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THE STUDY OF THAI DIGITAL TYPOGRAPHY

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Abstract

Although it is highly disputed among typographers that the existence of public domain is considered a disadvantage for graphic designers to pursue basic skills to generate work (Cole, 2005; Austin, 2002; Supanun, 2015). Moreover, it is also disconnecting the culture and history reflecting within the Thai typography design itself (Supanun, 2015). Nonetheless, this paper is proposing www.f0nt.com/ (2018), the first typographic public domain website (Iannnnn, 2007), as case study of the most important achieve for Thai digital contemporary typographic history, development and progress.

The research analyzed and classified all typefaces available on the website using method of Wilks and Wyse (2017) with additional context of Thai typography design and usage. The result shows 430 existing typefaces being designed during the past 14 years (2004-2018) with 134,249,910 downloads in total. The highest produced font is script font with 222 fonts available, following by ornamented/novelty and display with 63 and 53 fonts, respectively. The

research result shows the development with basic design application being zero at the starting of the website in 2004 has increased to 100 percent in present year. Which has proven that the public domain is not always the disadvantage for producing quality graphics work.

Keywords

Thai Typography, Contemporary Thai Typography, Thai Typeface Classification, Thai Typography Design

1. Introduction

Debner, Stewart and Zembol (2014) defined typography as ‘the visual manifestation of language, utilising all its expressive and practical qualities, and occupies a unique place where art, science, and communication connections.

In the digital era, typography has taken on a new role as a major part of User Interface design (UI) (Kahn, 1998) whilst still maintaining its functionality. In which a typographic message, aside from an intrinsic beauty, must convey a meaning. Meaning and its expression are at the core of typographic activity (Debner, Stewart and Zembol, 2014).

To explore Thai typography, the first record was in Sukhothai period in form of stone inscriptions. It was used for a religious, educational and political purpose, explaining the country’s success. Through imported technology, the printing press has been under the western influence for the first time. Thai letters have been modified in order to support the western mass production and used alongside the English language for the first time. In the late 90s, the Thai language has been influenced by Japanese culture (Teeraphon, Berry and Akama, 2012). This illustrated that Thai graphic design has been influenced by the foreign till present with high cultural hybridity.

In the present, application programs are available to the public and it provides the ability for people to start using layout and symbolic characters on a page. Which initially these

programs have fixed shape and positioning for each glyph. Despite Thai language being used by almost 100 per cent of its population (Koanatakool, 2009), the implication of the national language has not been widely applied to the digital contemporary typographic design and used to its full-potential. All though it is highly disputed among academics that having a public domain website is considered a disadvantage for graphic designers to pursue basic skills to generate work (Cole, 2005; Austin, 2002; Supanun, 2015). Moreover, it is disconnecting the culture and history reflecting within the Thai Typography design (Supanun, 2015).

Nonetheless, this paper is proposing www.f0nt.com/ (2018), the first public domain typographic website (Iannnnn, 2007), as case study of the most important achieve for Thai digital contemporary typographic history, development and progress. This results in the characteristic forecasts of the most demanded font among public domain users. The principle objectives of the study were as follows.

- To discover the Thai contemporary typography existing from the establishment of the website in 2004- 2018.
- To analysed and classified using font distinction method of Wilks and Wyse (2017), as well as justifying the numbers of typefaces with the basic font anatomy design through x-height (baseline) in design application;
- Determined the popularity with the number of downloads;
- Predict future trends of the industry which would obtain the most demand among Internet users visiting www.f0nt.com/ website. In order to help graphic designers, achieve current most demanding font design.

2. Literature Review

Using several search strategies and methods, the literature involving Thai digital contemporary is very limited. Some major literature refers to typographic history as in graphic design (Teeraphog, Berry and Akama, 2012) and the influence of digital technology on modern Thai typography in Supanun (2015). As in technical digital typographic design, the Thai

language has a digital standardization and implementation made available by Karoonboonnam (1995). However, none has referred to Thai digital contemporary font classification.

2.1 Classification & Sub-Division Classification of Wilks and Wyse (2018, p. 9-113)

This research would use typeface distinction of Wilks and Wyse (2017), diving broadly into the following five main classifications: Serif, Sans Serif, Display, Ornamented/Novelty and Script. Wills and Wyse (2017, p. 6-9) stated that there are a countless sub-division which have evolved over the centuries and give rise to a plethora of alternative names. The major category is based on its history and salient features will be analyzed along with its purpose and use.

Even if the two languages have different origins, its functionality and visual characteristic can still be classified. This will be clarified further in research methodology.

2.1.1 Serif Category

Sub-divisions of Serif category is as follows:

- **Inscribed:** This font mimics the hand-carved letters. It has tilting capitals, narrow character sets, very noticeable in some glyphic.
- **Old Style:** Elegant. The normal width with pronounced bracketed serifs. Fonts in the same classification: Garamond, Baskerville, Bembo, Caslon, Goudy, Mrs Eaves, Sabon
- **Modern/Didone:** Classic/modern serif distinguished by fine hairlines contrasted with bold main strokes, and is elegant and flexible. It is considered highly distinguished and legible Fonts in the same classification: Walbaum, Bodoni, Didot.
- **Humanist serif:** based on script style of Italian humanist thinkers of the 15th century (art nouveau). This font has a sloping crossbar on the letter e, and distinctively low median letter height, it is highly legible e.g. Verona, Windsor
- **Slab Serif:** a category characterised by serifs that are similar in weight to the character stroke, where there is little or no contrast in the stroke width. Fonts in the same classification: Ionic No 5, Clarendon

- **Roman Incribed:** typeface based on inscription which inspired by the classical letterforms. Elements of the typeface were modified for printing on paper; there are stronger serifs than in the original, and the stem and bowl weights have been adjusted. Fonts in the same classification: Trajan, Goudy Trajan
- **Transitional:** acquiring quality of stone-cut lettering as well as old-style features, typified by font such as Baskerville. With its monumental, lapidary influences, it is seen as elegant, distinguished and authoritative. It is used in a campaign for a politician and universities. Fonts in the same classification: Perpetual, Baskerville, Times New Roman
- **Contemporary Serif:** Inspired by the classic 18th-century Baskerville font, overall heaviness of the stroke weight gives the typeface the slightly archaic appearance of capricious letterpress printing, even when it is digitally reproduced. It has serifs face, distinguished by its opens, wide proportions, low x-high and elegant legibility flourishes, stressing on the openness and lightness. It is use in the first generation of Apple Macintosh computers.
Fonts in the same classification: Mrs Eaves, Baskerville, Caslon, Garamond
- **Geometric Slab:** The font is consistent stroke width and heavy serifs mean that it is not suitable for continuous text, but conversely it is ideally suited for advertising, logo and headlines. It is an expressive typography balanced with high quality illustrations. Fonts in the same classification: American typewriter, Clavert, Clarendon, Rockwell

2.1.2 Display Category

- **Stencil:** these typefaces were inspired by functional stencil, that is to say, cut-out letterforms on a thin sheet or plastic, wood or metal, that were painted over inked to produce a letter on the underlying surface. This is a clear, legible label on packing crates and containers
Fonts in the same classification: Stencil, Fightcase, Tea chest
- **Tuscan:** a style of ornamented lettering release in the early 19th century, which was characterised by extended and curled points to the serifs, which were sometimes

exuberantly decorative. This is a regular blocky and three-dimensional uppercase font with playful ornamentation. Font such as Rosewood has a bi-colour font used for ‘chromatic’ printing. It is visually associated with the American Wild West - and gun-slingers, cowboy hats, pony express and travelling circus. Another similar font is Zebrawood.

2.1.3 Sans Serif Category

- **Gothic Sans:** Gothic is an archaic term, used primarily in North America and the United Kingdom, meaning sans serif. This font is characterised by compact character set, shallow descenders, and distinctive Q, with the tail located outside the bowl. Organic shapes and understand transitions in stroke widths all mitigate the clean severity of the font, making it more inviting and legible. Font such as News Gothic was used widely as a headline font in several leading newspapers during the first half of the 20th century.

Similar fonts in this classification includes: News Gothic, Bell
Cenennial, Franklin Gothic

- **Square Gothic:** This distinctive square sans serif typeface reflects the interest in the geometric form. It has a small rectilinear capital and is used in science fiction, video games.

Similar fonts in this classification include: Bank Gothic, Eurostile, etc.

- **Neo Grotesque Sans:** This typeface aimed to move away from the decorative and elaborate design of the past. The typeface remains legible when in motion, and therefore popular for signage and airline logos.

Fonts in the same classification: Helvetica, Akazidenz, Grotesk, Arial, Univers

- **Humanist Sans:** Known as typeface of London underground, Johnson, is the visual ‘brand’ of the UK’s capital. It’s med away from Edwardian age, distinguished by its perfectly circular o, and the distinctive diamond-shaped dot on the letter j and i.

Fonts in the same classification: Frutiger, Futura, Gill Sans, Verdana

- **Geometric Sans:** This modernist typeface shares the same characteristic as those release around the same era utilising the geometric forms. With well-known font such as Kabel,

Futura and Berthed Grotesque. It's influenced by Bauhaus design movement and Art Deco to calligraphy, Carolingian script, and etc. Varied stroke weights, tilted e and angled terminals, which create a slightly irregular baseline and give the animated feeling to the quality.

Fonts in the same classification: Berhold Grotesque, Erbar, Futura

2.1.4 Script Category

- **Casual Script:** a font which imitated the style of hand-lettered comics. It is unashamedly irreverent and unsophisticated. However, it is aimed at children and some users enjoy the optimistic informality of it.

Fonts in the same classification: Comic Sans, Balloon, Berranger, Kinescope

- **Handwriting:** a font that mimics the quiriness and imperfection of normal handwriting, rather than the more formal elegiac of calligraphy. Handwriting fonts can range from elegant cursive letters to messy block capitals i.e. Yancy's Hand, Annie's Hand, Larry's Hand
- **Blackletter:** based on early manuscript lettering was first used in the Gutenberg Bible. It is so-called because of the broken curves that define many of the elements of the antique-style typefaces that were evolving in Renaissance Italy, based on Roman lettering. It has extra fine junctures contrast with broad calligraphic strokes.
It is used among the post-war suppression of the typeface with its Nazi connotations, has given it sub-cultural credential, and it is popular amongst Goths and fans of heavy metal.
Fonts in the same classification: Goudy Text, Old English
- **Calligraphic:** the ultimate elegant calligraphic font is based on the great-lettered manuscripts of the medieval and Renaissance eras. It is adaptable to old Thai hand lettering
- **French Roundhand:** This hand-drew typeface inspired from calligraphy that created using a steel-point pen, creating 'baroque' capital which added another layer of elaboration and sophistication. There is a very marked stroke contrast on the ornate of the characters. Each

lower case character is designed to link with the next. The ornate beauty of this typeface makes it ideal for special occasions - invitations, engraved inscriptions, mementoes and memorials.

Fonts in the same classification: Edwardian Script, Bickham Script (English Roundhand)

2.1.5 Ornamented/Novelty Category

- **Distressed:** the overall appearance of fonts is that they are handmade, not so impeccable, exhibiting irregularities, signs of ‘ageing’ and inconsistencies. They often imitate the effect of brushstrokes or pencil lines or mimic the effect of type on an organic texture, such as stone, canvas or parchment. Though computer program can mimic the characteristic, it is still best when hand-drawn. This category evokes feeling such as fear, suspense, or laughter, or to conjure up other era or worlds.
- **Dot Matrix:** Influenced by the electronic data signage, a dot matrix is a two-dimensional pattern, which is used to represent words, symbols and images. It is used in every type of modern technology, including mobile phones, televisions and printers.

Fonts in the same classification: Dot Matrix, Screen Matrix,

- **Decoration or ‘letter of fancy’**, were generally used for the page design of books, ornamenting title pages, chapter headings and frontispieces e.g. Union Pearl, Fry’s Ornamented
- **Futuristic:** Inspired by Liquid Crystal Display and LED screens, fonts in this category are distinguished by their segmented construction, where the letters are made up of lines or dots, with visible white space in between. They are used to inject a sense of technological sophistication and modernity into graphic design e.g. Quartz, LCD.
- **Machine Readable:** Optical character recognition is a system for capturing the image of printed information and numbers and converting them into electronic data. With its techno-futuristic appearance and quirky upper case characters - particularly the distinctive diamond-shaped letter o. It is seen on barcodes, government-issued ID cards and passports. Fonts in this classification include OCR-A and OCR-B

Some additional categories and sub-divisions have been added as some typeface have a very unique characteristic e.g. encrypted, brail and other fonts inspired by other countries around Asia.

2.2 Baseline application

The important attributes of typography are optically adjusted proportions, expressive design properties, and maximum legibility and readability. It is important to mark letterforms with graphic clarity and precision is a matter of design. Letterforms and their parts are drawn on imaginary guidelines to bring uniformity to typography. All characters align optically at the x-height, and the tops of capitals align optically along the capline (Cater, Meggs, Day, Maxa, and Sanders, 2015).

Following by x-height/baseline some ascenders (i.e. ป, ฟ, ฝ) and descenders (i.e. ฤ, ฦ) extend below the baseline. In Thai contemporary typography design, the most basic design application would consider as the font alignment on baseline.

Nonetheless, in the twenty first century people started reduced look as received foreign influence in graphic design (Teerapong, Berry and Akuma, 2012). This kind of typeface is comparable to san serif in Latin-based alphabets whilst the one with loop is considered serif.

3. Methodology

In discovering the literature related to Thai typography, literature in various online databased have been reviewed such as Thailand Citation Index (TCI), Chulalongkorn University online research database, to international conference proceedings.

As for primary data, the existing Thai digital contemporary typefaces, the author have visited all the 431 individually. For each typeface, all data will be collected and analyzed using typeface classification and distinction of Wilks and Wyse (2017). In which the analysis will be based mainly on functionality, usage and visual similarity.

For instance, traditionalists strongly believe that Latin sans-serif typefaces are more legible than serif faces, whilst Thai language has a similarity in the 'loop' of an alphabet. The

'loop' is considered a distinctive character of Thai and reflects the tradition (Supanun, 2015, p.6) and without it has less legibility. In terms of usage, it can be determined whether the character is visually suitable for short or long passage, in which early digital typography era, Kahn (1998) has classified the use of type into isolation and in volume. Whilst for font anatomy, the font must achieve the x-height to the very least. It is acceptable that some letters with ascenders/descenders might be raised above or below the baseline/x-height, it is considered a rhythmic contrast (Kahn, 1998).

The overall statistic will be compared and analyzed and concluded in research result.

3.1 Inclusion and exclusion criteria are as followings:

- This data collection is limited to Thai fonts only. Fonts of other languages are excluded from this research.
- Thai professional/amateur typographers on www.f0nt.com/ have attempted to create the font with certain inspirations. Nonetheless, it is often to be illustrated differently e.g. a font which the creator thought as calligraphic may looked and categorized as a distressed typeface. Therefore, these fonts will be determined based on its overall visual representation, not the background information given by the designers.
- Other design practice including the character frame, word spacing, line spacing and margin space will not be included in the design principle but limited to the baseline only.
- This paper does not determine if the font is a good font or bad, though good typography or whether it can maintain legibility and readability of text by balancing the variables - space, size and colour (Kahn, 1998).
- It is noted that these numbers are comparable yearly as these number of download are the record since the website established.

4. Results

This section presents primary data which is collected chronically from the establishment of www.f0nt.com (2018) during the past 14 years (2004-2018). Please note that the major

limitation of this research is the number of downloads which determined the popularity is not recorded annually i.e. the number you see in the primary data is the number of downloads from 2007-2018. Therefore, the data will be presented starting with the overall information following by data being presented annually.

4.1 Overall data of Thai digital contemporary font (2004-2018)

In this section, the categorization statistics illustrates the fonts' categories and its overall statistic, sub-divisions, download statistic, and baseline application. Following by all sum up the primary data and analyzed for the future typographic demand.

This public domain website archived up to 430 free fonts up to the date of research. In which, the majority font is a script font, following by Ornamented/Novelty fonts and Display, respectively.

Table 1: *Illustrates the Classification of Thai Contemporary typography www.f0nt.com (2018) from 2004 to 2018*

Number	Font Classification	Number of Fonts Produced
1	Serif	46
2	Sans Serif	44
3	Display	53
4	Script	222
5	Ornamented/Novelty	61
6	Others	4
	Total	430

4.2 Overall statistical analysis (2007-2018)

According to the statistic, the website has 134,249,910 downloads in total. The highest downloads, as well as font production is year 2005, with 32,285,382 downloads. It is following

by 2006 and 2007 with 29,581,471 and 13,289,047 times, respectively.

Table 2: Illustrates the download statistic of Thai contemporary typography on www.font.com (2018) from 2004 to 2018

Year/ (Number of font produced)	Total	Maximum	Minimum	Mean	Baseline Application
2004 (31 Fonts)	2,775,816	365,153	42,379	89,542	Applied 0 Unapplied 31
2005 (124 Fonts)	32,285,382	2,149,415	41,602	260,365.98	Applied 20 Unapplied 104
2006 (38 Fonts)	13,289,047	906,631	72,779	349,711.76	Applied 11 Unapplied 27
2007 (51 Fonts)	29,581,471	2,106,813	129,813	616,280.66	Applied 28 Unapplied 23
2008 (23 Fonts)	6,921,920	1,109,582	112,678	314,632.72	Applied 10 Unapplied 13
2009 (15 Fonts)	7,228,304	1,059,309	131,745	481,886.93	Applied 13 Unapplied 2
2010 (7 Fonts)	3,799,343	1,138,210	92,004	542,763.28	Applied 5 Unapplied 2
2011 (10 Fonts)	4,879,114	966,754	109,366	487,911.4	Applied 5 Unapplied 5
2012 (15 Fonts)	5,096,598	765,124	95,718	339,773.2	Applied 14 Unapplied 1
2013 (24 Fonts)	10,561,381	1,522,492	64,859	440,057	Applied 22 Unapplied 2
2014 (22 Fonts)	5,967,533	703,114	23,635	271,251.5	Applied 20 Unapplied 2

2015 (19 Fonts)	6,265,437	771,373	35,093	329,761.73	Applied 19 Unapplied 0
2016 (20 Fonts)	2,951,990	317,381	53,430	196,799.33	Applied 19 Unapplied 1
2017 (18 Fonts)	2,067,621	633,581	25,624	137,841.4	Applied 16 Unapplied 2
Jan-June 2018 (13 Fonts)	578,953	187,835	2,954	52,632	Applied = 13 Unapplied = 0

The most popular font in website history is called *4711_AtNoon_BigHead*, created by designer named *AtNoon* in 2005. It has no basic design principle applied (no baseline/x-height). The second most downloaded is in script category and hand writing sub-category with 2,140,415 downloads. Whilst the second most download is TH Charmonman with 2,106,796 downloads. This font is a script font in calligraphic sub-category, with baseline applied. The third is Sans Serif, Neo-grotesque font *Quark* (2013) has 1,522,492 downloads with baseline applied. Whilst the least is a Thai Inscribed script font named *ปฏิมอกข์ (Patimokka)*, created in the 2018, with only 2,954 downloads.

The baseline application has increased throughout the 14 years' period, starting at none in 2004. Though with some fluctuation, the baseline application has been increase through years and has been applied 100% in 2018.

5. Conclusion

5.1 Conclusion

- The open-source website has archived 430 free Thai contemporary fonts with the overall download of 134,249,910 times over 14 years' period.
- The most downloaded font in website's history is a script font, therefore, it is highly

suggested that producing a script font has the highest chance of achieving high download volume;

- Nonetheless, in the most recent years, display font category has become the most popular font to produce among the typographers.
- According to the primary data, it is arguable that an open source website is not a considered a disadvantage to generate high quality graphics. As designers and non-designers are becoming aware of the design principles.

5.2 Scope of future research

- The future research includes further investigation in the development process of both amateur and professional designers which some successfully commercialized their products. The website itself not only the intermediaries between users and typographers, but also the creator of a strong community by holding workshops on typography design. This leads to the expansion of economy in the creative sector.
- According to the research result, by the beginning of 2018 all designers have successfully applied basic design to their work. However, the number of downloads is still nowhere near the most downloaded font which was without any design application. Therefore, it is important to research on the overall knowledge of Thai people in Thai typography in order to elevate improve the standardization of the citizen in this field.

5.3 Research limitation

- Retrospective studies make incomplete information. It was impossible to trace back the annual download, therefore the download figures cannot be compared directly.
- There are some minority of download statistic which cannot be retrieved. They have been excluded from the statistic but still being included in font classification section.

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