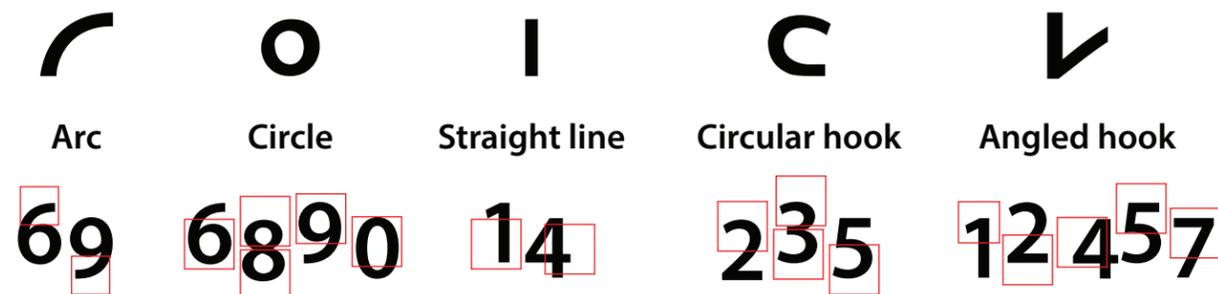


1. Modules of Hindu-Arabic numerals

Hindu-Arabic numerals could be broken down into five fundamental modules - Arc, circle, straight line, circular hook, angled hook. These modules were presented in different orientation, length and size in different numerals. The following character analysis is based on the typeface Myriad Pro.



2. Design rules of Hindu-Arabic numerals

A. Use of modules

All numerals should only be constituted of modules.

Each numeral should be a combination of two or less modules.

The modules should be connected vertically or as an extension of each other; they should not be connected horizontally.

Three consecutive numbers would constitute a set.

Within a set, the numbers should share the same orientation; and/or pertain to at least one of the modules from at least one of the member of the same set.

The modules could be used in terms of different length, orientation, size and angle, as long as it coheres with the aspect requirements.

B. Ratio specifications

The length-to-width ratio of the numerals should be as close to 8:5 as possible, with the exception of the character "1".

C. Visual standards of selected typeface

The tail of the arc, straight line, circular hook and angled hook should be a rectangular block.

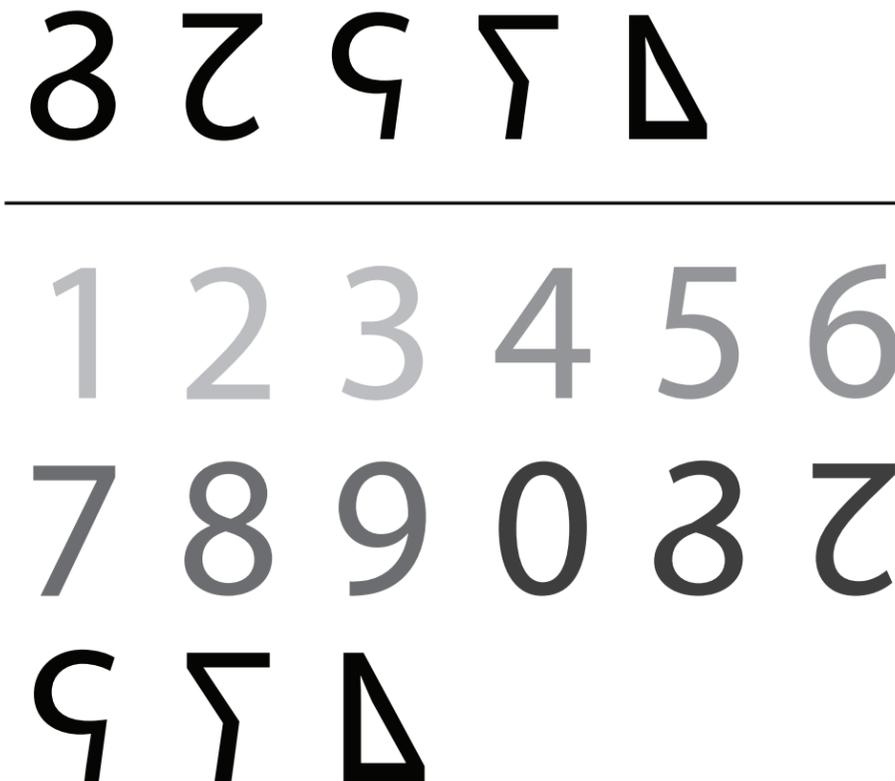
Each straight line should be the same in width throughout its body.

Each line forming an angled hook should be the same in width throughout its body, but the two lines need not be the same in width.

When used in connection with other modules, the width of each arc, circle and circular hook should increase at the arc and decrease at the junction of the two connected modules.

3. The extended numerals

Six numerals were designed as an extension to the Hindu-Arabic numeral system.



Apart from the design rules, there were several conceptual principles behind the design of the extended numerals. First, each numeral has to be distinctive. For the numerals to communicate different values clearly and efficiently, characters should not share a similar appearance. Second, each numeral should be constructed in a manner which facilitates ease-of-writing. This ensures the function of the numerals to translate across mediums.

As shown on the above graph, special attention were given to creating a coherent style among sets of numeral. This approach allows each numeral to be clearly distinctive yet consistent. The characters are also constructed simplistically such that the flow from stroke to stroke would be natural and smooth.

Yu Carina

Numeral system extension exercise

11th September, 2018

BOULDING'S CLASSIFICATION OF SYSTEMS

LEVELS OF SYSTEMS	CHARACTERISTICS	BOULDING'S EXAMPLE	MY EXAMPLE
Transcendental Systems	Unknown, complex	Unknowables	The system behind God's power
Social Organizations	Interactive relationship between people and their roles	The value system of human in a society	The employment system of a company: how management and HR cooperates
Human Beings	Self reflective, "knows that he knows"	Human: the system between a man's thoughts and behavior	Human: the system of how a man express his emotions in art
Animals	Increased mobility, teleological behavior, self-awareness	The homeostasis model: how living things regulate body temperature	The way a dog learns to do tricks due to the stimulus of food
Plants	Division of labour, mutually dependent faculties	The way a tree grows while its roots, leaves, seed serves different functions	The way the leaves of a mimosa plant folds up upon human touch
Cells	Open, self-maintaining, growing	The reproductive system of gene and virus	The reproductive system of red blood cell through self-division
Thermostats	Ability to transmiss information, adjust according to feedback	The homeostasis model: how living things regulate body temperature	Auto-pilot: adjust plane back on route sensors found it went off-route
Clockwork	Dynamic, predetermined, mechanical	The solar system	The mechanism of dish-washing machine
Frameworks	Static, formulative, organized knowledge	The anatomy of a gene	Pythagorean theorem

- Systems related to more complex level of life
- System related to life forms
- Systems related to knowledge or objects