

project 3 —
documentation, 2017

Designing a Gurmukhi Typeface

Sachit Shyam
15625 0003

Visual Communication
M.Des. 2015-17

Project guide:
Prof. G. V. Sreekumar

Industrial Design Centre
IIT Bombay

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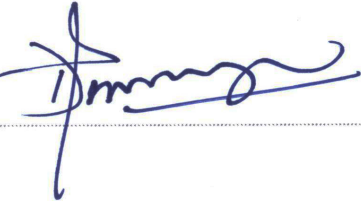
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approval sheet

The Visual Communication Project 3,
titled ‘Designing a Gurmukhi Typeface’
by Sachit Shyam, 15625 0003, is approved
in partial fulfilment of the requirement
of the Master of Design in Visual Communication.

Project Guide 

Internal Examiner 

Chairperson 

External Examiner 

declaration sheet

I declare that this written submission represents my ideas in my own words and where others’ ideas or words have been included, I have adequately cited and referenced the original sources.

I also declare that I have adhered to all principles of academic honesty and integrity and have not misinterpreted or fabricated or falsified any idea/data/fact/source in my submission. I understand that the violation of the above will be cause for disciplinary action by the institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

Sachit Shyam

Visual Communication
IDC, School of Design.

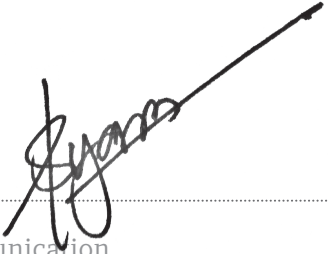
acknowledgement

I would like to acknowledge my parents, teachers and all my friends who helped me throughout my student life at IDC as well as Symbiosis Institute of Design. I express my tremendous gratitude to all the professors and mentors who introduced me to typography and type-design.

I extend my thanks to Prof. Mahendra Patel, Prof. Manohar Desai, Prof. Mandar Rane, Kimya Gandhi, Prof. G. V. Sreekumar, Rob Keller and Prof. Girish Dalvi who helped me to polish my typography and type design skills at various stages of my student life.

I would like to speacially thank Mr. Neeraj Singh who was kind enough to help me out with the study and allowing me to go through the archives at the Punjab University.

Sachit Shyam
Visual Communication
IDC, School of Design.



abstract

There was a time before the machines in Punjab when each book cover, advertisement, poster etc. had a character of it's own. Each magazine headline, each title was different as the creator did each piece by hand and added to the pool of diversity. At present it is hard to differentiate between a book on economics and a poetry book.

The desire and need to design a Gurmukhi typeface came from the lack of good Gurmukhi typefaces available today. My aim was to fill in the gap by adding to the Gurmukhi type palette available. In the project I explore the roots, the golden era and transition of the Gurmukhi script and design a semi-casual typeface that fits the contemporary taste. This project has two essential domains i.e. the 'essence' of the typeface and the quality and 'fineness' of the type design, which I juggled constantly switching between the two as the project progressed.

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where did it all begin?

I was interested in typography/lettering/graffiti since the undergrad days at Symbiosis Institute of Design. Basic typography classes with Prof. Mahendra Patel and Prof. Mandar Rane helped me to understand typesetting and typography in a better way. Further workshop and lectures with Kimya Gandhi during the same year showed me a glimpse of type design for the first time. I was pretty sure that I would never try type design professionally after realising just how much patience and eye for subtle changes it took to build a single glyph. But I still enjoyed the typesetting exercises and projects. After coming to IDC and absorbing more of typography and type design under the guidance of Prof. G. V. Sreekumar and Prof. Girish Dalvi I started feeling more confident towards type design and thought of giving it one try atleast. This aligned perfectly with the summer internship and I got a chance to work with Kimya & Rob Keller at their home studio Mota Italic. The 7 weeks that followed were spent working on Maku; a handwritten Devanagari typeface and frequent conversations on type and work culture with Rob & Kimya. When I left I had surely developed an acquired taste for type design with some ameature skills. The only way to test them out was to work on the typeface of my own.

Maku by Kimya gandhi

where to start?

I was really keen to start on my own typeface but I wasn't sure where to start from. Most of the time was spent reading Prof. Dalvi's thesis on Devanagari type titled : Conceptual Model for Devanagari Typefaces and bunch of online resources by various type designers and foundries. I also came across a lot of the discussions on designing for unfamiliar non latin scripts. I believe, as a beginner it is extremely hard to design for an unfamiliar script. The idea to design a typeface for the same seems really daunting and abstract to me. This pulled my interest towards the Gurmukhi script. I definitely don't consider myself as a Punjabi speaker but 3 years learning Gurmukhi in the school kind of seemed as a plus point now. So it was decided, A gurmukhi typeface.

The first instant (unhealthy) reaction to search for something today is google dot com. Yes, I did the same thing and I came across few of the fairly new Gurmukhi typefaces. Baloo Paaji by Shuchita Grover for Ektype had been one the well designed ones I had witnessed so far. I immediately got in touch with Shuchita to get some initial resources. I also contacted Namrata Goyal who did a similar project and designed Akhar. It was advised by Prof. Sreekumar to visit Punjab and try to connect with the script and try to clarify and build the context for my project.



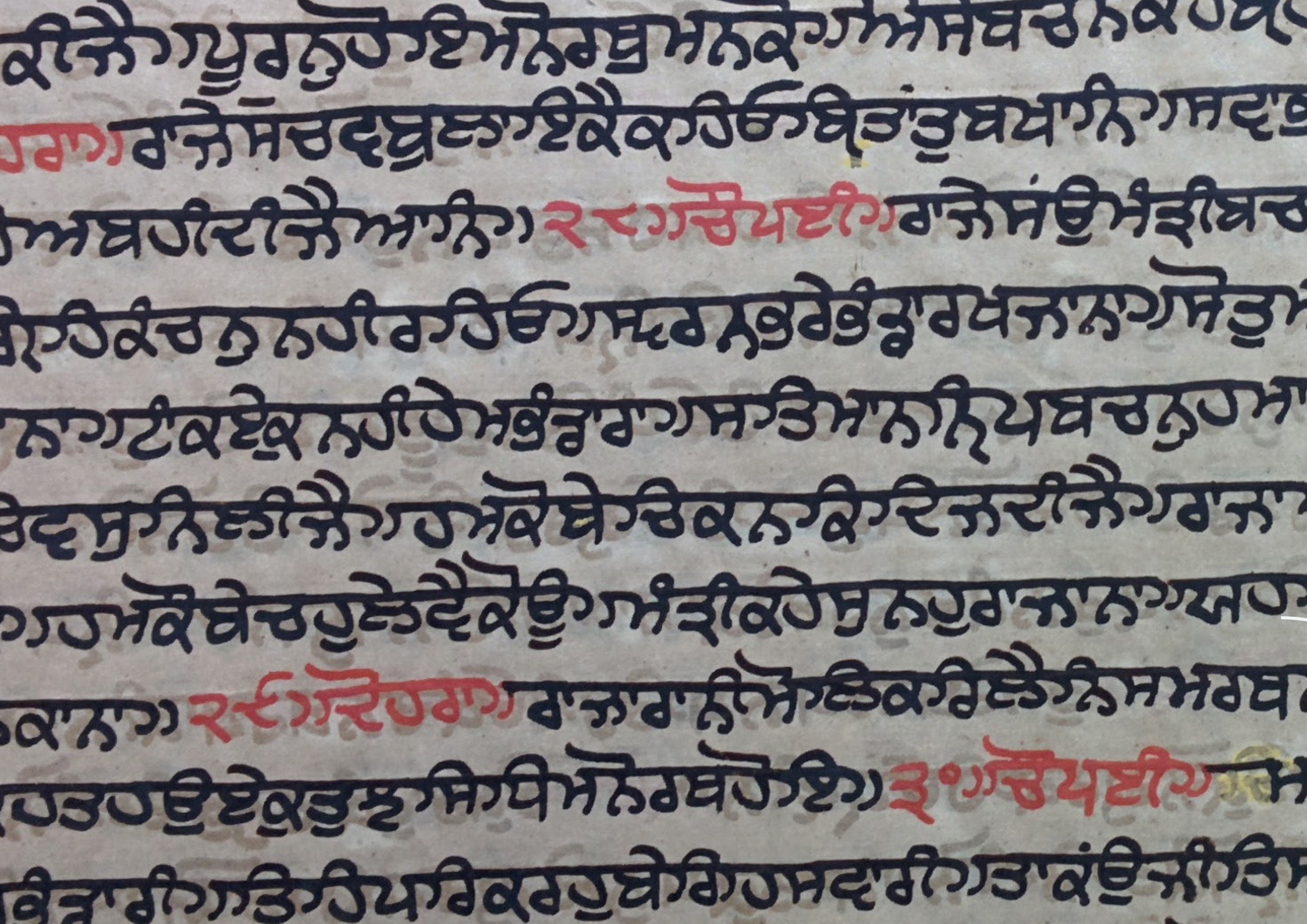
Akhar by Namrata goyal

trip to Chandigarh

My 5 day trip to Punjab started in the chilling winters of January. I had a brief plan on paper and had marked down few places I thought would be really beneficial. I started off at A.C. Joshi Library, Punjab University Chandigarh where Assistant librarian Neeraj Singh helped me dig out the archives. The Gurmukhi book section was a silent abandoned corner in the 3 floor library where no one even passed by. The library had an enormous amount of handwritten, metal type printed journals books and novels collected over decades. It is one of the most visually rich experience to see and hold various books and magazines. From handwritten astrology books to the printed astro books the script went through a strange phase. The novelty and rich visual value was restricted to book titles and display faces. This was majorly due to the technological change as the machines made their presence felt the mass production was stressed upon and the Gurmukhi typeface palette was limited to handful numbers. It was pretty evident that visual flavor was really rich and diverse till the time artist/ designer could work with hands, by the time machines took over, the tools to create digitally couldn't reach the creators and it watered down the flavor over time. I had collected handful of books and vernacular newspaper to have a personal library to refer to. Most of the newspaper have their typefaces designed keeping in mind mass production by an inhouse design team which are rarely available to the masses and designers.



Few of the diverse book covers and hand written manuscript from the archives at Punjab University.



about gurmukhi script

Gurmukhi literally means from the mouth of the guru or Guru's utterance. The Gurmukhi script has roots in the Brahmi scripts and is an abiguida consisting of 35 letters. It is fairly new script which was originated in the 15th Century and was a modernised and standardized by the second Sikh Guru, Guru Angad. Modern Gurmukhi has 38 consonants, 10 vowel symbols, two symbols for nasal sounds, and one symbol which duplicates the sound of any consonant. In addition, four conjuncts are used: three subjoined forms of the consonants and one half-form. Gurmukhi is believed to be traditionally written with a reed pen and sometimes with quill made of peacock feather.

a	ੴ	ka	ਕ	ca	ਚ	ṭa	ਟ	ta	ਤ	pa	ਪ	ya	ਯ	sa	ਸ
i	ੴ	kha	ਖ	cha	ਛ	ṭha	ਠ	tha	ਥ	pha	ਫ	ra	ਰ	ha	ਹ
u	ੴ	ga	ਗ	ja	ਜ	ḍa	ਡ	da	ਦ	ba	ਬ	la	ਲ		
		gha	ਘ	jha	ਝ	ḍha	ਢ	dha	ਧ	bha	ਭ	va	ਵ		
		ṛa	ੴ	ṅa	ਙ	ṇa	ਣ	na	ਨ	ma	ਮ	ra	ਰ		

Above: Landa Script from which the modern Gurmukhi is believed to be evolved

ੴ ਅ ਏ ਸ ਹ
ਕ ਖ ਗ ਘ ਙ
ਚ ਛ ਜ ਝ ਵ
ਟ ਠ ਡ ਢ ਣ
ਤ ਥ ਦ ਧ ਨ
ਪ ਫ ਬ ਭ ਮ
ਯ ਰ ਲ ਵ ਝ

The 35 letters from the modern Gurmukhi script.

the ideation and the context

By the time I came back I had gathered enough first hand content which included photographs of old religious manuscripts, handwritten books, early printed books and book covers along with newspapers and Gurmukhi class notebooks to refer to. Type design like every design project starts with a need and proceeds to giving form to an abstract idea. The context of the typeface was still blurry and needed more refinement. It was clear that with this typeface I wanted to add to the novelty and try to contribute to the current Gurmukhi type palette but in what context? My aim was to create a contemporary semi casual typeface with the a handwritten rhythm to the characters. Gurmukhi script is slightly wide in nature and most of the typefaces that are available perfectly reflect this tone but I thought experimenting with the width and having a subtle narrow width could bring in some novelty. At this point the abstract idea started taking some shape but the end user and context was still missing.

Few of the typefaces that seemed to perfectly capture the similar tone are given below:

- » Pancho by ITF
- » Langar by Typeland
- » Anuik by Typejockeys
- » Baloo Paaji by Ektype



the process and workflow

I feel type design majorly revolves around two aspects:

The essence of the type

The context, the need, the parameters these are the things that shapes an idea and a typeface. Eg. Helvetica stood for neutrality-nothingness and stripping down to bare essentials. It is something that defines the meaning to the type and makes it more solid and gives it a spine. Sometimes the essence can borrowed from the culture too eg. the revival typefaces and at times the rational needs define the essence eg. typeface strictly for the newspaper printing.

The quality and finesse of the typeface

A badly executed good idea is a waste of opportunity. It becomes highly important to be skillful enough to be able to do justice to an idea. How to draw good curves and balance forms visually is one of the core skills in type design. It is all about creating and breaking the illusions and perceptions. It is really a slow process to be able to see the faulty curves and be skillful enough to correct them. It takes time and practice to see and unsee things at the same time

I came across a really good article by Peter Bilak titled: Designing type systems which spoke about the two approaches to type design ie. Gardner v/s Architect, this gave some key insights to how to start the process and get things going. This project for me was intended to be a rigorous type design exercise but to accompany that I also wanted to read about various type designers, their views on typography, the various approaches, the papers written on type design.

I started with Shuchita Grovers paper on Gurmukhi titled: Without the past, there can be no future and proceeded to A Comparative Study of the Development of the Gurmukhi Script by Emma Williams. This gave me fairly strong idea about the Gurmukhi type design. Along with regular reading I also took part in the 36 days of type to push myself to come up with different variety of visual treatments to the latin type. The Introductory manual of Gurmukhi Calligraphy gave further understanding to the structure and rhythm of Gurmukhi script. Initial time was spend experimenting with different tools and I gave enough time to familiarise myself to Gurmukhi script and allowed enough room to make mistakes and even break few rules. This was consciously done to get out all the initial not so good ideas and find the characteristic flavor of the typeface that was much required.

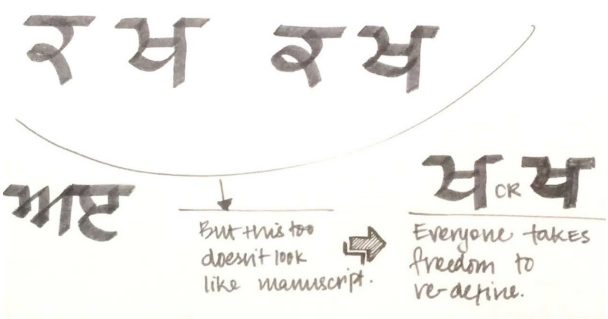
the parameters

After I started getting some visual characteristics I started to rethink on the context. One of the key areas where I think this typeface was needed in was the contemporary branding. Most of the brands today in Punjab don't have a Gurmukhi counterpart to their Latin name. I wanted to explore this domain and see how it would fit in. So far now I had the word clues to define my type which would serve me as a reference points and help me define and develop the visual style.

A semi casual contemporary Gurmukhi typeface with handwritten rhythm that would serve the display and branding needs.

One of the pros and cons about Gurmukhi script is that since it is a fairly young script not much has been done in this zone which makes to really hard to refer to good works but at the same time it's a really good opportunity to come up with something new as not much has been done. Bree by typetogether was a typeface which really inspired me to how there is always a scope for novelty even when things seem to be saturated.

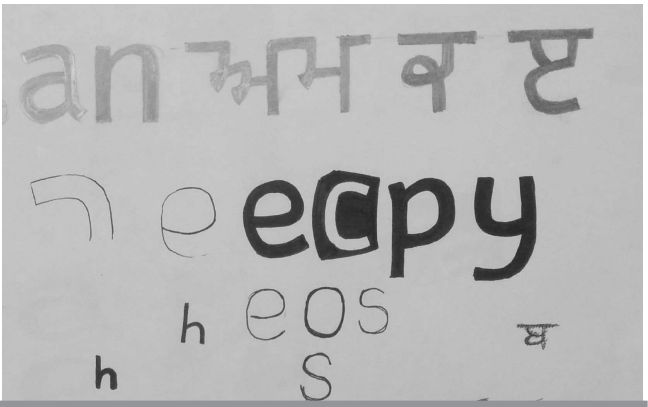
Clearly influenced by handwriting, Bree is a multi-award winning spirited and rhythmic upright italic.



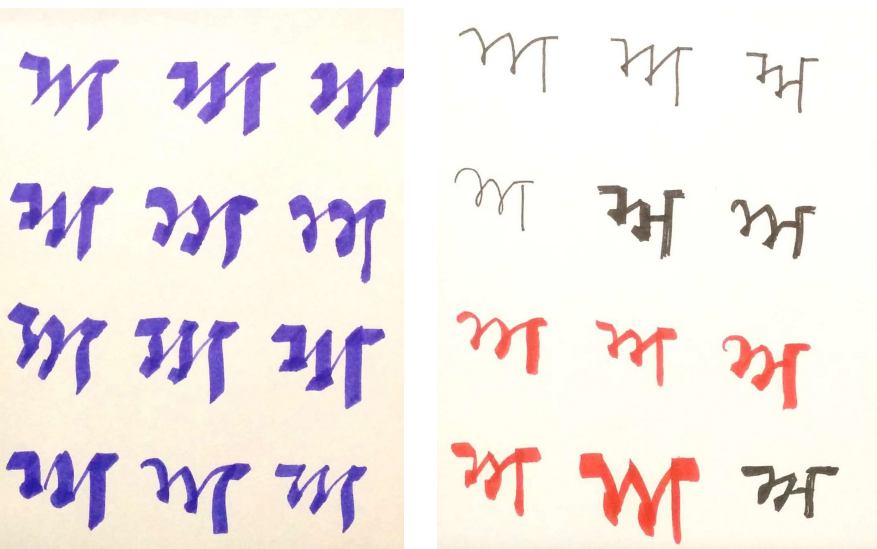
ਅ ਕ ਲ ਪ ਤ ਰ ਹ
ੲ ਸ੍ਰ ਅ ਤ ਰ ਓ
ਯੁ ਭ ਝ ਟ ਟਿ ਚਿ

ੳ ਆ ਏ ਸ ਟ
ੳ ਆ ਏ ਸ ਟ

ੳ ਆ ਏ ਸ
ੳ ਲ ਭ ਮ ਝ
ੳ ਟਿ ਬ ਦ ਦ
ੳ ਲ ਭ ਝ ਝ



Multilingual approach which helped me to lock down some of the visual characteristics.



the first draft

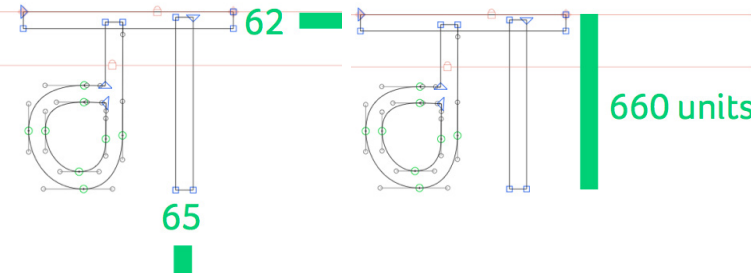
Drawing the first curves on a typeface is exciting and scary at the same time. You need to tread very carefully because small changes at the micro level change the grey value and texture at macro levels. If the initial drawings have a major flaw that reflects later on to all the other letters.

The basic units

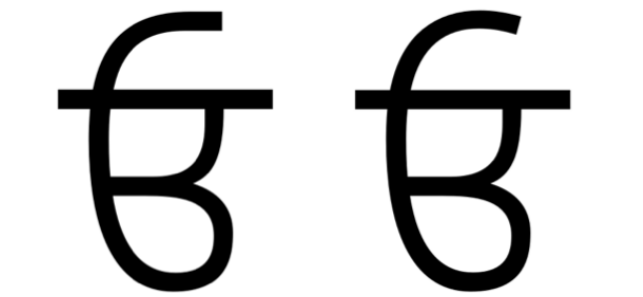
Though typography and visual design in generally takes in account the visual corrections it's essential to lock down the horizontal and vertical units for technical purposes. It is essential to polish down the various curves joineries and terminals as soon as possible. We can further change them over time if required I thought of having flat joineries and slanted terminals at the beginning.

ਅਆਓਗਟਕਡਤਬਰਹੲ
Hope ਓਗਟਕ pope oppo
ਓਗਟਕ pope ਰਹੲ

Initial draft of the core letters. Basic latin characters were drawn to conceptualise the rhythm.



The basic unit for horizontal and vertical strokes.



Two basic styles of terminals

evolution of knots

I started with no knots in the beginning as I wasn't sure whether I would be adding the knots to the typeface. I intended it to be minimal at first but it started to resemble the rational typefaces which I wanted to avoid. The second style had sharp corners which gave enough grey value but were immediately discarded because it clashed with the intended purpose of a friendly display type.

Knots for ma and saa went through different changes as this was more frequently used letter than aa (aera). Subtle changes and minor movement of anchor was really important and changed the overall weight balance of the knot.



Evolution of knots for a and ma. various explorations needed to be done to stem to balance the knot each time.

core letters

Working on core letters is really helpful to define the overall form of the script hence it helps to design the font efficiently. The Gurmukhi Calligraphy Manual by Aksharaya aims to teaches Gurmukhi calligraphy by grouping letters with the same structure. This was borrowed to help define the basic characteristic of the typeface. I was really convinced by the overall form of the letters at this point and had started working on few of the other letters when I started to see the faulty curves and badly balanced shapes. I was not happy with the form so I decided to redraw everything from the scratch this time paying close attention to bezier behaviour and balancing the weight.



Top: Bumpy curves (exaggerated) v/s correct curves

ਅਪਕਗਛਟਫਵੳਸਤਲ
ਅਪਕਗਛਟਫਵੳਸਤਲ

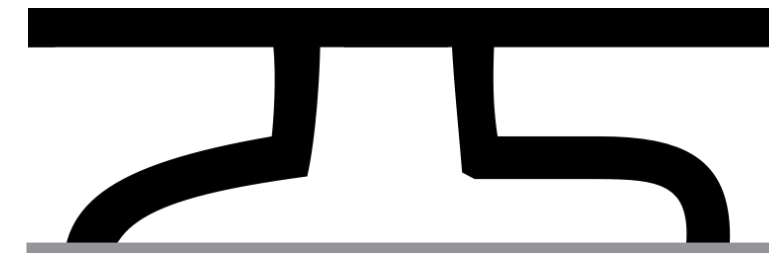
Top: Redrawn core letters with the knots and rough spacing

evolution of letters

Over the period of two months letters started evolving into better forms. Sometimes letters were easy to balance and hence didn't require much time but certain letters like pa, ma, and ba went through multiple changes.



An overlay of all instances for la and ee. Lightest version is the final form.



Irregularities in stem joineries started to come out. Initially non symmetrical stem joineries were intended but later dropped as they didn't match the overall visual language.

ੲ ੲ ੲ
ੳ ੳ ੳ ੳ ੳ ੳ
ਤ ਤ ਤ ਤ ਤ
ਪ ਪ ਪ ਪ ਪ
ਫ ਫ
ਟ ਟ ਟ

other features

ਬ ਬ ਬ

ੳ ੳ ੳ

A new diagonal variation was experimented for double story characters like ba and uu

ਇ ਏ ੲ

Ascender matras (ii, ae) and descenders matra (u)

ਰਾਟਰੀ ਸਪਨ
ਰਈਸ ਧਰਮਜੀਤ

ਰਾਟਰੀ ਸਪਿਨ ਰਈਸ ਧਰਮਜੀਤ ਰਮਨ ਇਲੈਕਟਰਾਨਿਕ ਤੀਜ
ਡਾਅਪਾਕਸੀਜਾਇਡ ਇਸ ਧਾਰਨਾ ਬਾਡੀ ਰਸਤੇ ਪਾਨਾ ਤੁਰਮੇਨਿਸਤਾਨ ਸਟੀਕਰ
ਪਾਪਾ ਪਾਓ ਜੋਏਮ ਅਧਿਕਾਰਿਕ ਬਾਲੀਮੀਕਿ ਟਰੇ ਧਰਮਬੀਰ ਤਪ ਅਮਨ ਬਸਤ
ਸੁਸੀਲ ਮੋਹਰਪਾਲ ਸਮਾਸਟਾ ਸਹਕਾਰੀ ਰਾਮਪੁਰੇ ਮੁਸਕਰਾਤੀ ਨਿਟਰਾਜੀਪਾਮ
ਧਕੇਲ ਅਟਕੇ ਹਰਟ ਪਰਿਕਲਪਨਾਕਾਰ ਅਮਰੀਕਾ ਅਲਮਾਰੀ ਲਹਿਰਾਬੇਗਾ
ਮਹਿਸਮਪੁਰ ਹਾਦ ਬਟਲਰ ਢਲਤੇ ਅਹਿਮਦਾਨਗਰ ਤਲਾਕ ਸਤਨਾਮਪੁਰਾ
ਕਿਟ ਹੁ ਬਦੀਲ ਕਸਬਾ ਦਾਰਜੀ ਹਥੇ ਰਾਬਿਨਸਨ ਮੁਕਾਬਲੇਬਾਜੀ ਸੀ ਲਿਨ
ਕਾਪੁਰੋਡੋਰਾ ਡੀਜਲ ਰਸ ਹਰਬਰਗ ਪਲਮਾ ਅਦਾਕਾਰਾ ਸ ਬਜ ਕਾਲਾਬਾਲਾ
ਸੀਸਮ ਲਗ ਹਿਸਸੇਦਾਰੀ ਤੁਰਕਮੇਨਿਸਤਾਨ ਇਥ ਠਪ ਓਪਿਨਿਅਨ ਅਪਰਾਜਿਕਤਾ
ਅਸਟੀਮ ਓਟ ਦਿਓਰ ਧਰੀ ਤਾਦਾਦ ਮਿਨਿਸਟਰ ਸੁਗਤਾ ਨੇਤਰਪਾਲ ਜਾਡਲੀ
ਤੁਕ ਡਾਅਪਾਕਸੀਜਾਇਡ ਮੁਬਾਰਕਪੁਰੀਏ ਇਦਰਿਸ ਹਰਲ ਇ ਕਾਰਜਪਾਲਿਕਾ
ਗੁਟੀਮਾਜਰਾ ਇਲੈਕਟਰਾਨਿਕ ਹਾਕਸ ਕਾਦਰਾਬਾਦ ਮੀਟਿਕ ਪਰਿਸਥਿਤਿਜਨਅ
ਸੁਧਰਦੇ ਪਾਸਕਲ ਜਨਪਤਰਕਾਰਿਤਾ ਅਤਾਪੁਰ ਤੁਰਕਮੇਨਿਸਤਾਨ ਸਪਾਰਟ
ਬਾਲੇਬਾਲ ਟਾਟ ਜਨਪਤਰਕਾਰਿਤਾ ਲਿਸਾ ਤਨਾਅ ਮਹੀਨਾ ਦੁਰਗਾਪੁਰੀਏ ਰਦ
ਪਏ ਈਨਾ ਅਸਮਕਾਨਪੁਰ ਗਰਨੇਜਾ ਗਾਨ ਏਕਾਤੇਰਨਿਬਰਗ ਮੁਹਤਾਜ ਰਦ
ਹਾਰਲੀ ਜਾਪ ਦੁਸਰੇ ਸਸਟੇਨੇਏਬਲ ਕਪਿਲਮੀਤ ਰੇਡ ਟਿਨ ਕਾਨਜੀਨਿਏਲਿਟੀ

Above: Some of the sample (adhesion) text. Title 35/25 body 11/16

where is this typeface headed to?

So far after one weight is complete I would like to continue building an extended family with multiple weights for the same including a full Latin set and explore more visual variations like the rounded terminals. Further working with Open type features can help to play around with more variations like extended ligature support and even emojis.

Final thoughts
This project has been really influential for me as a communication designer as it not only helped me to polish my typography skills but also helped me to be little disciplined and plan out work effeciently. There have been few pitfalls. I had expected to finish the Latin family alongside too but as type design is 80% seeing things, the more time is spent looking at the shapes more flaws you find.

Hope

ਟਬਰ

Possible approach for Latin and rounded Gurmukhi

references

Books, journals and papers

An introduction manual of
Gurmukhi Calligraphy by Aksharaya

Type Now by Fred Smeijers

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Without the past, there can be no future by Shuchita Grover

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Exentra by Fermin Guerrero
<https://www.behance.net/gallery/37388303/Exentra-typeface>

Noto gurmuhi
<http://www.google.com/get/noto/>

Adhesion text Gurmukhi
<http://www.adhesiontext.com/gurmukhi>

“Strength lies in differences, not in similarities”

– Stephen R. Covey

