



Typography and Storytelling

<http://www.typoday.in>

Ornamental Heritage in the Digital Age: Reimagining the Kaithali Script for Contemporary Use

Pramiti Borah, Central Institute of Technology Kokrajhar, Assam, India, u23mcd1010@cit.ac.in
Abhijit Padun, Central Institute of Technology Kokrajhar, Assam, India, a.padun@cit.ac.in

Abstract: The script of a language is a powerful emblem of cultural identity, preserving the heritage and history embedded within linguistic systems. In ancient India, writing was revered as an art form, often practiced by skilled scribes to document vital information. The Assamese script, particularly during the 17th century, developed distinctive styles, including Kaithali, Bamuniya, and Garhgaya. Among these, Kaithali stood out for its intricate and ornamental design, making it the most popular and culturally significant style. Historical texts bearing the Kaithali script offer a glimpse into Assam's rich literary and artistic heritage. This article explores reimagining the Kaithali style as a contemporary typeface, preserving its ornamental essence while adapting it for modern use. The design process involved meticulous research to retain the script's authenticity. Introducing this typeface in digital platforms bridges Assam's past and present, enhancing its global visibility. This initiative fosters cultural preservation and modern expression, revitalizing Assam's unique identity.

Key words: *Ancient Assamese script, Kaithali writing style, Contemporary Typeface design,*

1. Introduction

The script of a language is a powerful marker of cultural identity, representing a community, region, or even a nation. Scripts preserve the rich information and heritage embedded in language systems. In ancient times, humans inscribed vital information on various media, and the act of writing was often considered an art form. Only skilled scribes, often appointed by kings, would create these intricate scripts, a practice that was widespread in ancient India.

The Assamese script, particularly during the 17th century, developed distinctive writing styles that became a significant part of Assam's cultural identity. Three primary styles

defined Assamese script at that time: Kaithali, Bamuniya, and Garhgaya. Each of these writing styles held unique characteristics, but among them, Kaithali stood out for its intricate and ornamental design. Due to its aesthetic appeal, Kaithali became the most popular and widely accepted style among the Assamese people. Today, remnants of this distinctive script style survive in carefully preserved historical texts, offering a glimpse into Assam's rich literary and artistic heritage.

Despite its cultural significance, Kaithali's unique ornamental style has not been adapted for modern use. This article explores the potential of reimagining the Kaithali style as a contemporary typeface, preserving its intricate detailing and ornamental essence. By designing a conceptual typeface inspired by Kaithali script, this study aims to revitalize the script for practical applications in modern communication while honoring its historical roots. The typeface development process involved an in-depth study of preserved Kaithali samples to ensure that the visual elements and stylistic nuances of the original script were accurately incorporated. This effort not only celebrates the beauty of traditional Assamese script but also opens a new avenue for Assamese cultural expression in modern media.

2. Literature study

The classification of the evolution of Assamese script can be divided into three stages as follows:

- Gargayan script: This style was popular during the reign of the Ahoms around Gargaon in the Sibsagar area. This type of script is very artistic in character. Well-educated writers were patronized by Ahom kings to practice this school of script.
- Kaithali: This style is associated with the Kayastha community. Suvankazri, Kitabar Manjari and Hasti Vidyarnava by Sukumar Bankayastha are the examples of this style script. In lower Assam, the Kayasthas are known by the title of Lahkar and hence known as Lahkari script or letter.
- Bamunia: The writer of Bamunia scripts were the Sanskrit scholars or people associated with the study of Sanskrit (*Devanagari*) and Kamrupi script. In the script of their writing, there is an influence of the structure of Later-Brahmi or evolved Kamarupi script.

2.1 Historical examples of Kaithali script

This style was initiated by the Kayasthas who used to be known as writer caste. It was also known as Lakhri style. This style used to be found in the manuscripts of various document writings, royal charters and most of the treaties. The style was also followed by professional scribes employed in royal service. The Kaitheli style was very popular among

the literature of lower Assam region at times. In comparison with the other two, this style was more popular due to its ornamental style and artistic patterns. Suvankazri, Kitabar Manjari and Hasti Vidyarnava by Sukumar Bankayastha are the examples of this style script. This script was mostly used in the ancient time in Assam by Mahapurush Srimanta Shankardeva in his scripts like Kirtan Ghuxa.

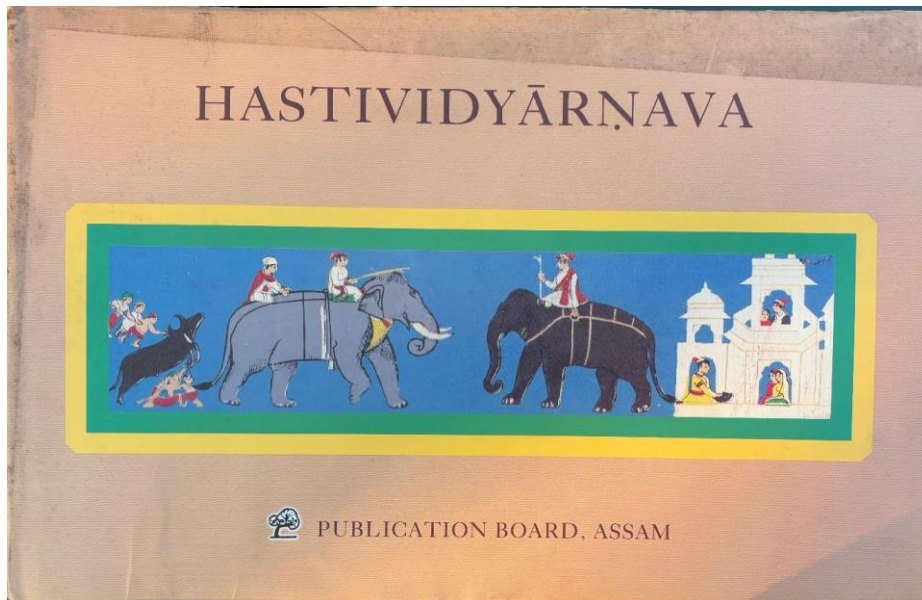


Figure. 1 Hastidyarnava book by Publication Board, Assam

2.3 Characteristics of Kaitheli style

Kaitheli style has their uniqueness in writing the letters with ornamental and artistic pattern. The important characteristics found in this style are (a) the angles created in letters have sharp edges, (b) similar to the Garhgaya style in many cases one of the two line of a letter at their intersection point has extended stretch goes beyond usual character size, (c) it also follows a similar tendency as that of Bamuniya where letters to words follow a continuous line without break and (d) in many writings a straight line was drawn in one stretch from start to end margin with an ornamental curl at the right end.

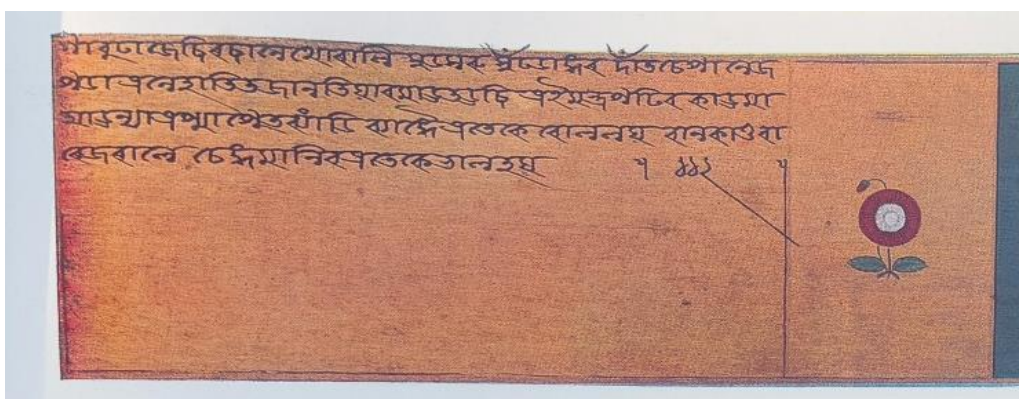


Figure. 2 Original writing style of the Hastividya Book



Figure. 3 Ornamental style of image and script of the Hastividya Book

3. Aim and Objectives

3.1 Aim: An experiment on designing an ornamental display font taking inspiration from Kaithali script style of Assam found in the historical articles.

3.2 Objectives:

- a. Study and analyze ornamental characteristics of Kaithali script of ancient Assamese writing style
- b. Extract the uniqueness of Kaithali script and apply on English alphabets
- c. Refinement and feasibility testing of ornamental display of the new font
- d. Application and testing for contemporary use

4. Methodology

4.1 Analysis of all three ancient Assamese scripts and derive their characteristics

The Kaitheli, Bamuniya, and Gargaya scripts are all important historical scripts used in Assam and the broader northeastern region of India. Each of these scripts has unique features and cultural significance, and together they provide insight into the evolution of written language in Assam. Let's explore each of these scripts:

Kaitheli Script: The Kaitheli script is believed to have originated from the Brahmi script around the 7th century CE. It was primarily used in administrative and legal documents during the medieval period in Assam. The script features rounded shapes and is generally cursive, meaning the characters are connected. This makes it suited for faster writing, which was beneficial for administrative use. The script is simple and efficient, with letters flowing into one another. It lacks complex diacritical marks, focusing on ease of writing and legibility. Kaitheli has angular strokes for consonants but more curved forms for vowels. Used in legal documents and records, especially during the reign of the Ahom kings. Kaitheli holds historical importance for its use in governance and record-keeping. It

was primarily a practical script, facilitating the smooth administration of the Ahom kingdom.

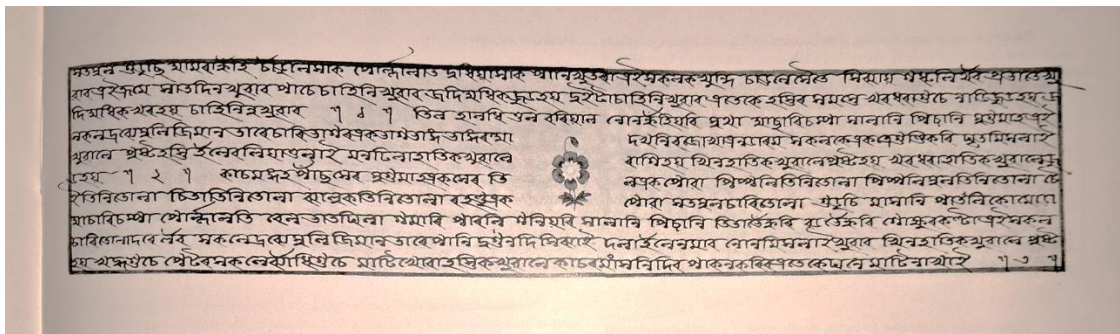


Figure. 4 Kaitheli style of writing from Hastividya book

Bamuniya Script: The Bamuniya script, also referred to as the "Bamuniya Lipi," is an ancient script used predominantly in Assam, particularly in the region of the Brahmaputra Valley. It was in use between the 14th and 18th centuries. This script is characterized by its distinctive, somewhat angular strokes, but also contains many rounded features. It has a unique blend of geometric and flowing lines, making it visually distinct. Bamuniya has both rounded and straight strokes, giving it a more varied appearance than some other regional scripts. It was used for various purposes, including inscriptions and manuscripts. The script features many ligatures (combined characters) and flourishes. The Bamuniya script represents a transitional phase in the development of written Assamese. It is often associated with early Assamese literature and religious texts, reflecting the cultural diversity of the region.



Figure. 5 Original image of Bamuniya style of writing from medieval period of time

Gargaya Script: The Gargaya script, also known as the "Gargaya Lipi," is one of the lesser-known scripts of Assam, used primarily by the Gargaya community. It is thought to have evolved during the medieval period and is associated with the religious and cultural practices of Assamese society. The script is visually similar to other Brahmi-derived scripts but is noted for its distinct features, including sharp angles and intricate flourishes. The Gargaya script has ornate and geometric letters, with an emphasis on intricate line work. It includes complex character shapes and ligatures, adding a decorative aspect to the writing. Its characters are often tall and slender, creating a vertical aesthetic in written form. The Gargaya script is important for its use in religious and cultural contexts, often

associated with the Vaishnavite tradition in Assam. It is a key script in understanding the region's spiritual and social history.

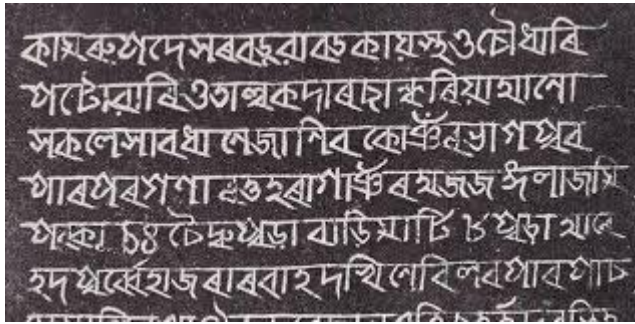


Figure. 6 Original image of Garhgaya style of writing

4.2 Analysis of the Kaitheli script for its unique ornamental characters

The Kaitheli script, one of the historical scripts used in Assam, is notable for its unique ornamental characters and distinct visual appeal. Originating from the Brahmi script and evolving around the 7th century CE, Kaitheli was widely used for administrative, legal, and formal purposes during the medieval period. While its functionality for documentation is paramount, the script also features ornamental characteristics that set it apart from other historical scripts of the region.

Unique Ornamental Features of Kaitheli Script

Curved and Fluid Strokes: Kaitheli is known for its rounded, fluid strokes. The letters in this script are often connected in a cursive manner, creating an overall flowing appearance. Unlike rigid and angular scripts, Kaitheli's rounded characters lend a soft and graceful look, which is especially evident in the vertical strokes and curvatures of consonants and vowels. The smooth transitions between letters make the script visually distinct and aesthetically pleasing.

Elongation and Flourishes: One of the script's ornamental qualities is the elongation of certain strokes and the addition of flourishes at the ends of characters. These flourishes, though subtle, add an elegant touch to the script. For instance, vertical strokes might be extended, or certain letters might have circular accents, which emphasize the ornamental nature of Kaitheli. These embellishments are not merely decorative but also contribute to the fluid nature of the writing, enabling faster and more efficient cursive writing for administrative work.

Ligatures: Kaitheli characters often combine to form ligatures—joined characters that are crafted to ensure ease of writing. This characteristic is not uncommon in scripts like Kaithi, from which Kaitheli is derived, but the ligatures in Kaitheli are uniquely structured.

The seamless connection between characters allows the script to maintain its ornamental appeal while ensuring legibility. The fluidity created by these ligatures contributes to its aesthetic appeal, making the script not only functional but artistically distinct.

Minimal Diacritical Marks: Another distinctive feature of the Kaitheli script is its minimal use of diacritical marks. Unlike other scripts that may incorporate extensive marks to modify sounds, Kaitheli keeps its characters clean and simple, which emphasizes its decorative qualities. The simplicity in marks contrasts with the script's ornamental character forms, making the visual experience both accessible and refined.

Balanced Proportions: The letters in Kaitheli script are often proportionally balanced, with clear distinctions between the height and width of the strokes. These balanced proportions contribute to the legibility of the script, while its overall form remains elegant and ornamental. The consistent flow of the lines and the deliberate spacing between characters make Kaitheli both easy to read and aesthetically striking.

4.3 Derive and extract the unique characteristics of the script for application

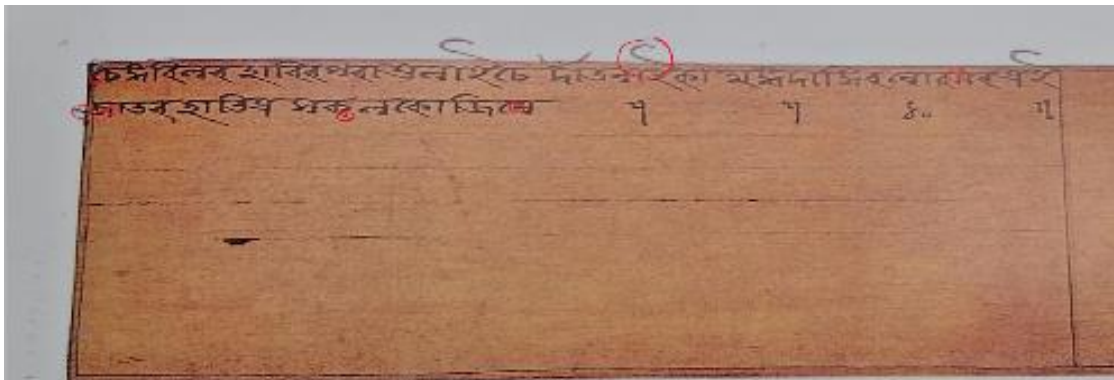


Figure. 7 (a)

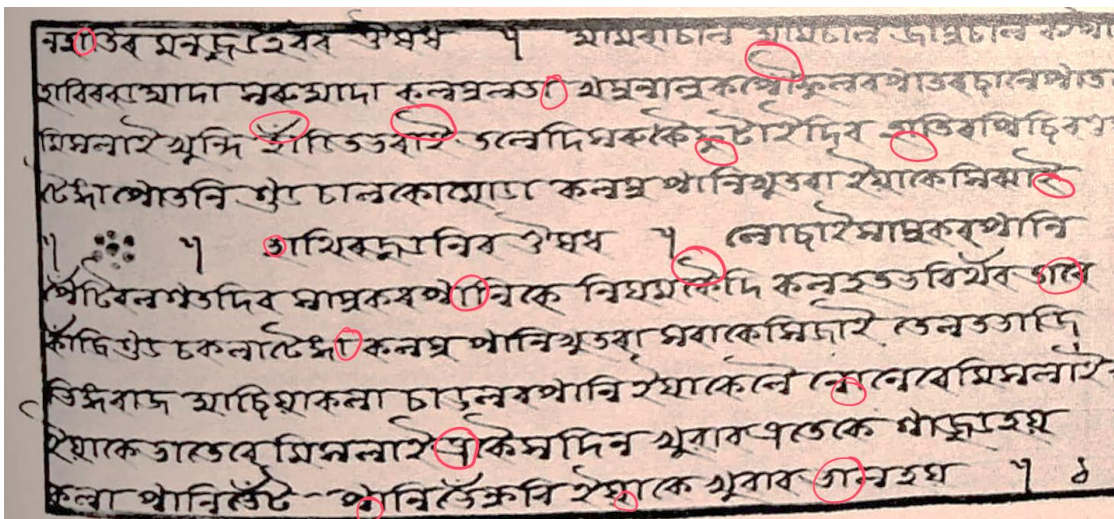


Figure. 7 (b)

Figure.7 (a) and (b) shows analyzing and extracting the uniqueness of the Kaitheli script for application. The unique characteristics were shown with red circles.

4.4 Application of the characteristics on English alphabets for visibility and readability testing

Exploration 1: Creating the English alphabets using the unique characteristics of the script

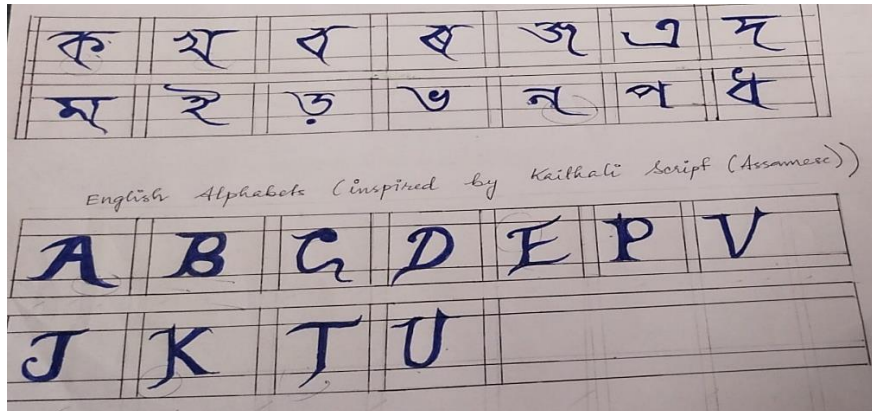


Figure. 8 Character drawn with the help of the ascenders and descenders

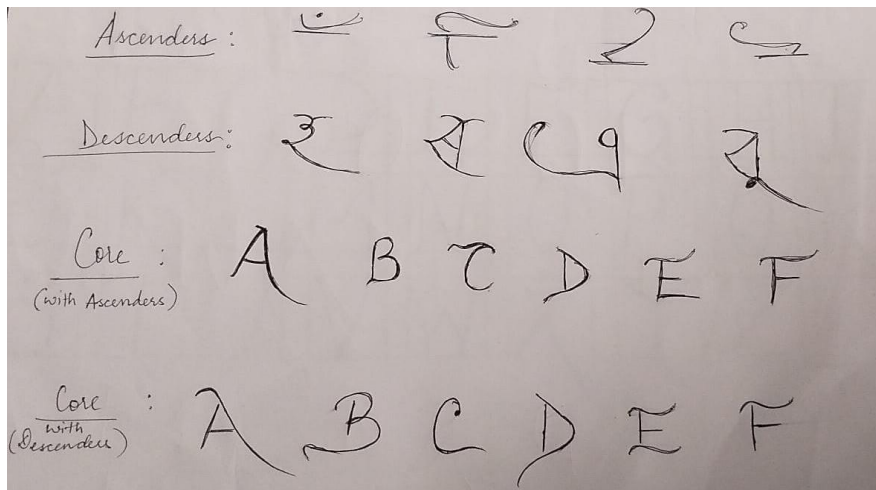


Figure. 9 Rough making of the font using the unique characteristics

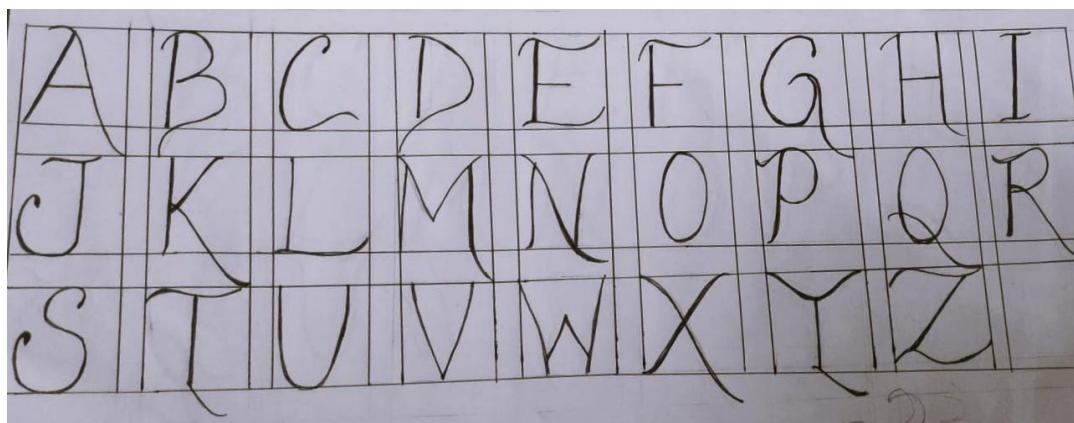


Figure. 10 Creating uppercase characters

4.5 Refinement and modification for font processing

Refinement and modification of the characters by hand drawing on the graph paper with guidelines.

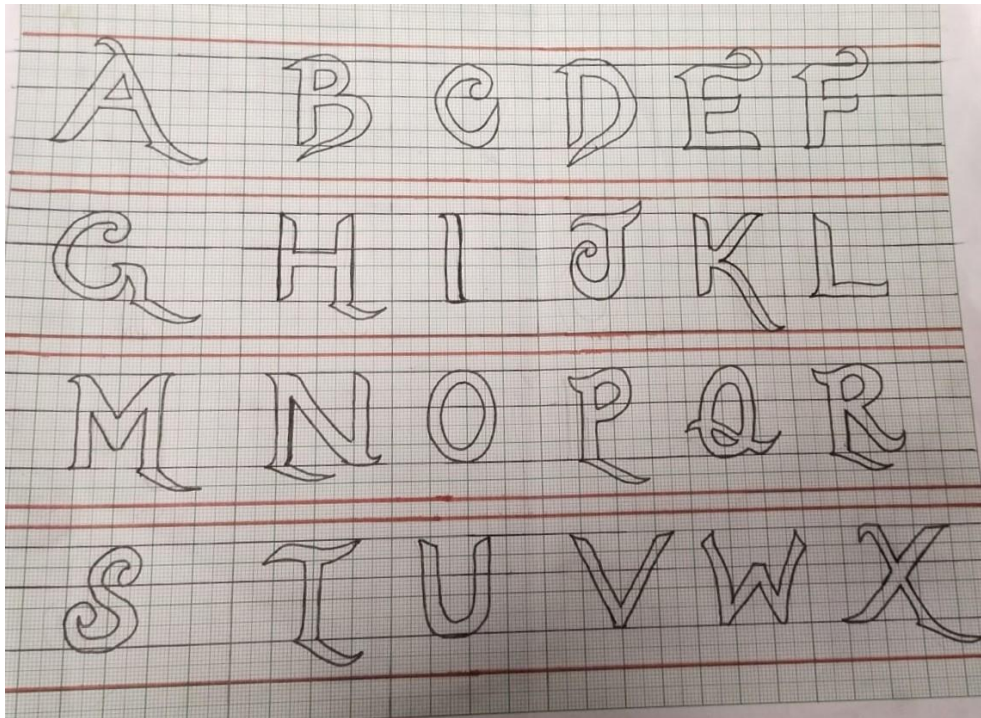


Figure. 11 Upper cases in the graph paper for proper measurement

4.6 Digitization for font processing and refinement

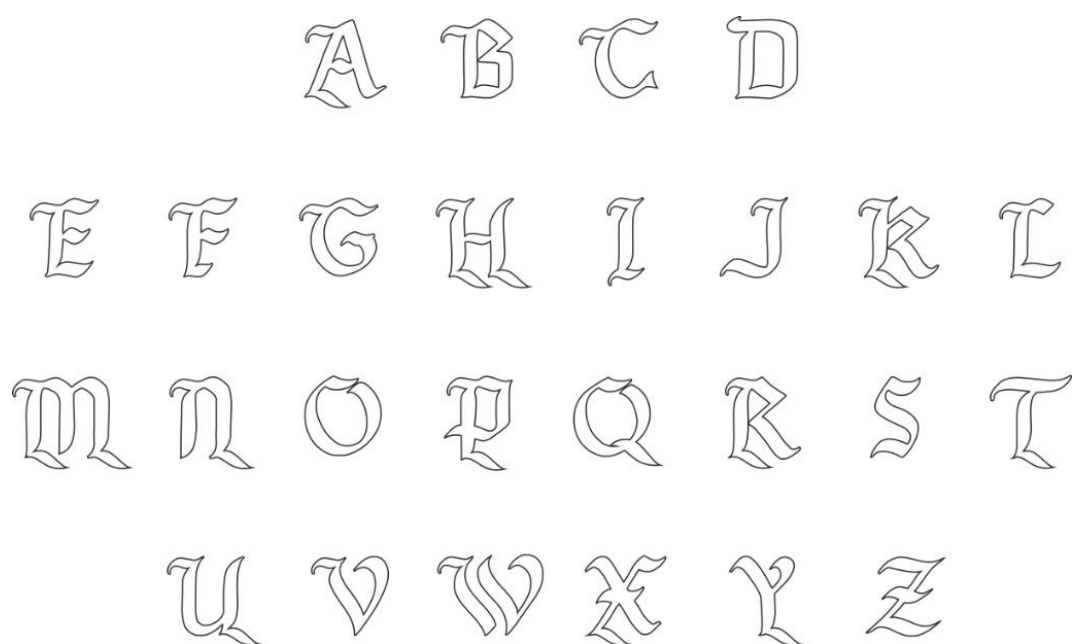


Figure. 12 Digitization of the upper case after refinement

4.7 Converting the letter styles into an ornamental display font



Figure.13 True Type font development

4.8 Testing and Analysis for practical application



Figure. 14 Testing of the font in Upper case

The name of the new typeface designed based on the ancient Kaitheli script has been kept as “Kaitheli-English”. Only uppercase characters have been designed to experiment with modern day use.

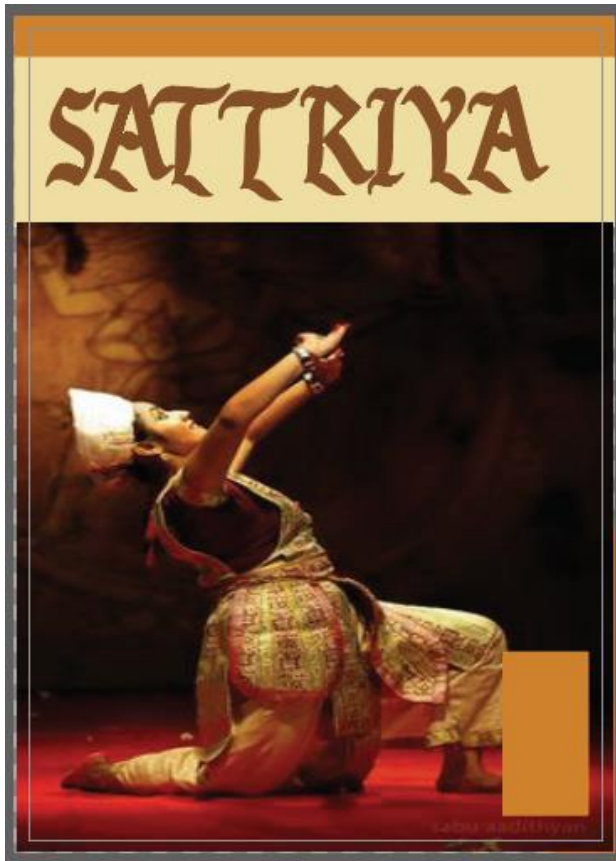


Figure.15 Implementation of the font on a book cover for Sattriya



Figure.16 Implementation of the font on a poster for Bhorali Naamghor, Assam

4.9 User Survey, Review and Feedback

A brief user survey was conducted based on few key factors such as

- a. Aesthetic appeal
- b. Cultural context

- c. Legacy of the Kaithali script
- d. Readability
- e. Acceptability

Based on the survey result it shows that the font can be used in many creative cultural content such as showcasing it on the newspaper headlines and magazines. It can also be used to promote the cultural events in the Assamese society. The users from various group of people gave very affirmative feedback.

7. Conclusion

Reimagining the ancient Assamese Kaitheli script into Kaitheli-English script for contemporary use involves transforming its rich ornamental heritage into a modern, functional font system while retaining its cultural essence. The Kaitheli script, with its flowing, cursive strokes and ornamental flourishes, presents a challenge when adapted to the digital world, especially for English alphabets. To achieve this, the script's fluid, connected characters can be adapted into corresponding English letters, where each letter is designed to maintain the same elegant curves and flourishes characteristic of Kaitheli. For example, the "A" can mirror the rounded structure of the Assamese equivalent, while "B" and other consonants can incorporate the distinct elongation and flourishes at the ends of strokes. Additionally, the unique ligatures found in Kaitheli—where letters flow into each other—can be reinterpreted for English letter combinations, offering a more fluid reading experience. Diacritical marks can be minimized to preserve simplicity, keeping the letters readable in digital contexts. This process not only bridges the gap between traditional Assamese heritage and modern digital usage but also highlights the adaptability of ornamental scripts. The reimagined Kaitheli-English font can be used for modern branding, cultural preservation, and digital communication, ensuring the script remains relevant today.

Acknowledgement

During the writing of this article, the AI tool ChatGPT was used to improve the language quality and correcting grammatical errors only.

References

Gogoi.S (1976) Hastividya. Publication Board, Assam, India.

Exploring historical letterforms to design unique Assamese typeface for digital devices:
Experimenting possibilities.

<https://www.typoday.in/2=019/spk_papers/abhijit_padun_typoday_2019.pdf> [Accessed on Dec 29, 2024]

Assamese Alphabets.

<https://en.wikipedia.org/wiki/Assamese_alphabet#:~:text=In%20the%2018th%20and%2019th,was%20the%20most%20popular%2C%20> [Accessed on Jan 17, 2025]

Ancient Assamese Scripts.

<https://upload.wikimedia.org/wikipedia/commons/c/cf/%E0%A6%85%E0%A6%B8%E0%A6%AE%E0%A7%80%E0%A6%AF%E0%A6%BC%E0%A6%BE_%E0%A6%AA%E0%A7%8D%E0%A7%B0%E0%A6%BE%E0%A6%9A%E0%A7%80%E0%A6%A8_%E0%A6%B2%E0%A6%BF%E0%A6%AA%E0%A6%BF.pdf>

[Accessed on Feb 03 2025]