAGES

Airport Banner

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A Road Signage in Kerala

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Vehicle License Plate

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Skateboard Graphic

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https://www.easymalayalamtyping.com

Google Fonts: Browse Fonts

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Glyphs







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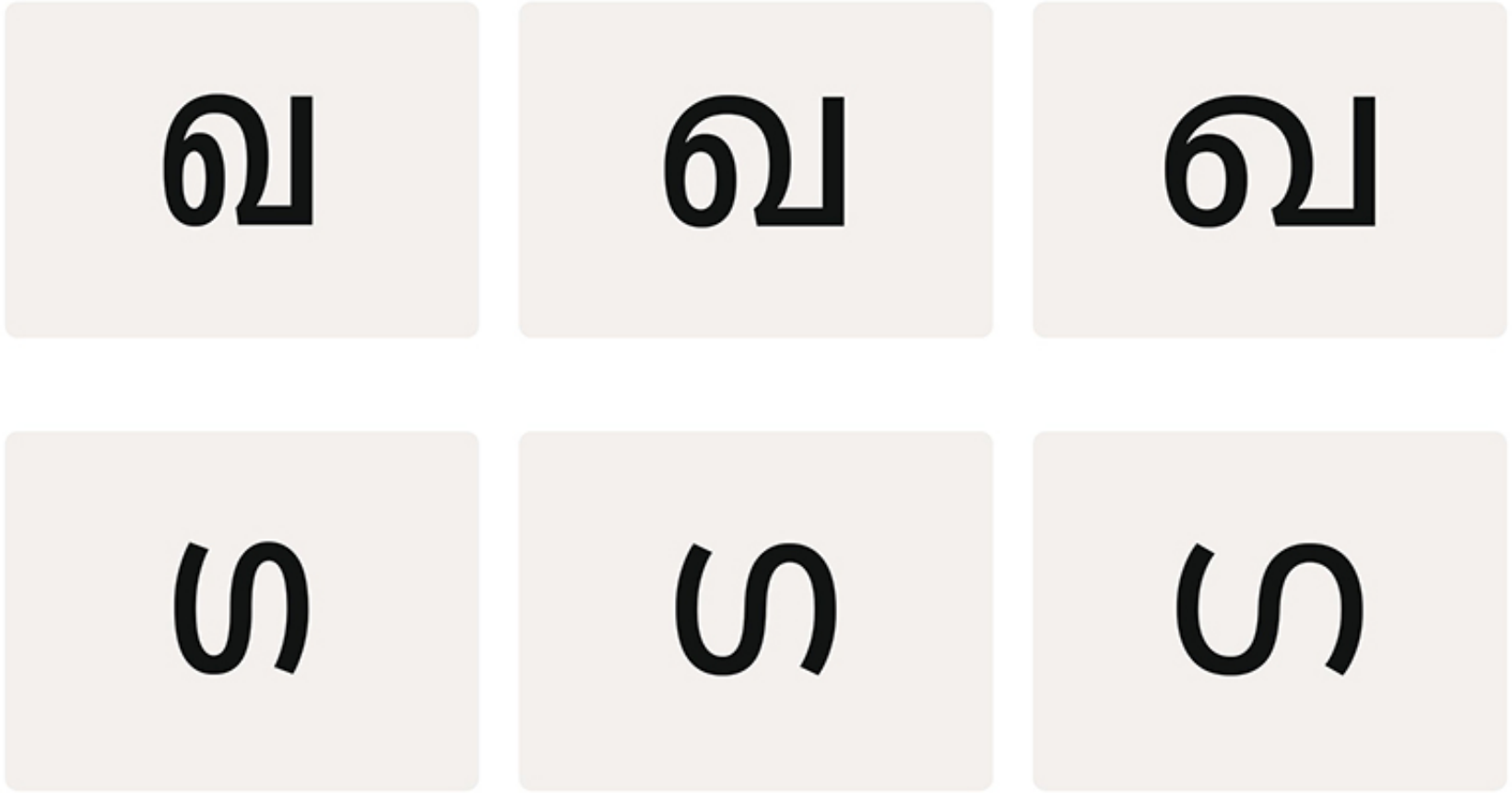
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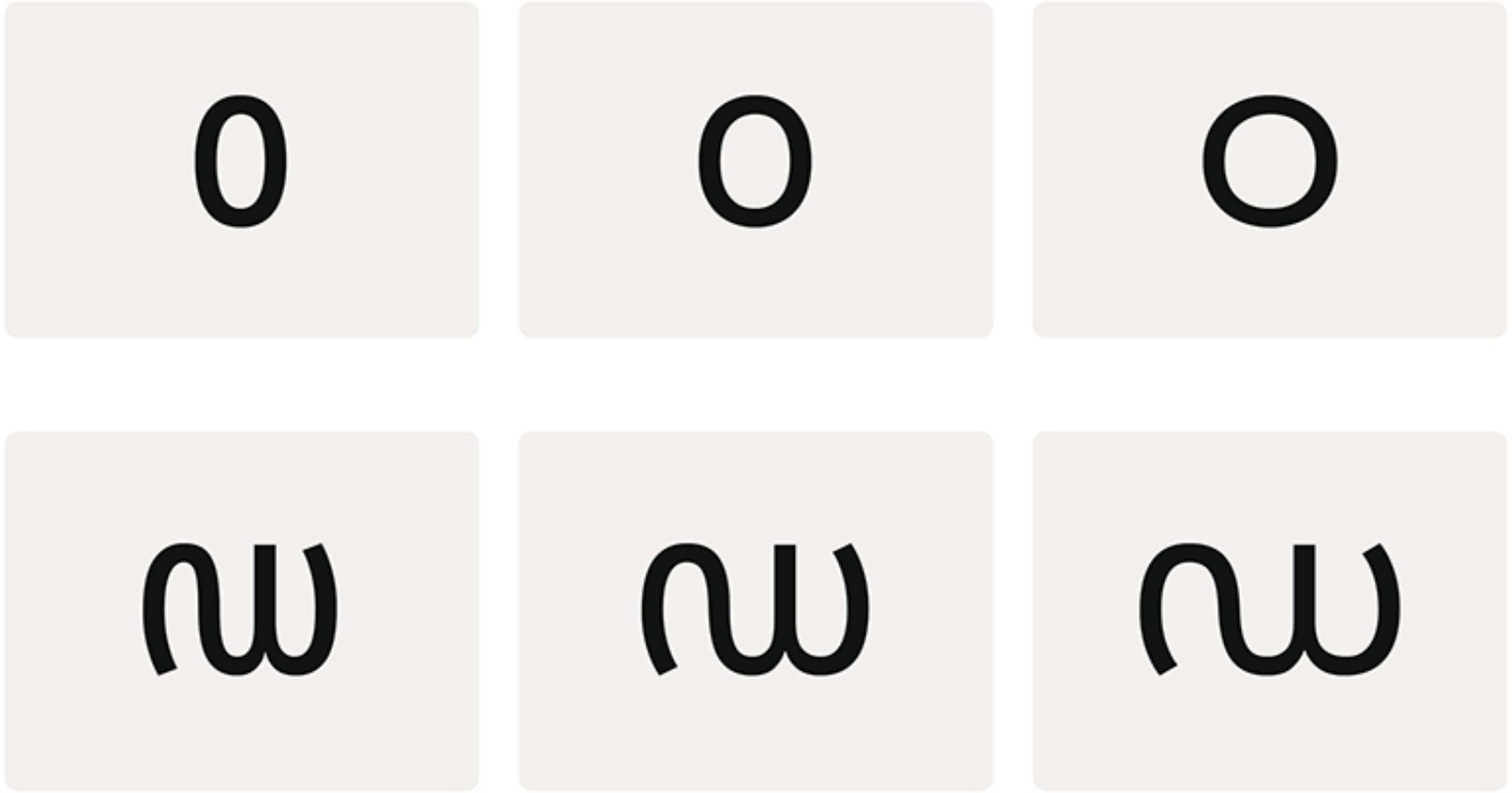
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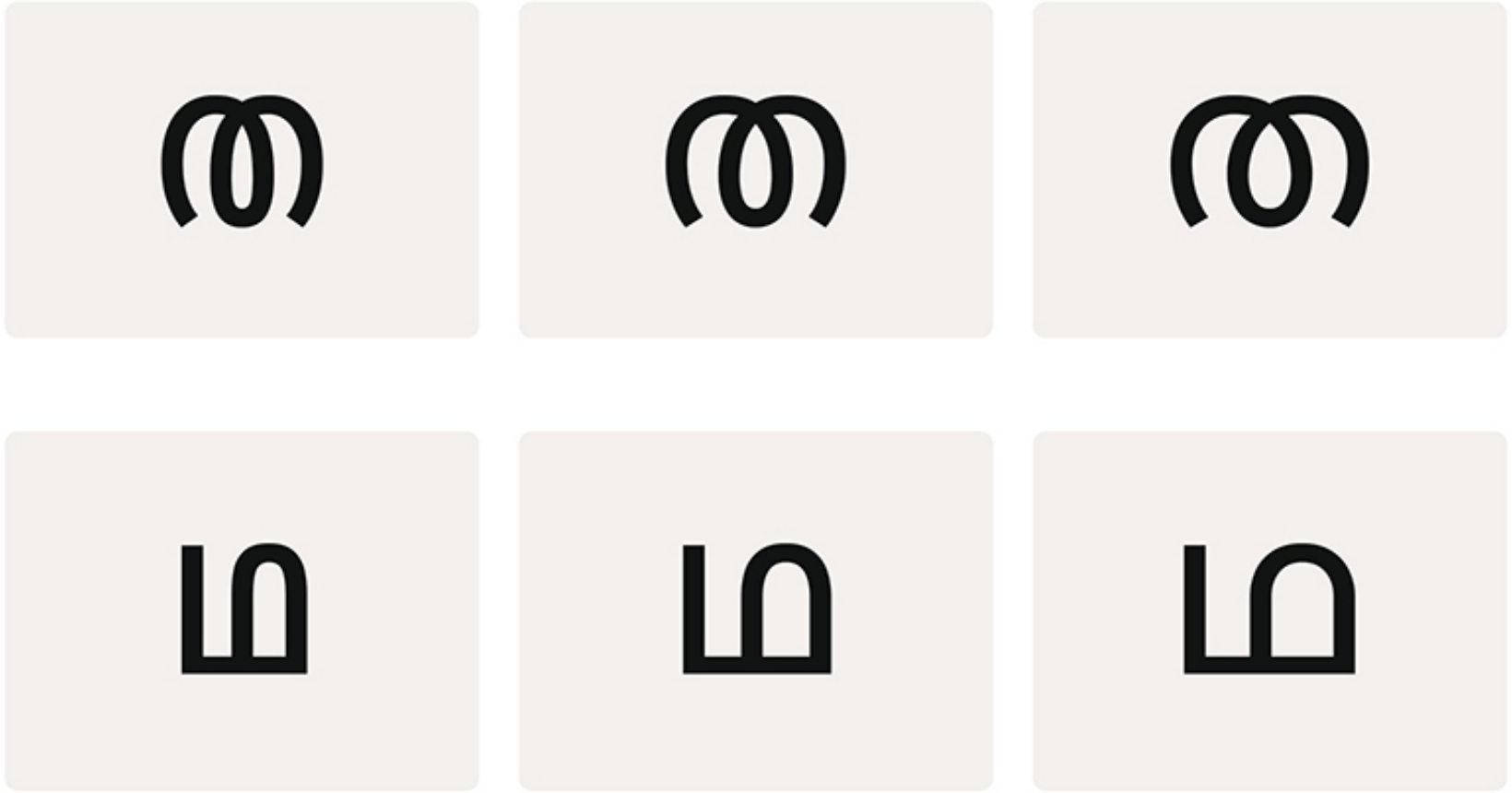

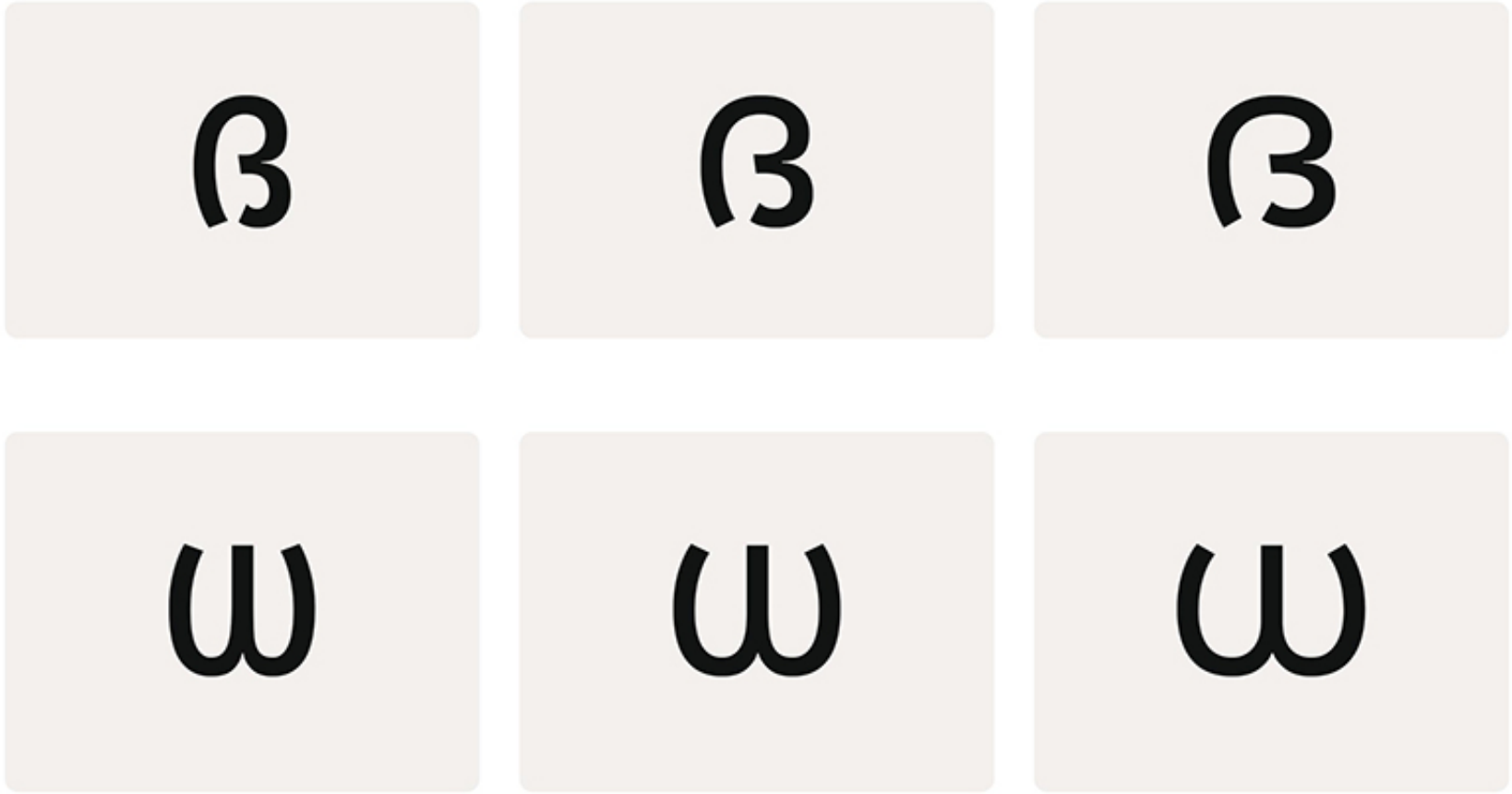
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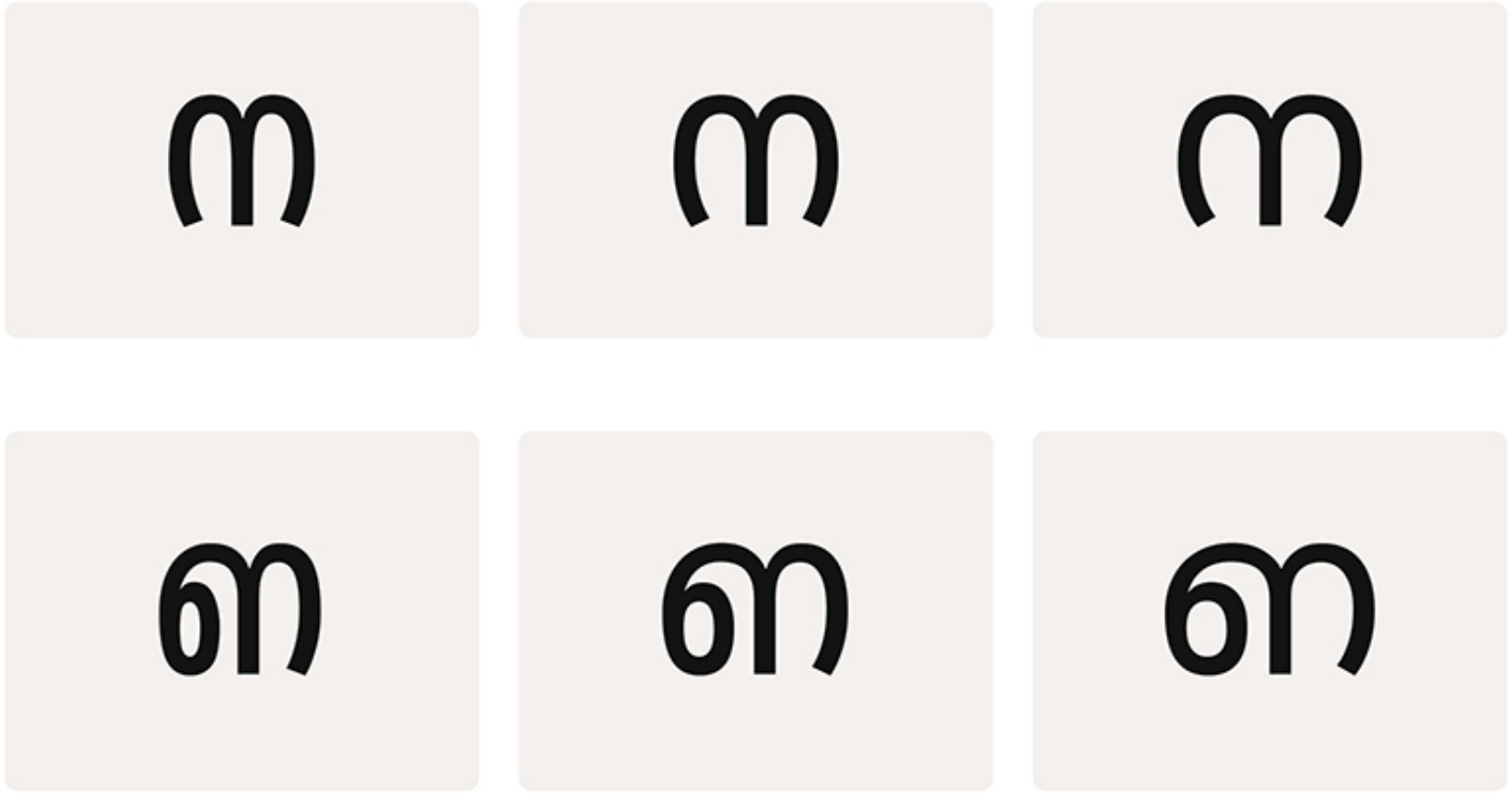
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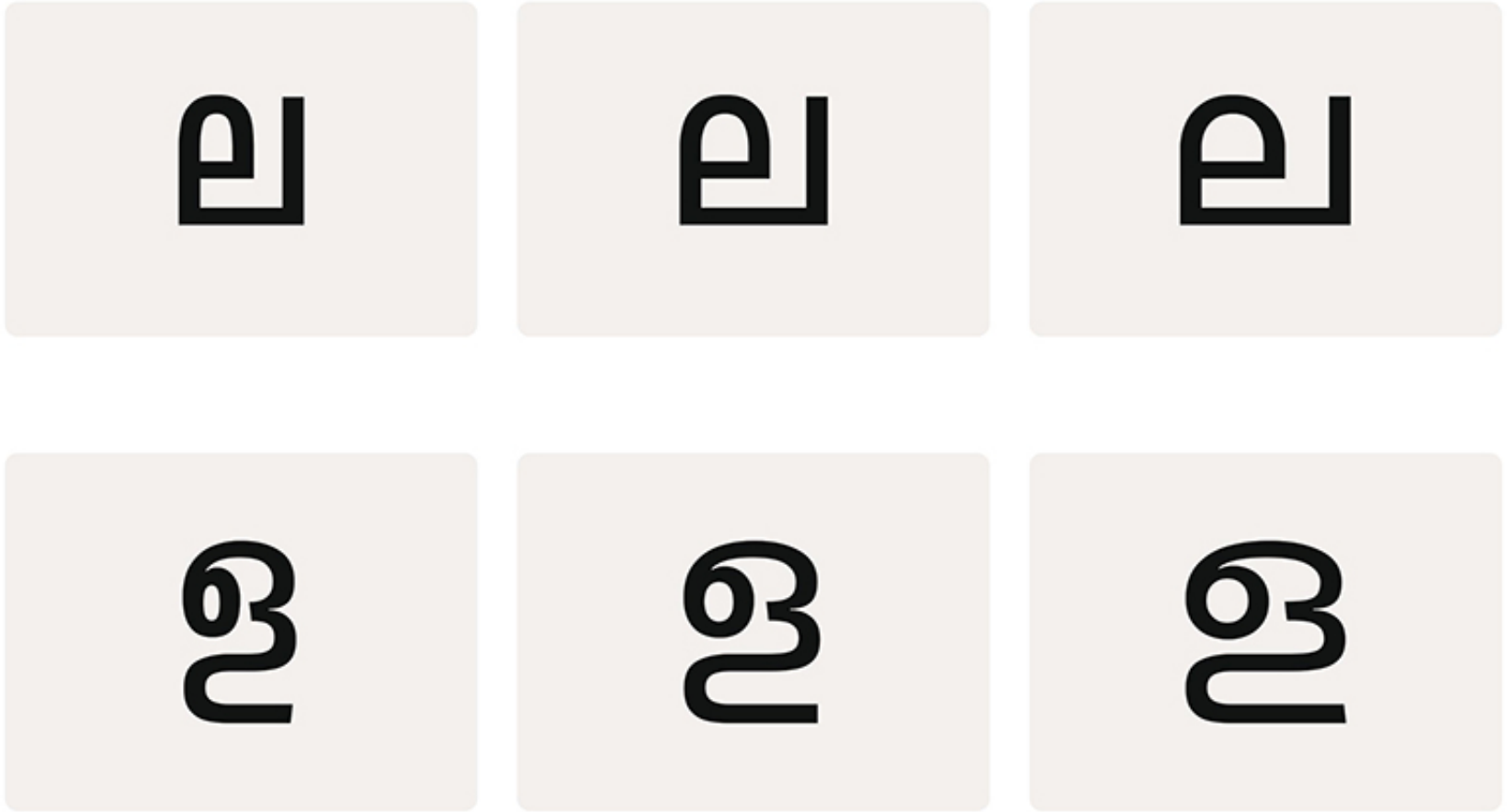
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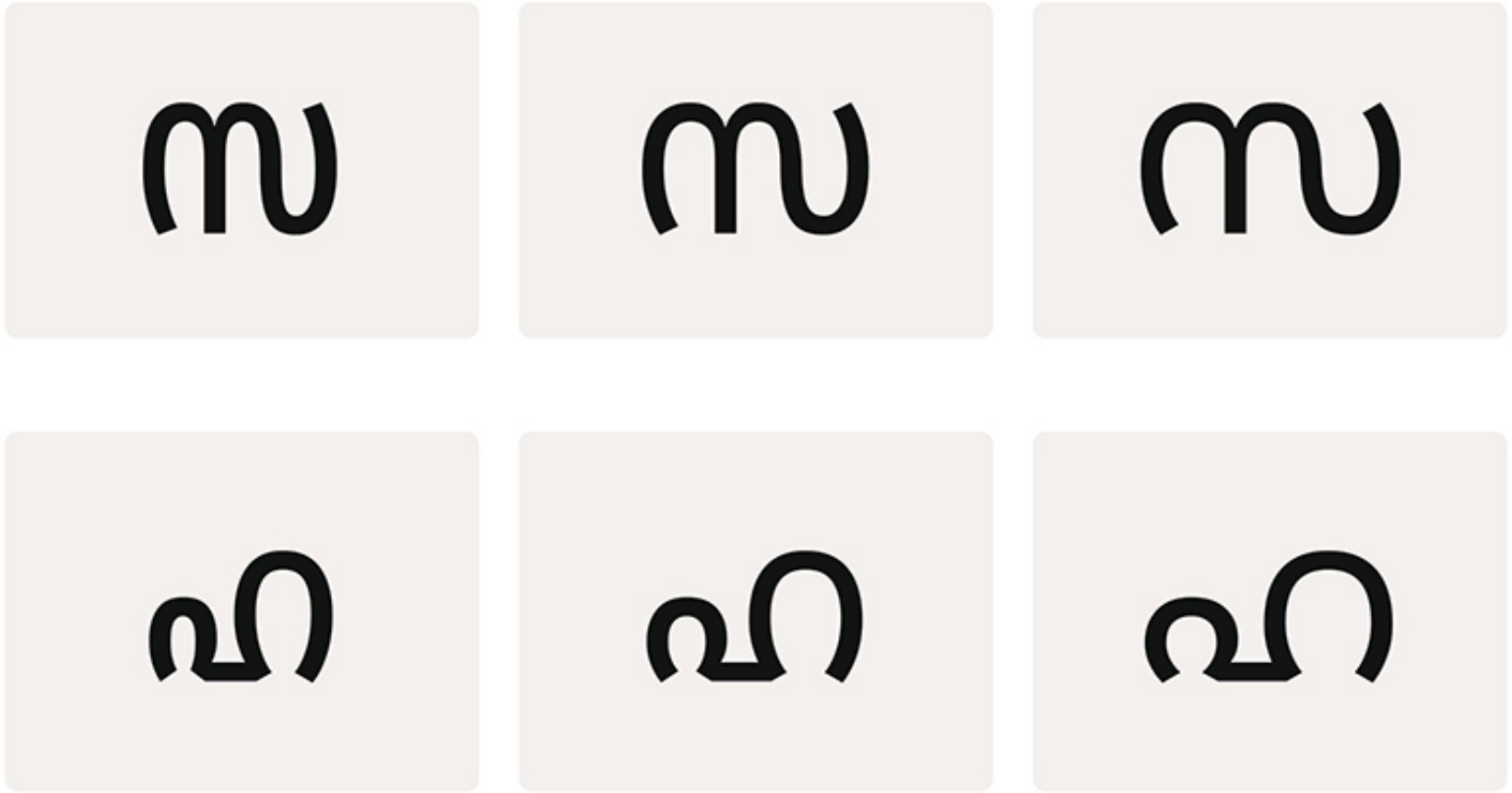
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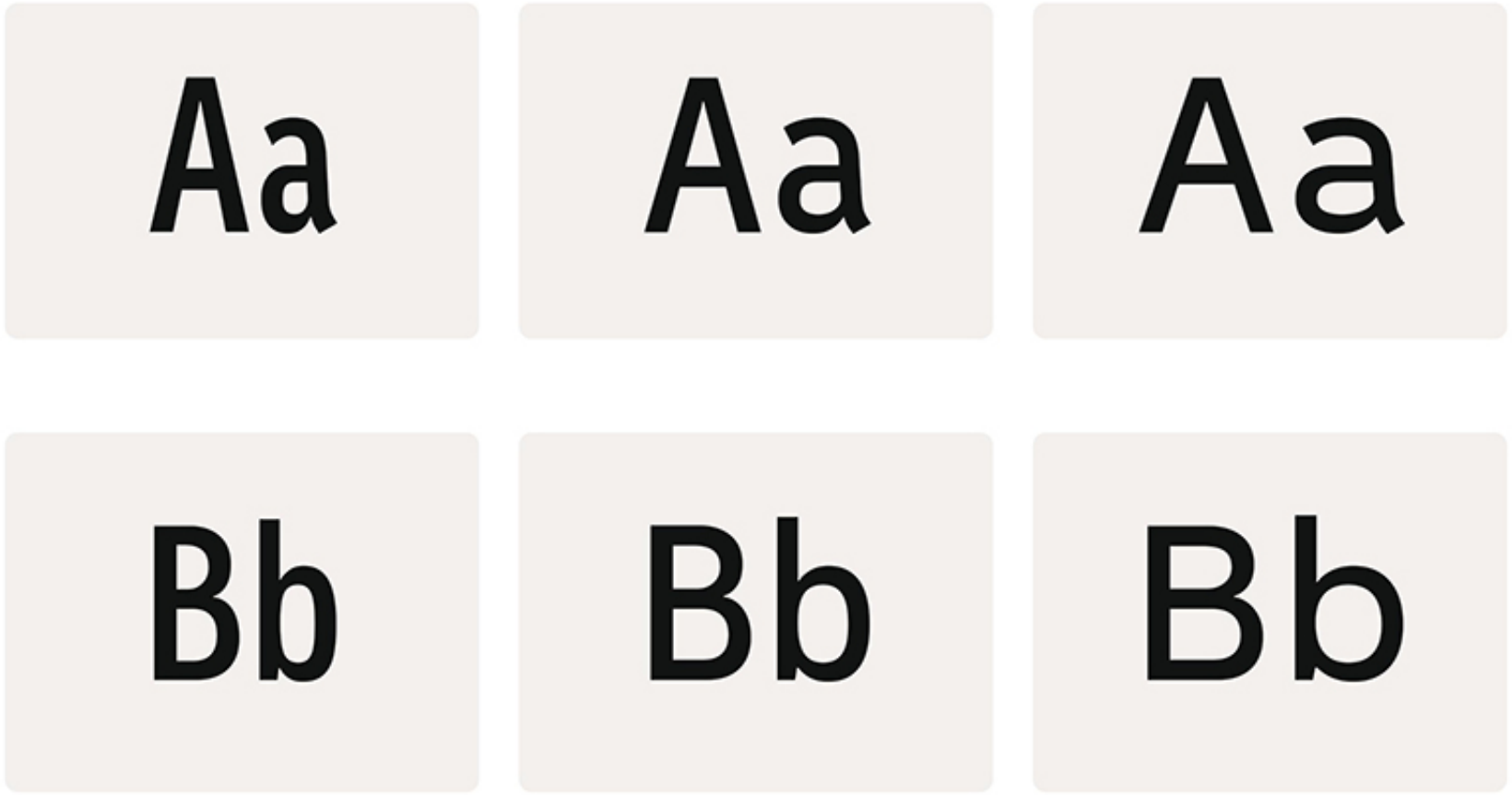
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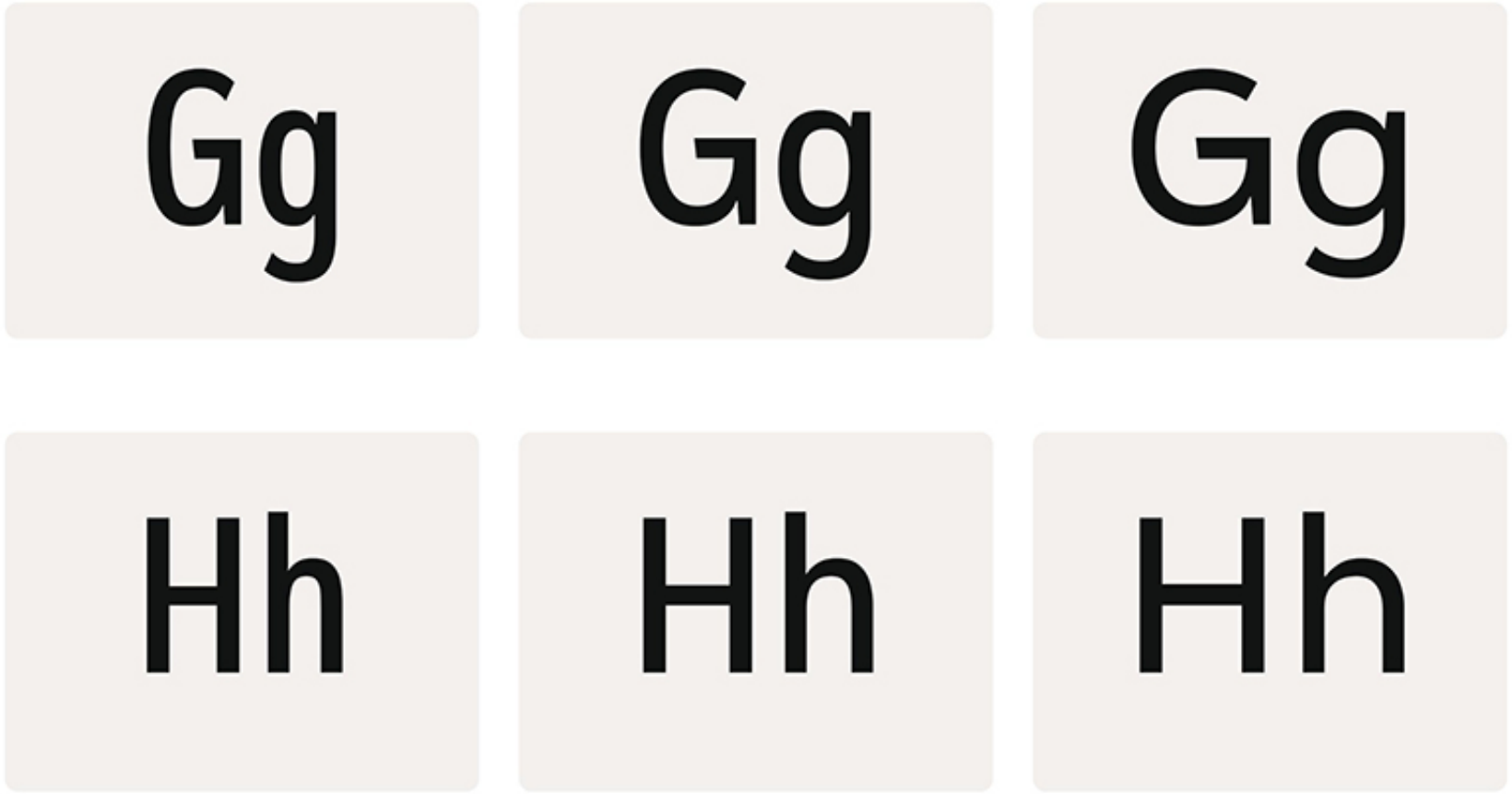
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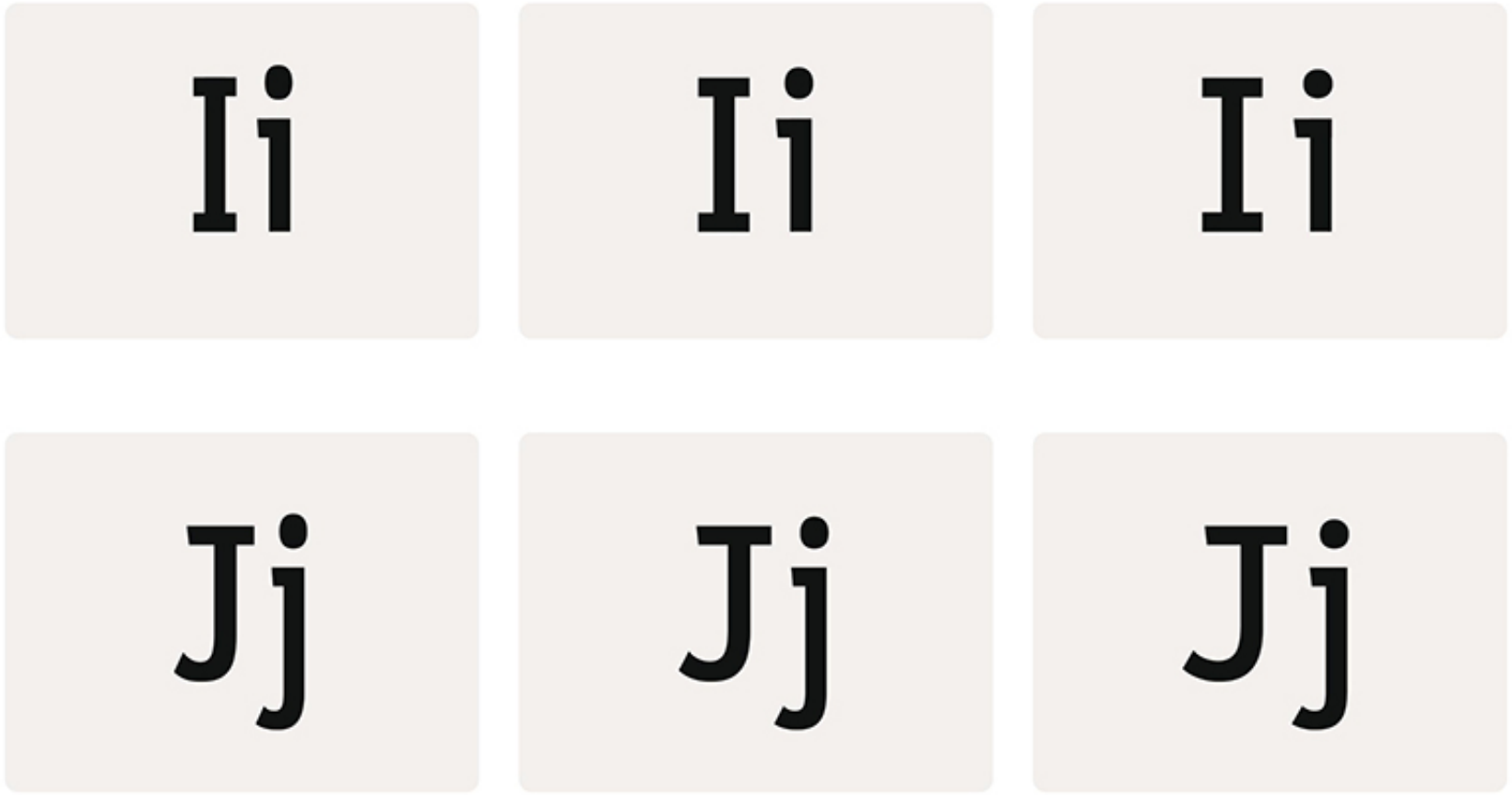
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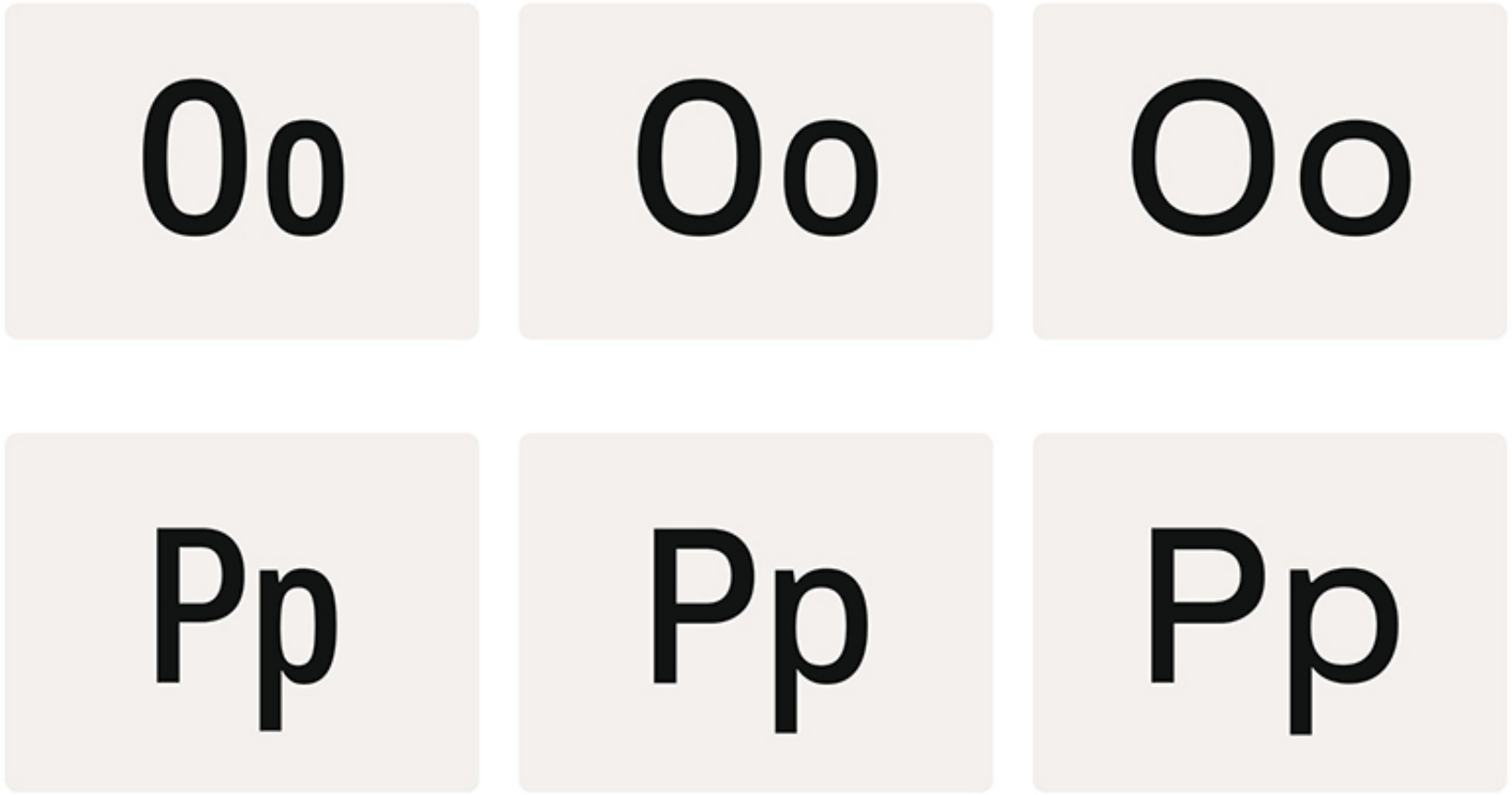
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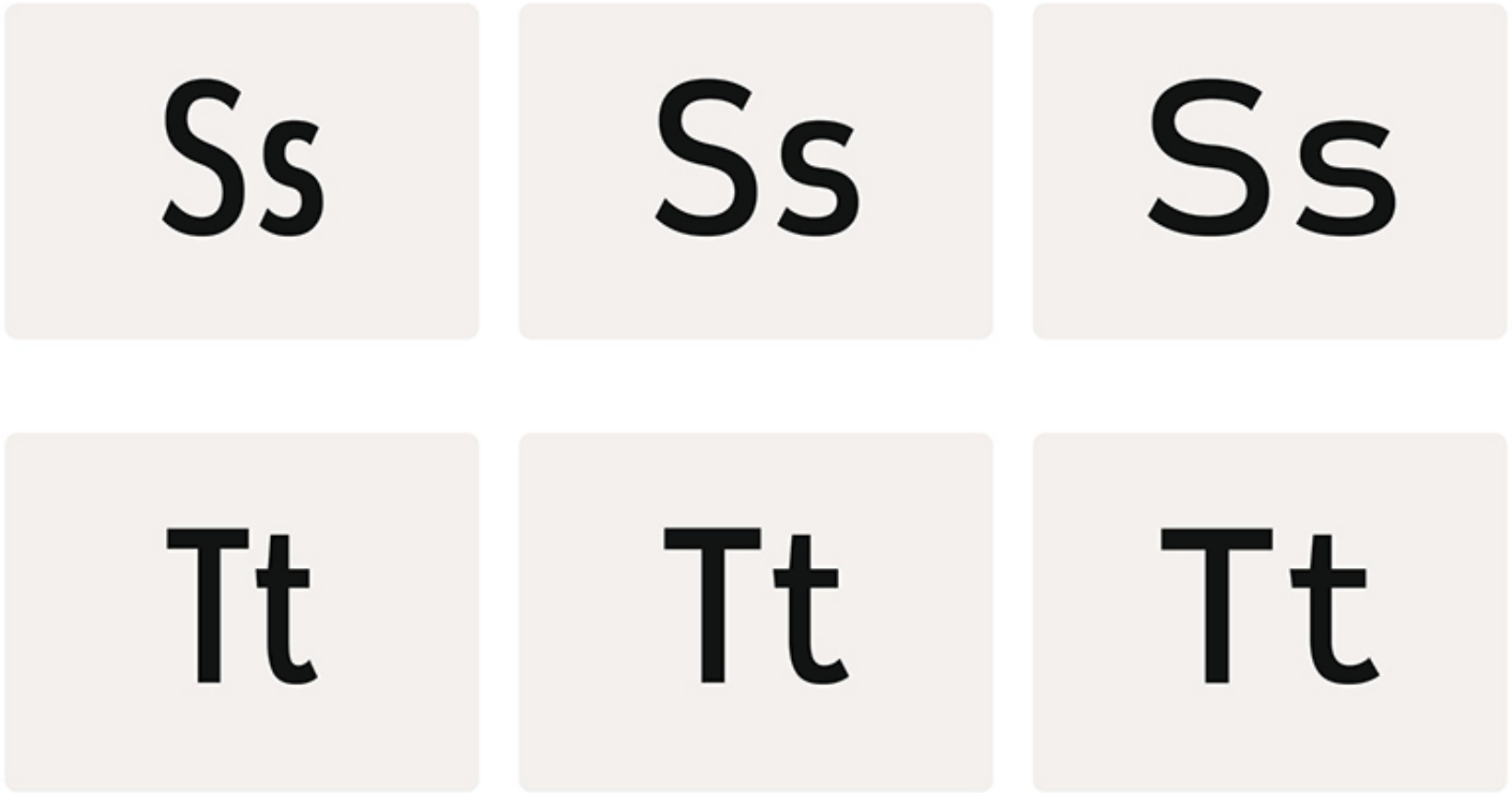
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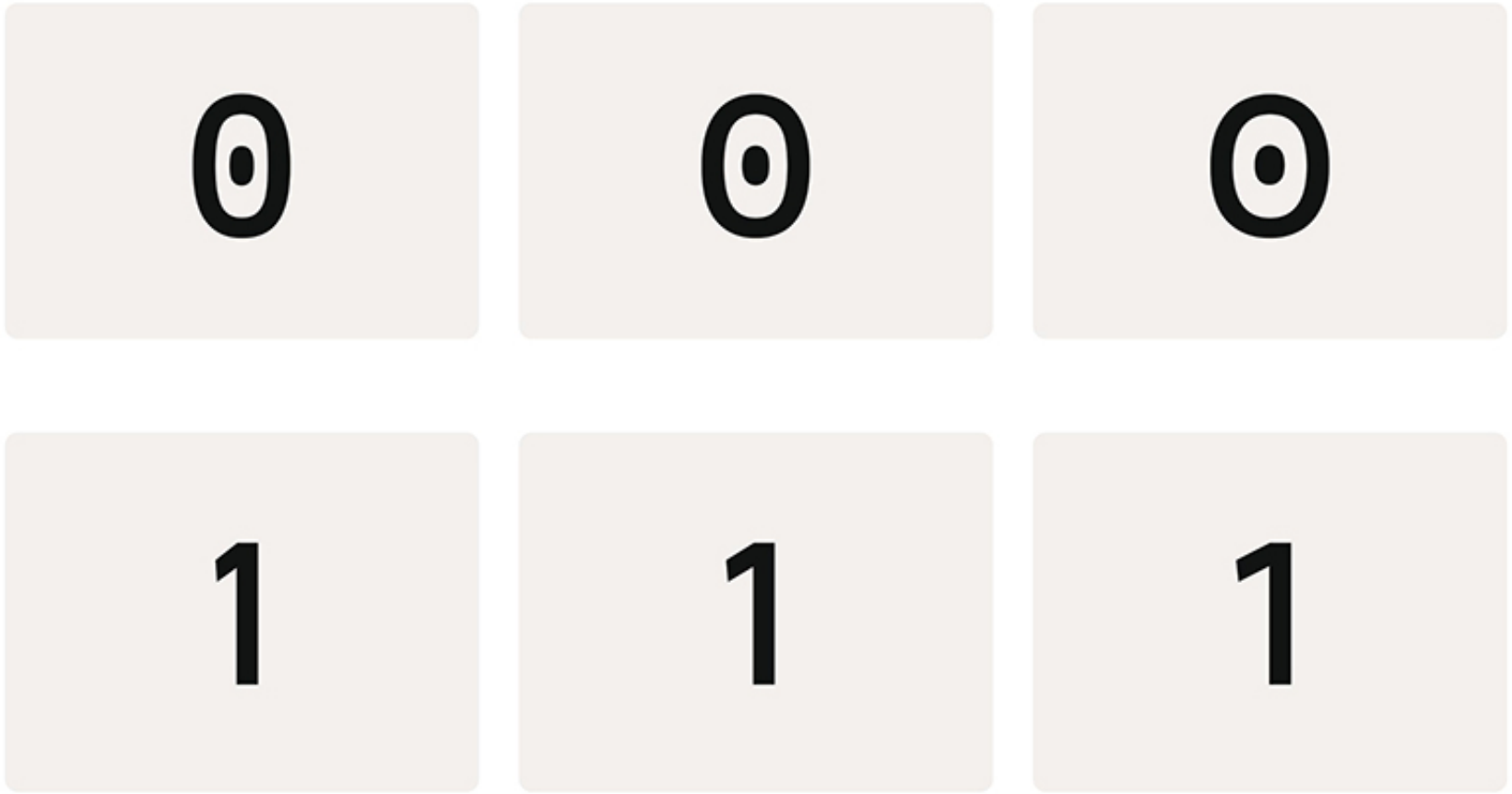
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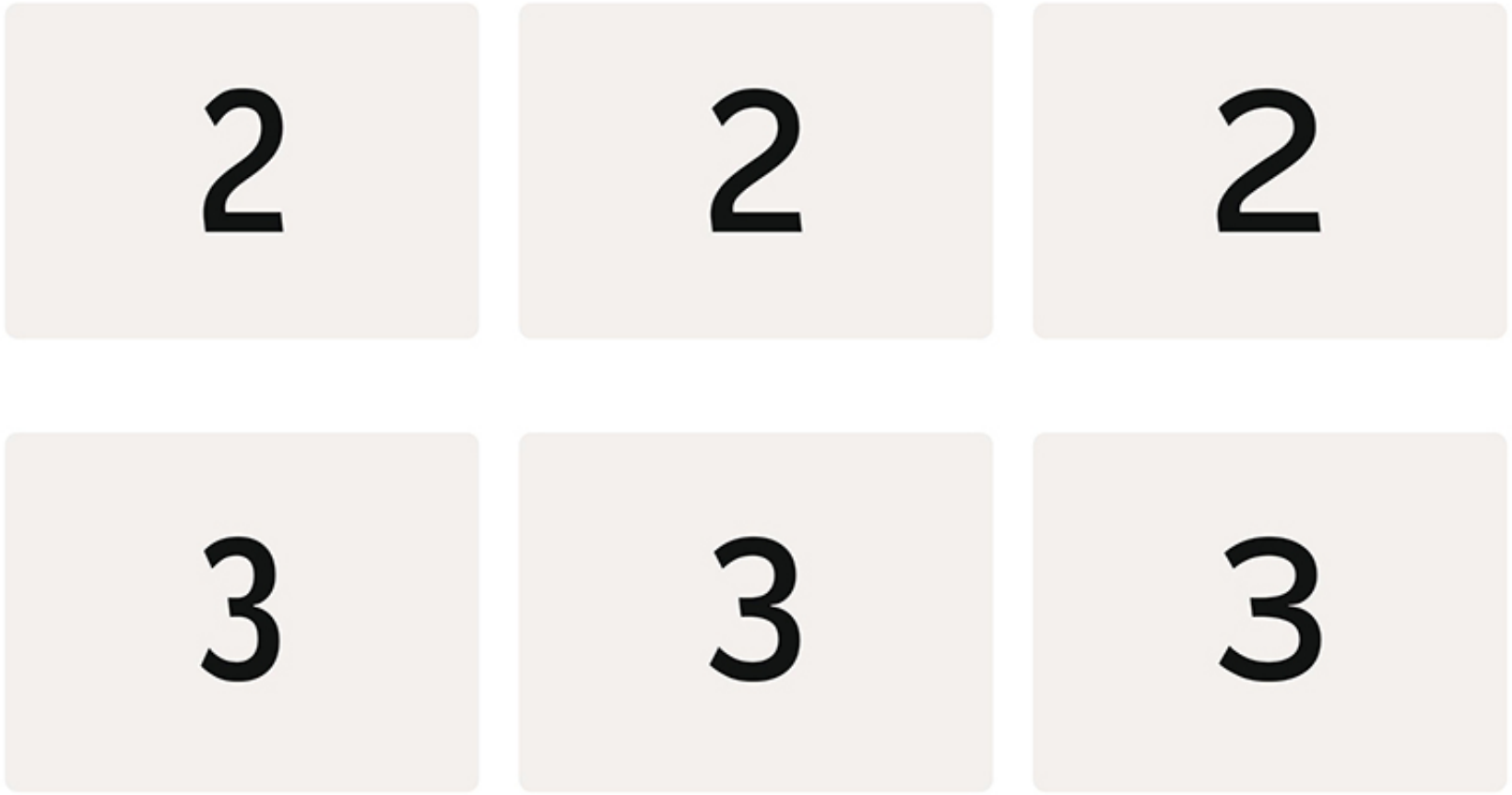
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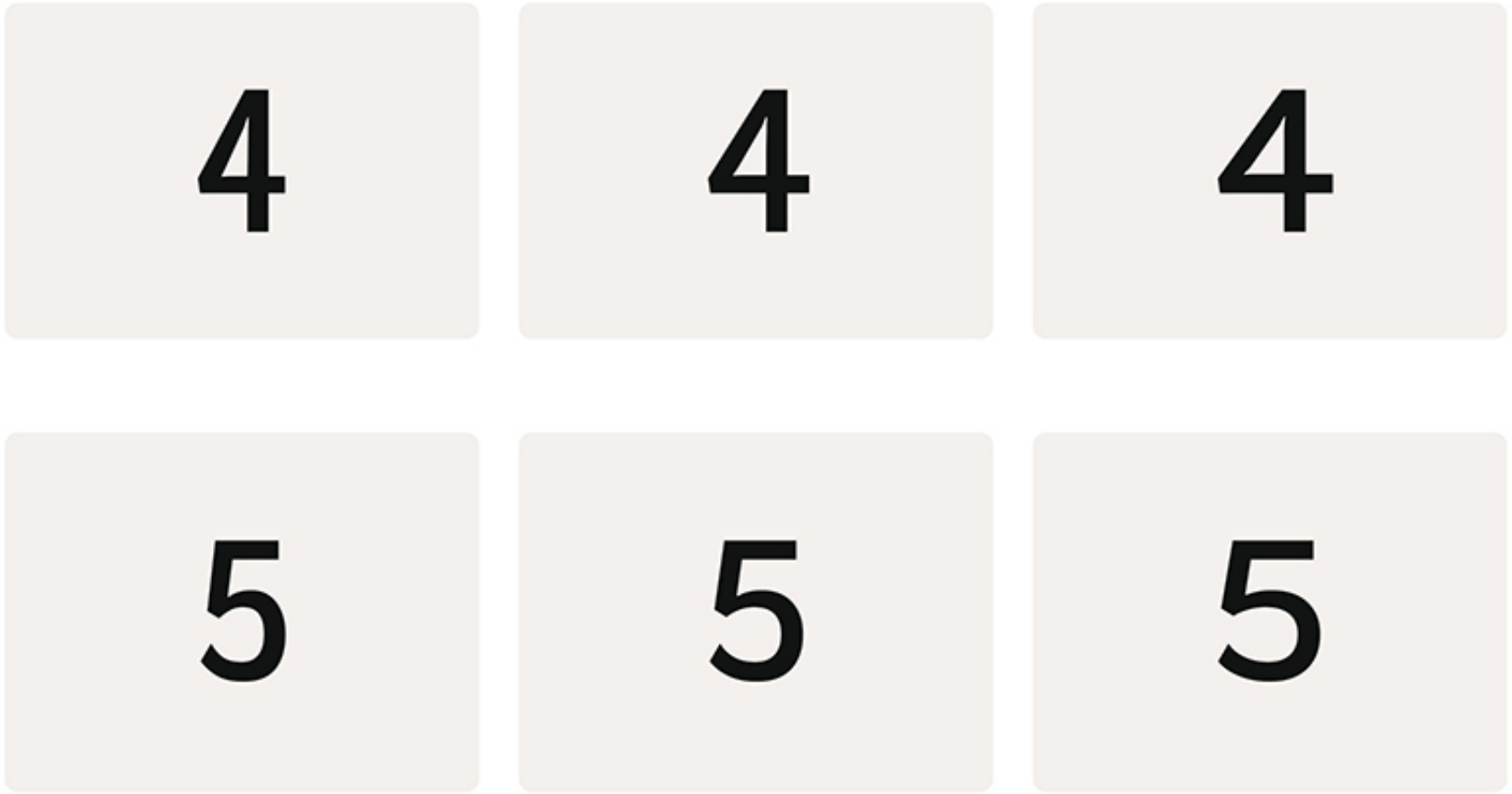
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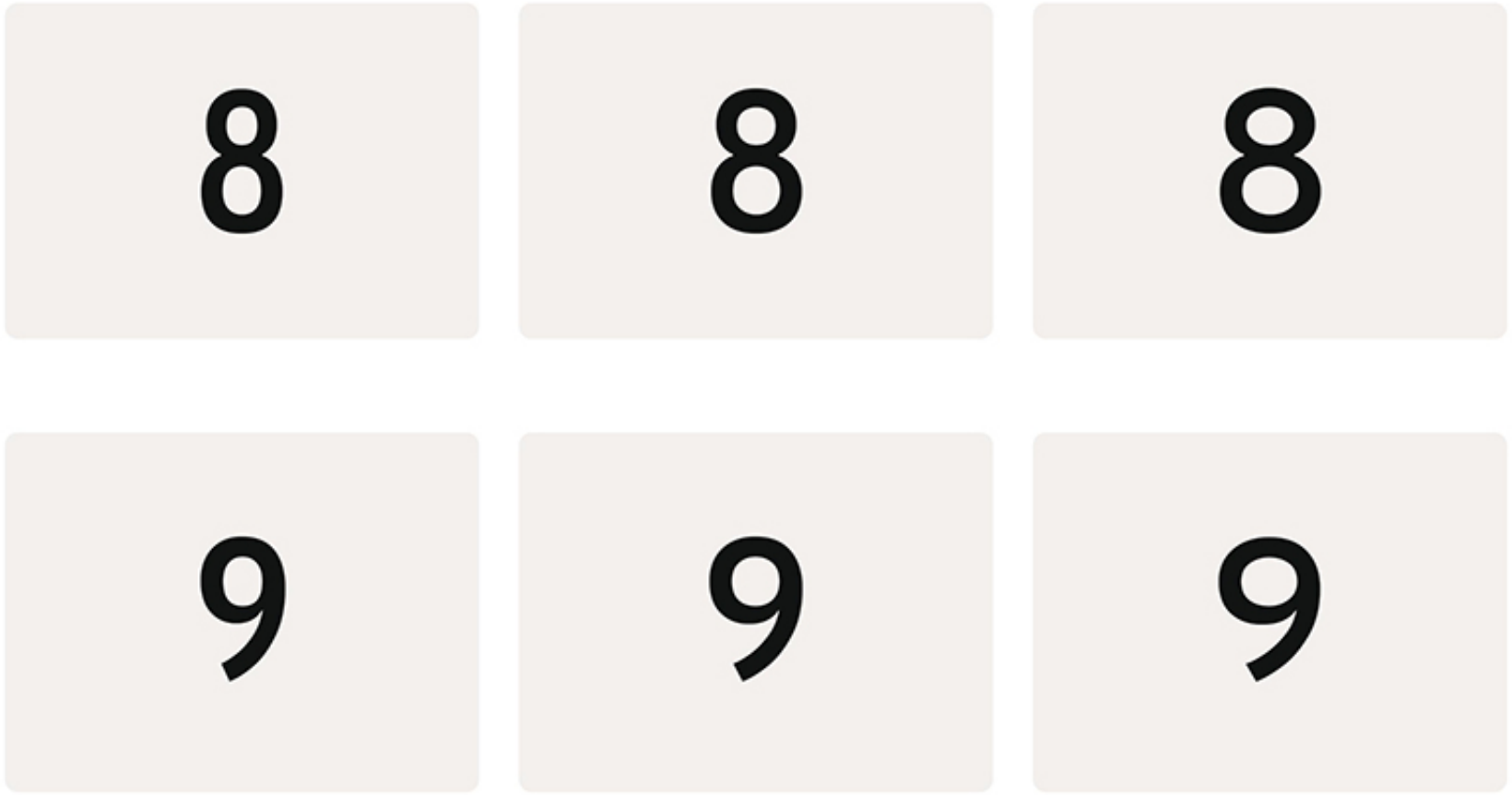
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