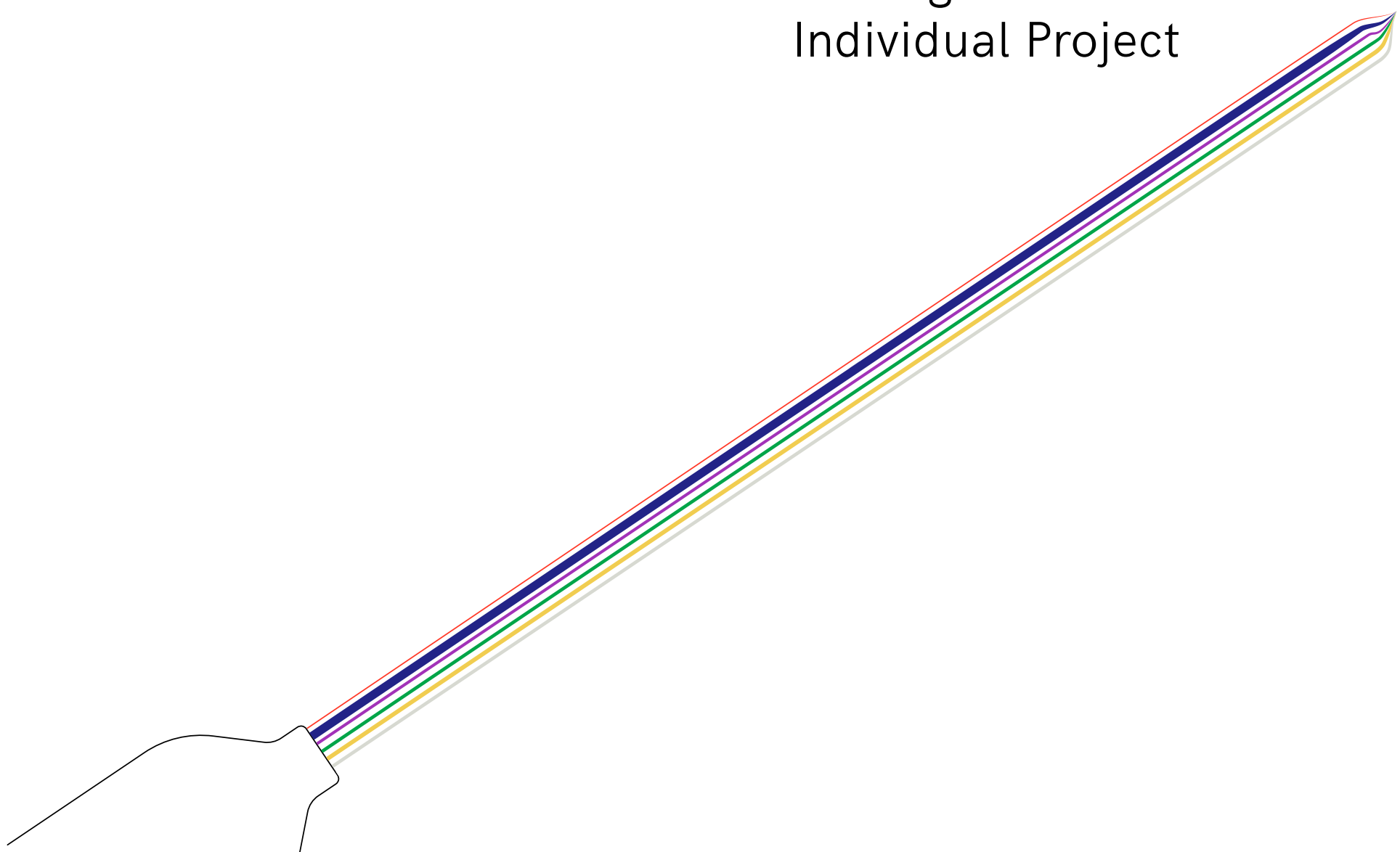


# TOOTH -PASTE

## Data Story

Li Tong

Individual Project



# Why Choose this Topic?

Serval weeks ago, I injured my foot toe, as walking on crutches is truly tiring, I spent most of my spare time in my dormitory, watching my roommates rushing in and out, preparing their day in hurry. **A day starts with brushing their teeth and also ends with that, too. They talk with others in that procedure and reflect their day, think and look at themselves in the mirror.** And I think, wow, everyone would brush their teeth everyday whatever their age, habit and occupation. Teeth are inside of their mouth, and why would people brush their teeth and how would they choose their toothpaste? As there seems to have limited kinds of toothpaste and people have preference for everything, how would they quickly find the best matching toothpaste?

## How I Get my Data?

My starting point is just the topic Toothpaste, I typed the word on Google, and acquiring multiple kinds of related information. Most of them are the official website of the toothpaste companies or some science websites introducing the key ingredients in it. What's most appealing are some on-line communities discussing on the topic. I read a post on ZHIHU, similar with the Quora, sharing opinions on a proposed question, one asked what would you do while brushing your teeth. Answers show that what people do during the process are quite similar, and surely strongly related with the aim of brushing their teeth, e.g. becoming more beautiful or making themselves feel more confident. People also actively recommending toothpaste to the others, mainly focusing on the unique tastes, effects and unfamiliar brands. However, the detailed toothpaste information cannot be acquired through the Internet, so I paid a visit to several supermarkets and took photos for every toothpaste I got. (shown in Fig.1)**The highlighted or enlarged words on the toothpaste enlightened me the potential answers to why would people brush their tooth,** as shown in Fig.2. In two days, I collect around 206 kinds of toothpaste, then deleted some niche products and left 167 popular toothpastes on market. A draft dataset is created, as shown in Fig.3, columns includes brand, package color, key ingredient, taste, function and key word.



Fig.1

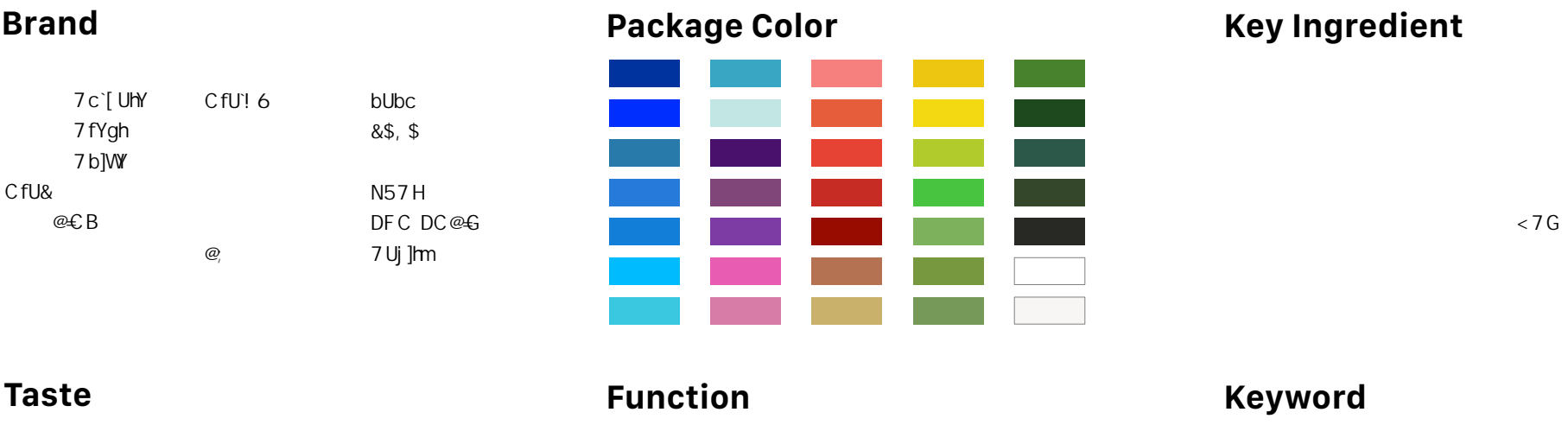


Fig.2

# OK, now time for some boring work

Filling in my dataset is really time-consuming, also boring, after all these hard work, I think I can conclude some guidelines for data arranging and analyzing. First, you should have a clear motivation, and only do what is necessary. In the process, we have to make multiple decisions just to filter and filter, and motivation would provide the answer. My motivation is getting the answer how people choose their toothpaste. When choosing their toothpaste, people are always attracted by the package color of the toothpaste, but actually what they cares are the functions of the toothpaste also the contents in it. So related data types are needed. Second, never wait till all the data is done, we should make some small attempts occasionally. I filled the columns of first 30 toothpastes and then reduce the number of the columns. As I work individually, I spent most of my time arranging the data I needed or can be further explored, the updated dataset is shown in Fig. 4. To make my work more efficient, I also get assistance from several programs (attached in the end) to collect color from the photos I took. Programs can help to taking out five to twenty or even more colors in the picture, I collect only the main colors of the package, mainly form one to four, which bring customers the first impression. Based on the key ingredients, tastes functions and the key words on the package, I categorized all the toothpastes into four groups, named 美白(Whiten & Beautify), 抗敏感(Anti Sensitive), 防蛀护龈(Anti Tooth-decay & Gum Protection) and 清新果萃(Fresh & Fruity).

TOOTHPASTE FEATURES							
Index	Brand	Package Img.	Package Color	Key Ingredient	Taste	Function	Keyword

Fig.3

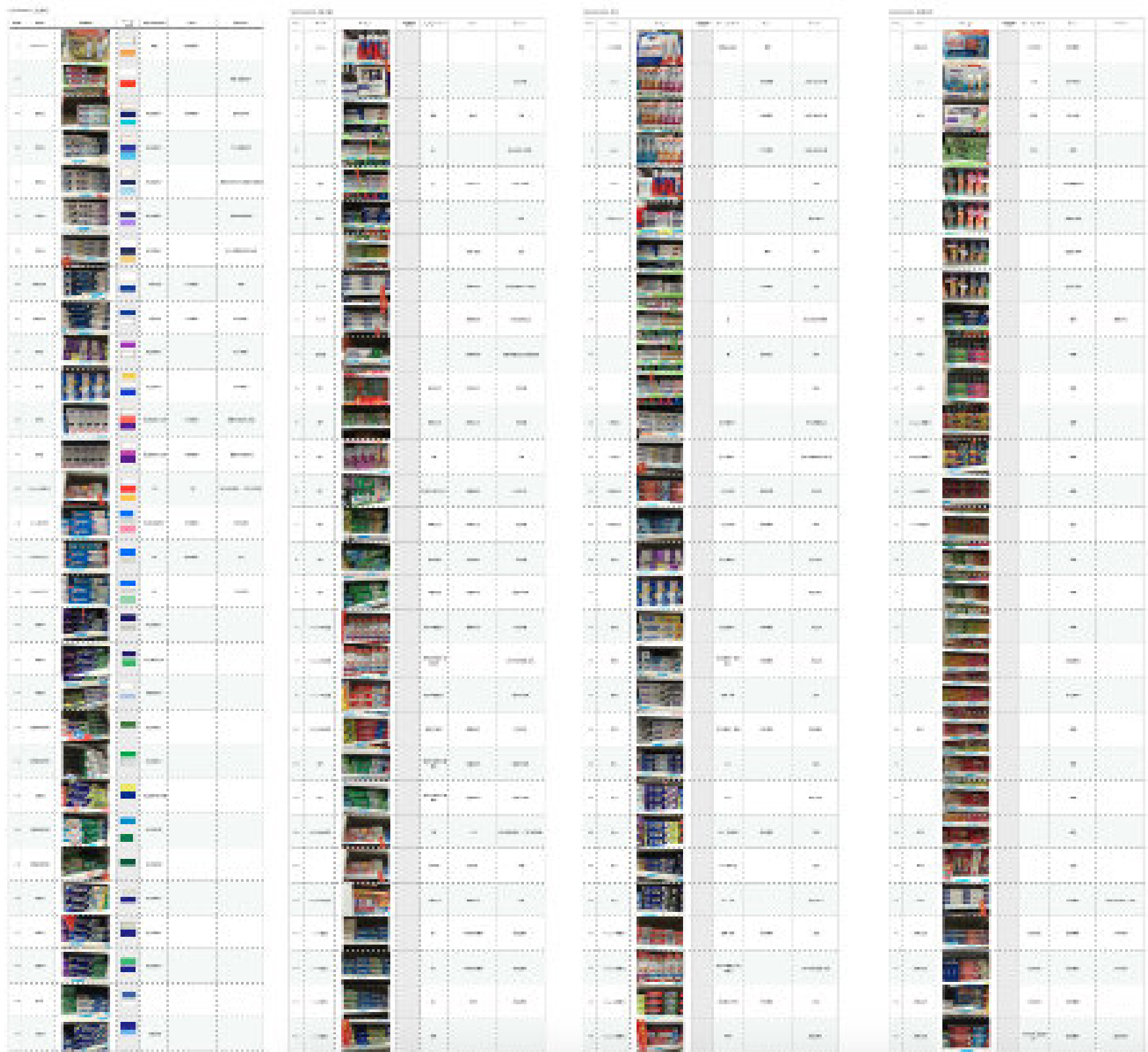
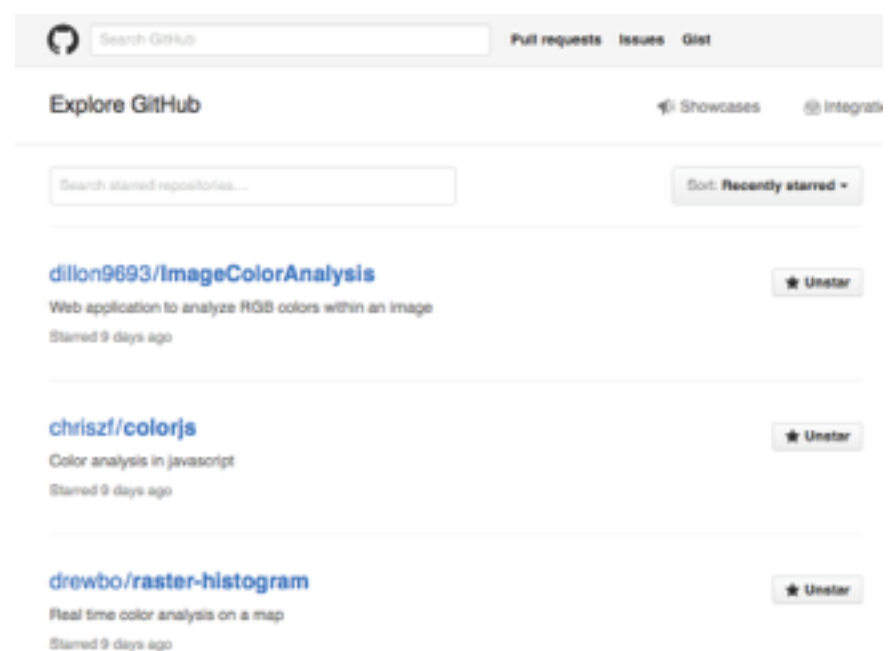
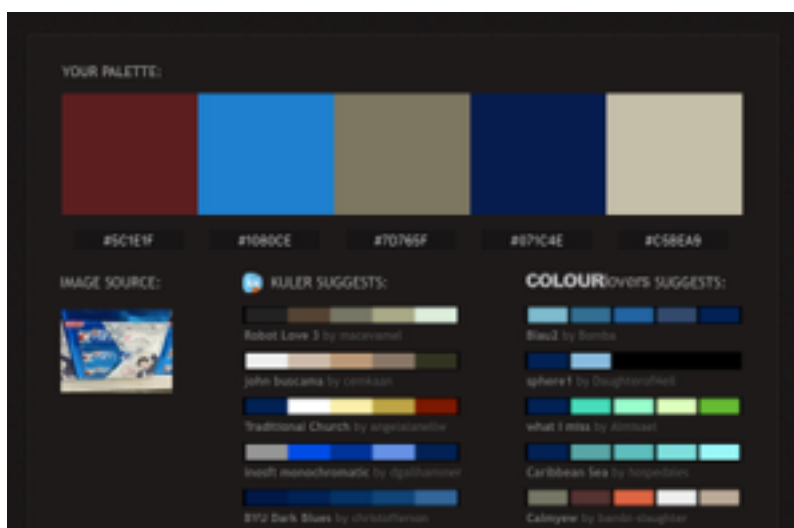
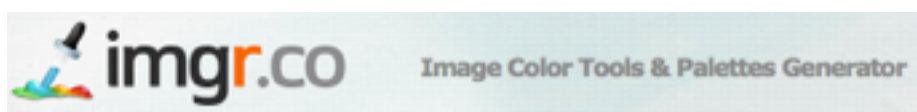
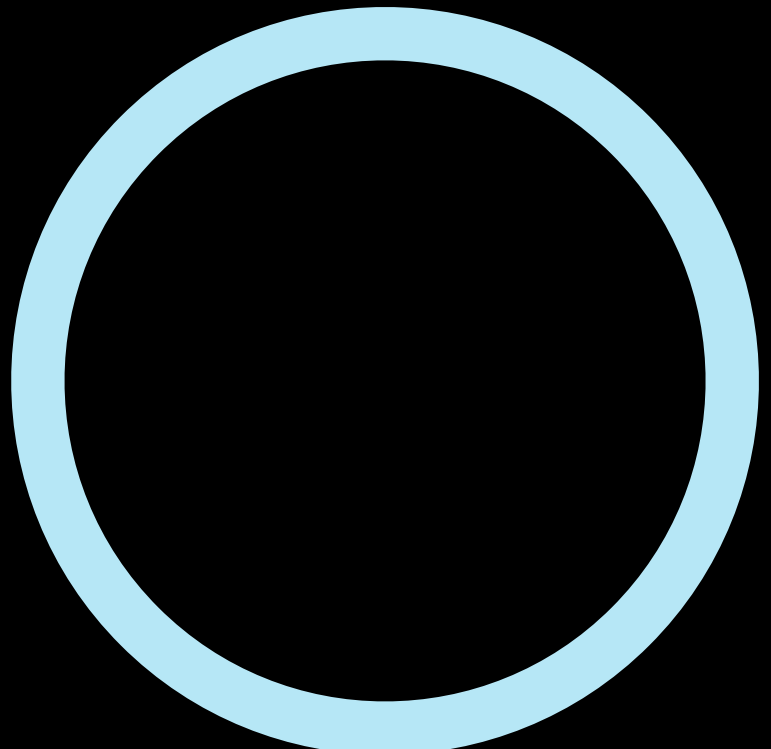
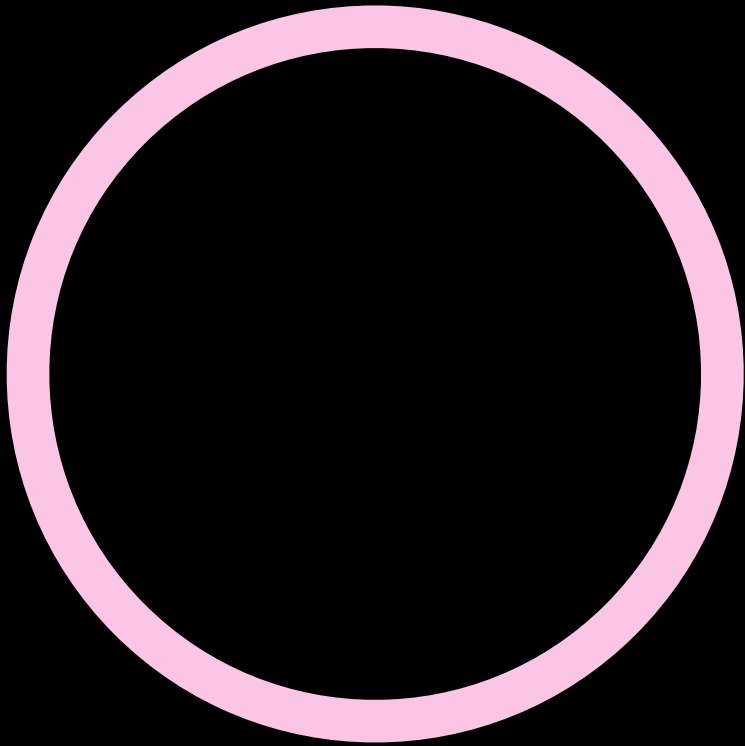
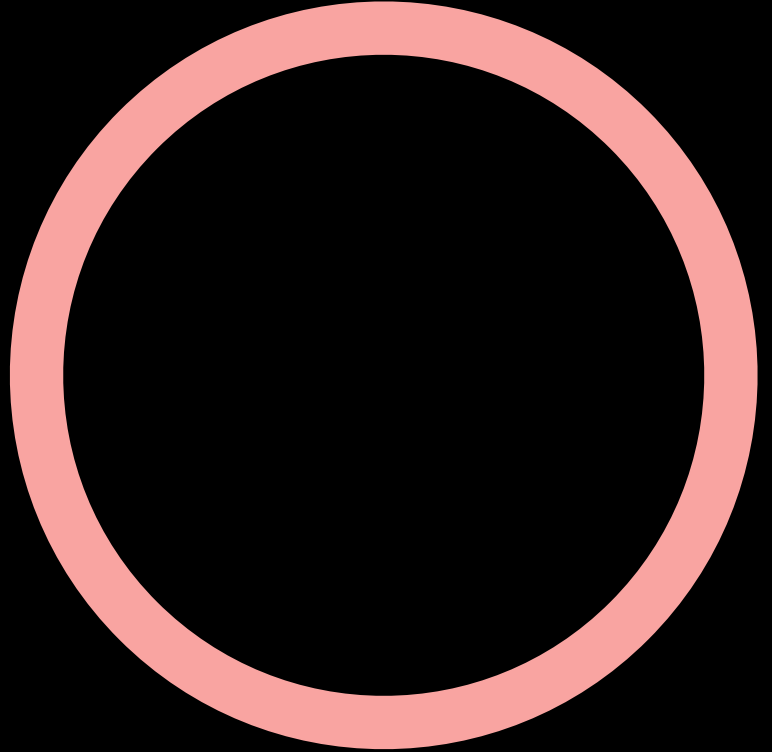
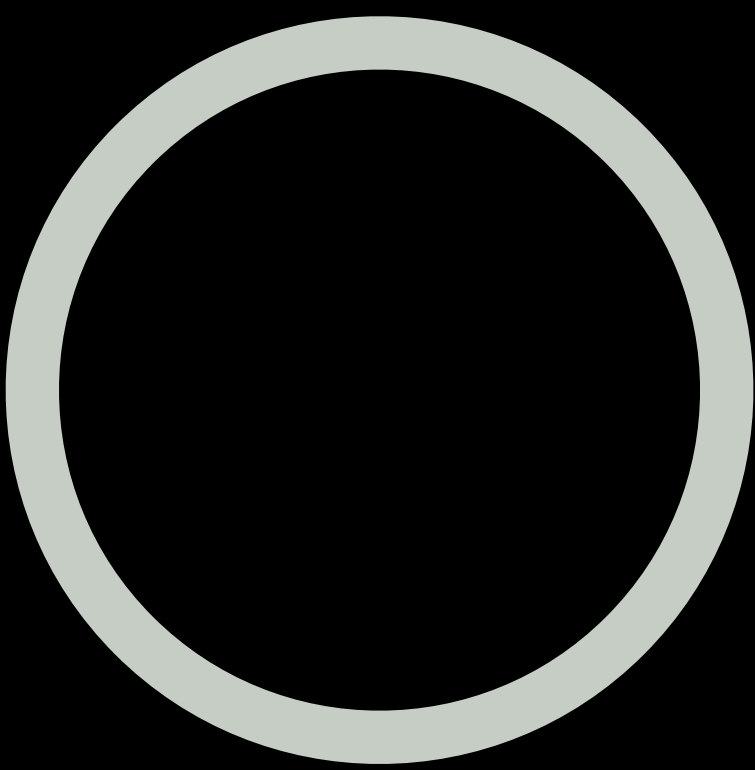


Fig.4

## Tools to Extract Colors







Playing, but more of  
Exploring



Fig.5

Now I got in hand a simplified edition of dataset, and the visualization should show the relations in between obviously. After collecting all the colors(shown in Fig.5), I arranged them by the color hue property. Each group of toothpaste owns seven color columns, red column, blue column, green column, yellow column, purple column, grey column and white column. Then the sequence of the colors is decided by the lightness and saturation of the colors, shown in Fig.6,a clear difference can be found. Toothpaste of different functions have preference for a certain category of color, and it is also connected with the toothpaste brand's unique identity color, as brands all have their specialities.

The different percentages colors take in different toothpaste groups indicates the link between the package colors and the functions or key features of toothpaste, shown in Fig.7. Finding correct way to visualize. all these requires attempts of multiple classic ways. I also tried to find some inspirations from some graphic designs. So this process can be called play with the data, and most of the time, I am exploring.

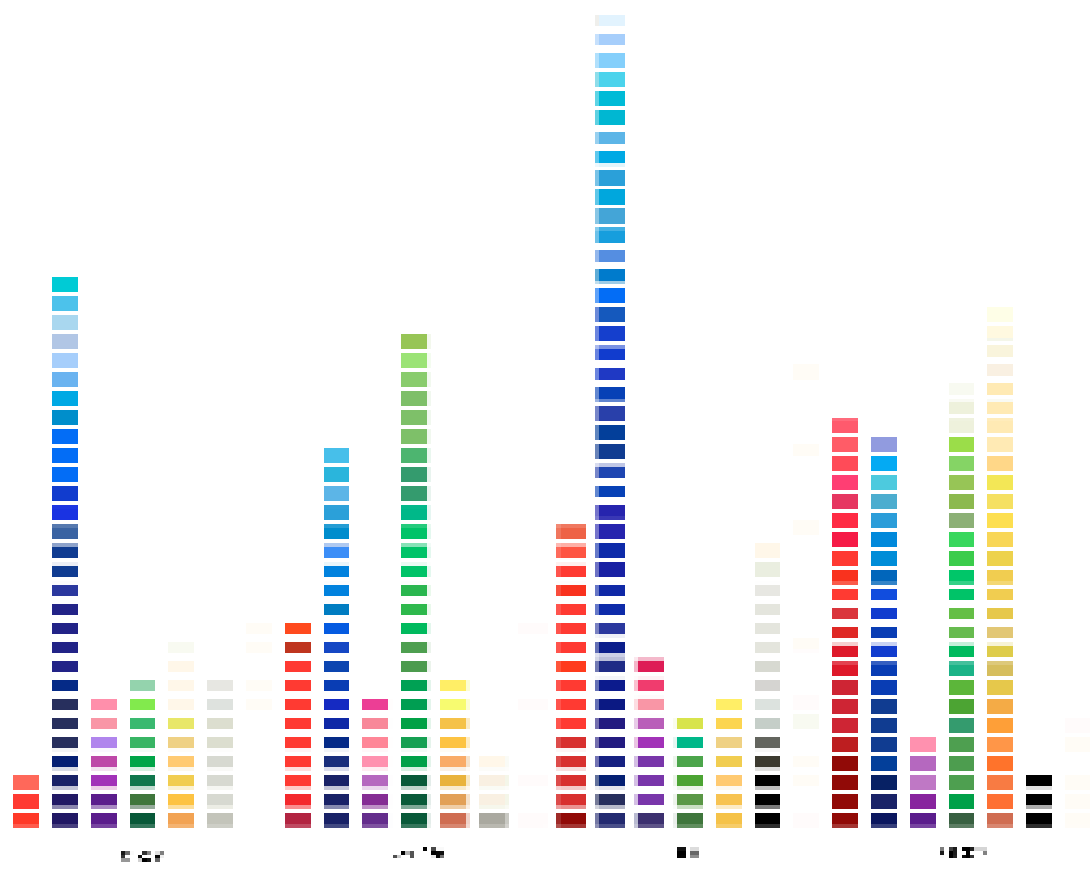
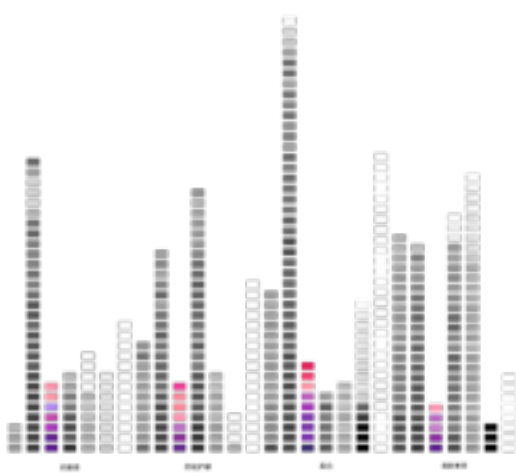
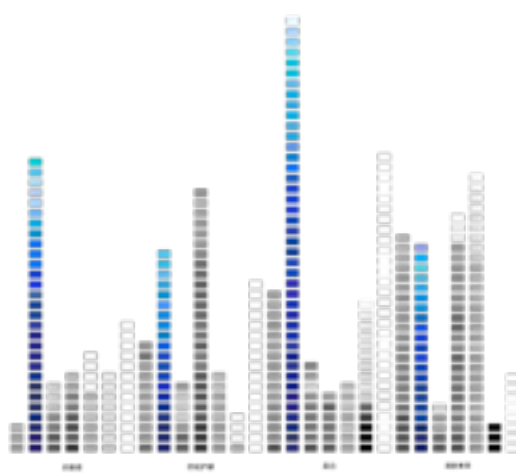


Fig.6

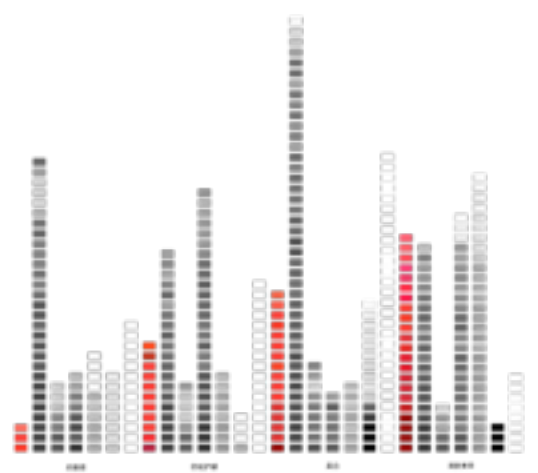
## Color Percentage of Different Categories



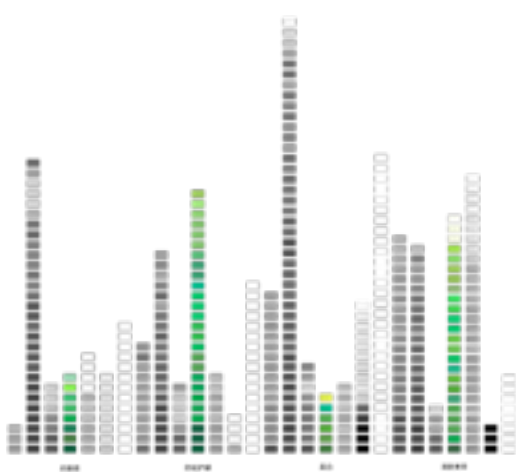
purple



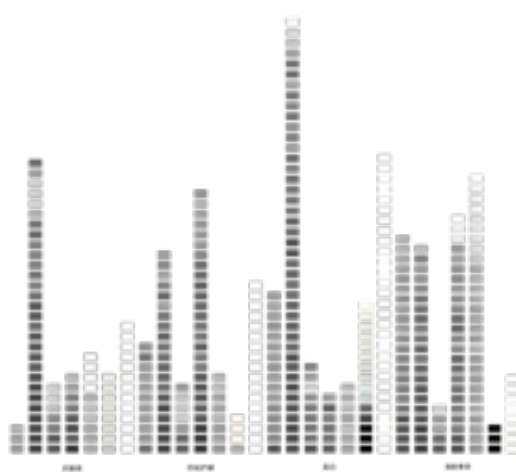
blue



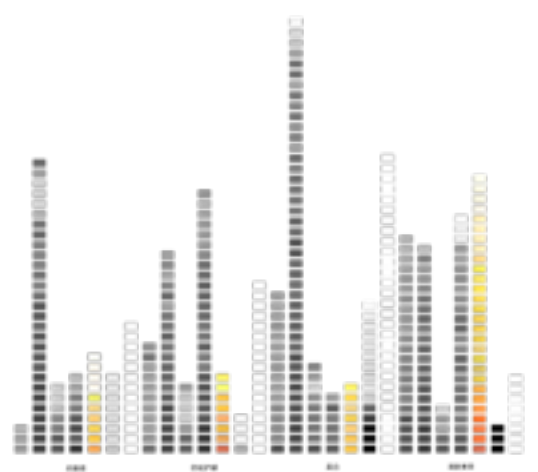
red



green



grey



yellow

# Color category percentage

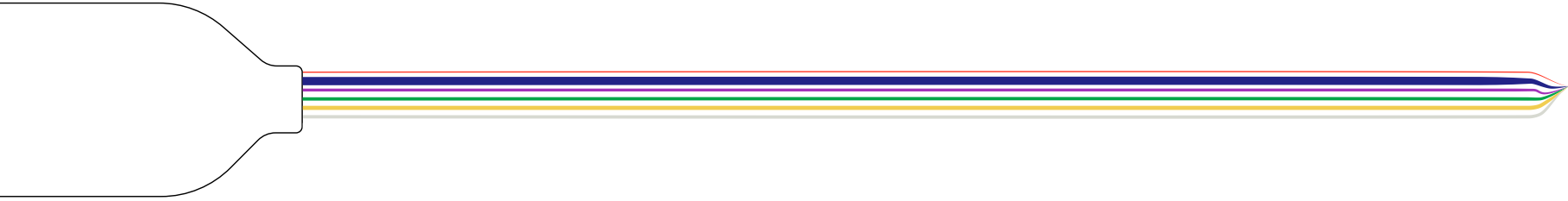
清新果萃								
category	red	blue	purple	green	yellow	grey	white	all
清新果萃	22	21	5	24	28	3	8	111
	7.3	7	1.67	8	9.33	1	2.67	

美白								
category	red	blue	purple	green	yellow	grey	white	all
美白	16	42	9	6	7	15	30	125
	5.33	14	3	2	2.33	5	10	

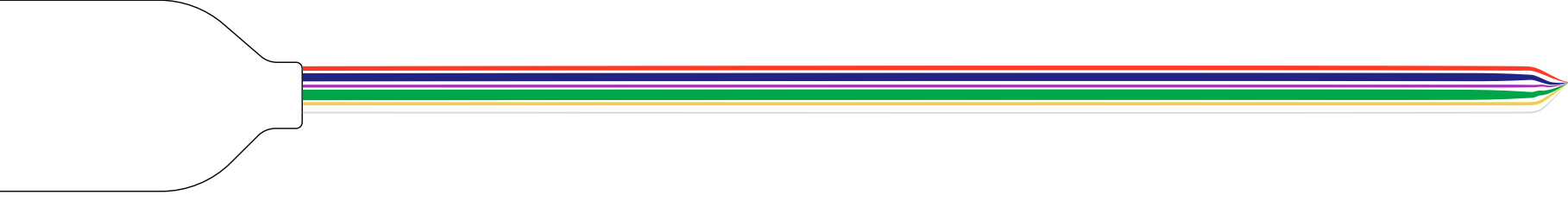
防蛀护龈								
category	red	blue	purple	green	yellow	grey	white	all
防蛀护龈	11	20	7	26	8	4	17	93
	3.67	6.67	2.33	8.67	2.67	1.33	5.67	

抗敏感								
category	red	blue	purple	green	yellow	grey	white	all
抗敏感	3	29	7	8	10	8	13	78
	1	9.67	2.33	2.67	3.33	2.67	4.33	

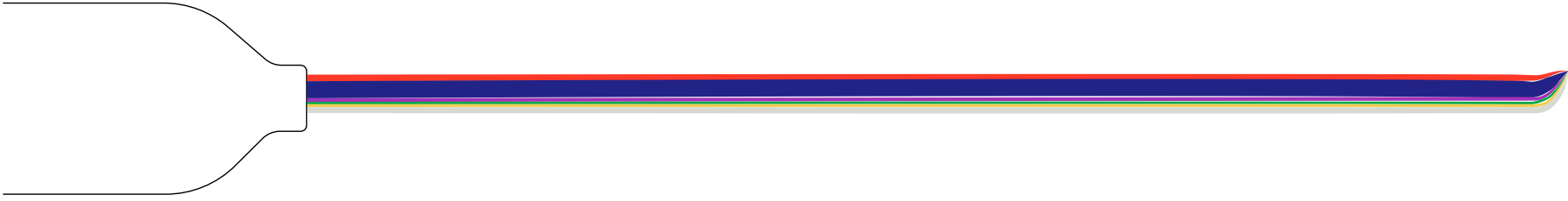
抗敏感



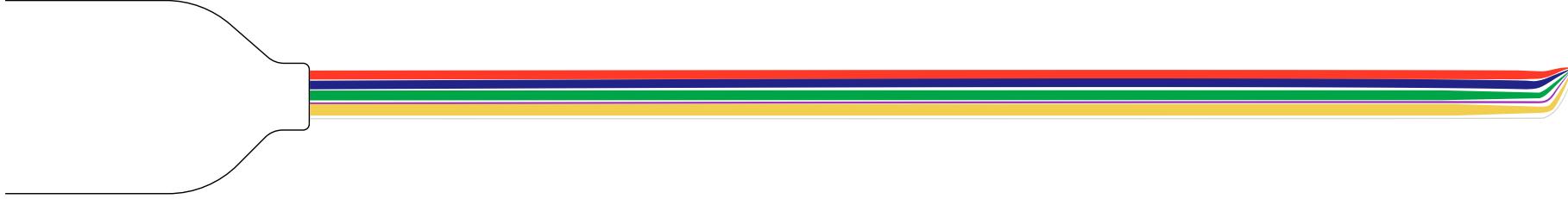
防蛀护龈



美白



清新果萃

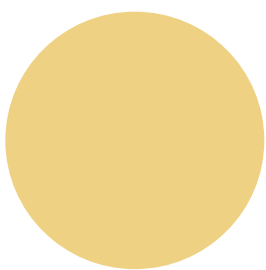


The customers are always attracted by the package of the toothpaste, but they need to know the contents inside also the function of the toothpastes. I use the width of different color lines to represent the percentage inside. And it can be easily noticed the differences.

# Toothpaste Package

## Color as Identity

When choosing toothpastes, customers are always attracted by the package color. So companies all have their own brands' color as the identity.



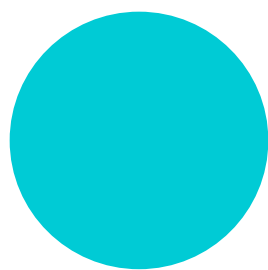
EFD184

R 239

G 209

B 132

Brand: Ora2



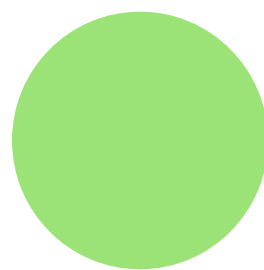
00CBD5

R 0

G 203

B 203

Brand: ZACK



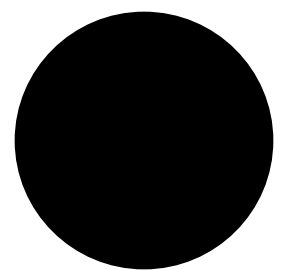
9BE376

R 155

G 227

B 118

Brand: 中华



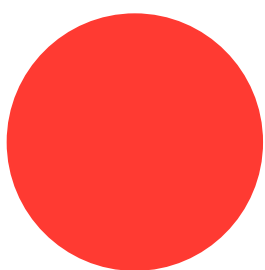
000000

R 0

G 0

B 0

Brand: 黑人



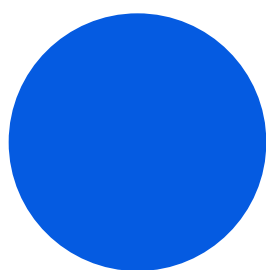
FF3A32

R 255

G 58

B 50

Brand: Colgate高露洁



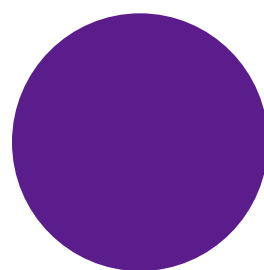
055BE1

R 5

G 91

B 225

Brand: Crest佳洁士



5B1D8C

R 91

G 29

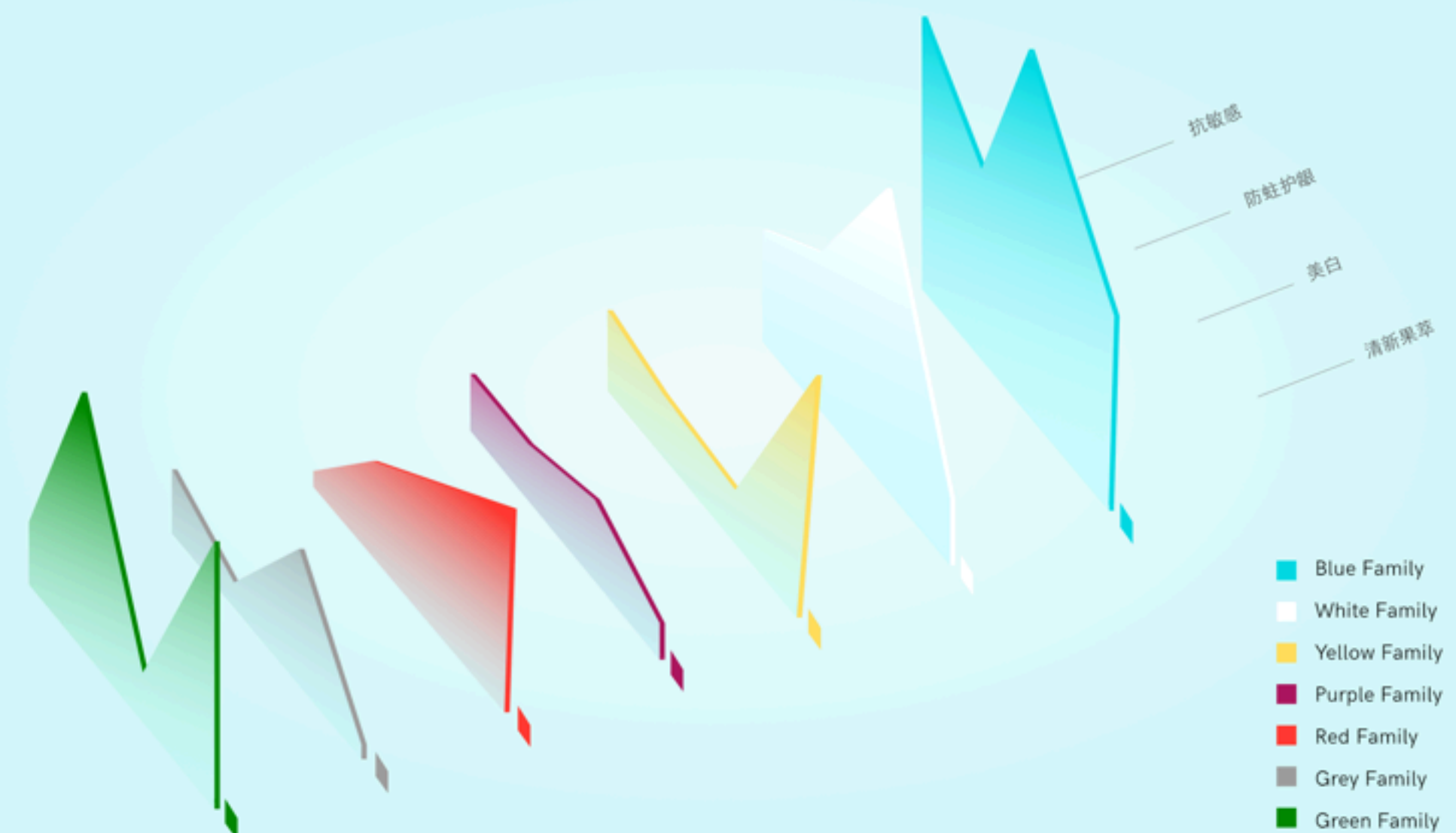
B 140

Brand: 舒客

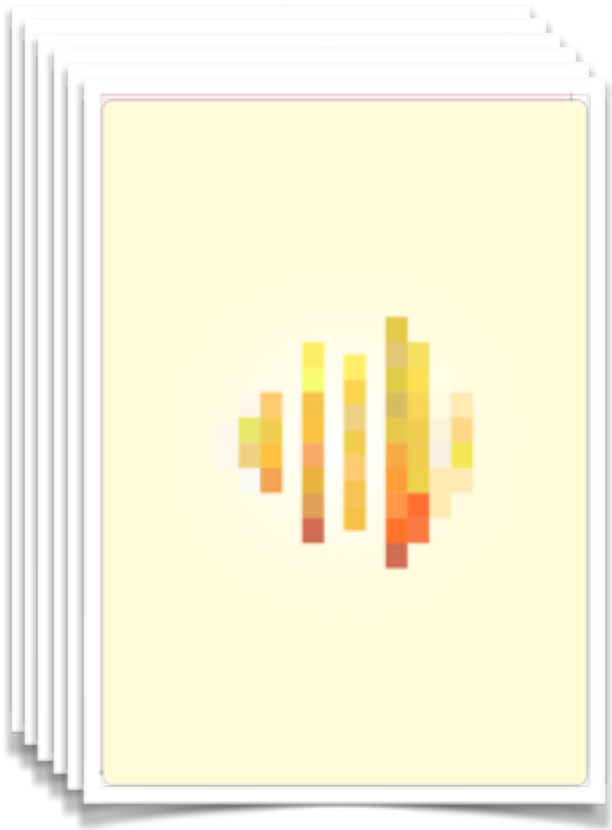
color-percentage

category	red	blue	purple	green	yellow	grey	white	all
抗敏感	3	29	7	8	10	8	13	78
防蛀护龈	11	20	7	26	8	4	17	93
美白	16	42	9	6	7	15	30	125
清新果萃	22	21	5	24	28	3	8	111
all	52	112	28	64	53	30	68	407

# Toothpaste Package Color Percentage Comparison

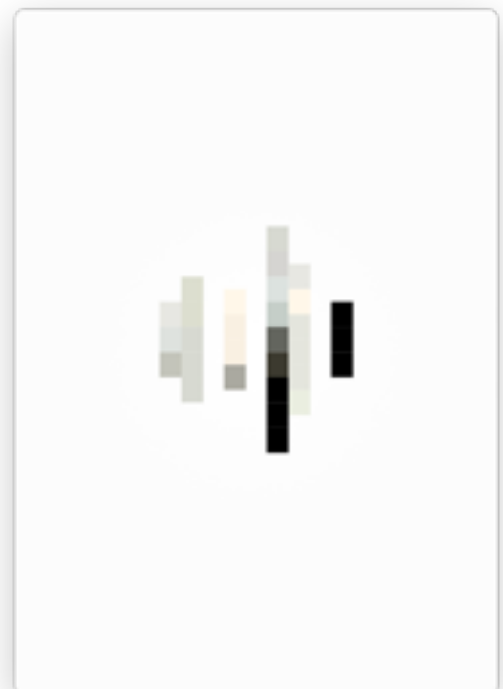
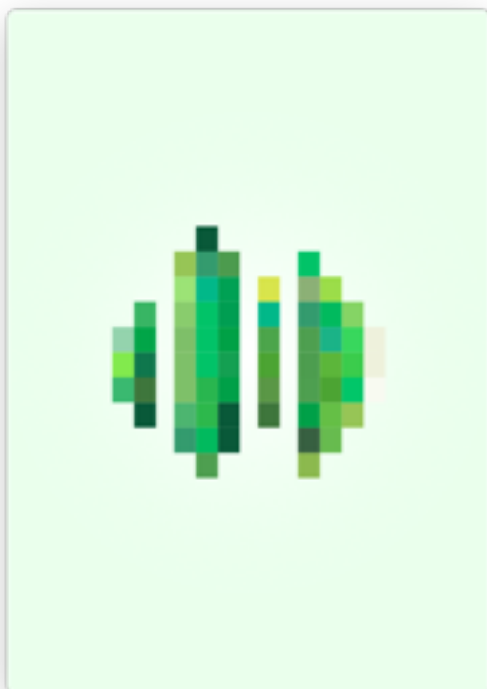
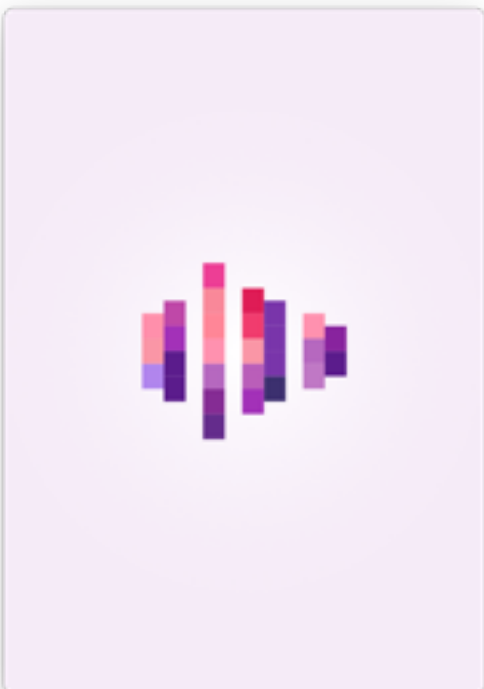
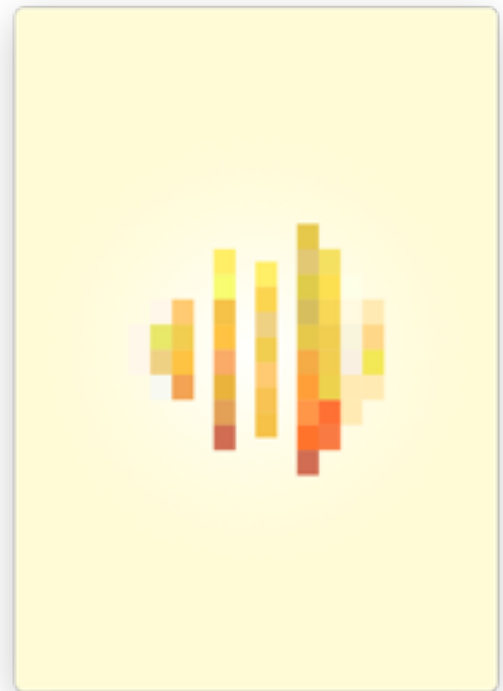
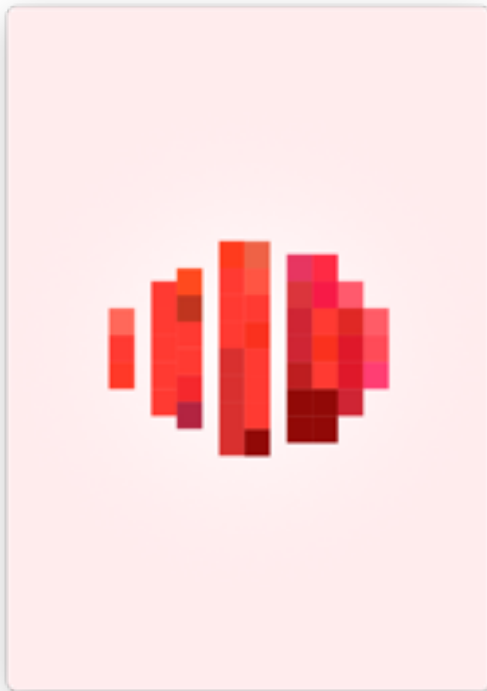






# Color Cards

Extracted from  
Toothpaste Package Pics





# Color Wheels of Four Categories

red		
category	red	
抗敏感	3	5.57%
防蛀护龈	11	21.15%
美白	16	30.77%
清新果萃	22	42.31%
all	52	

blue		
category	blue	
抗敏感	29	25.89%
防蛀护龈	20	17.86%
美白	42	37.5%
清新果萃	21	18.75%
all	112	

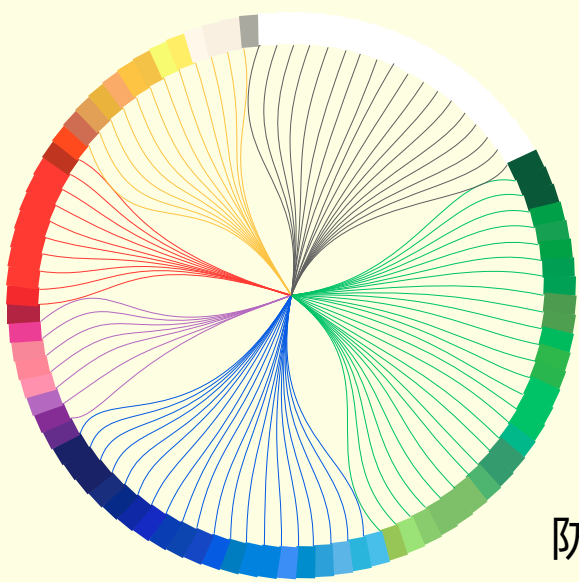
purple		
category	purple	
抗敏感	7	25%
防蛀护龈	7	25%
美白	9	32.14%
清新果萃	5	17.86%
all	28	

green		
category	green	
抗敏感	8	12.5%
防蛀护龈	26	40.625%
美白	6	9.375%
清新果萃	24	40.625%
all	64	

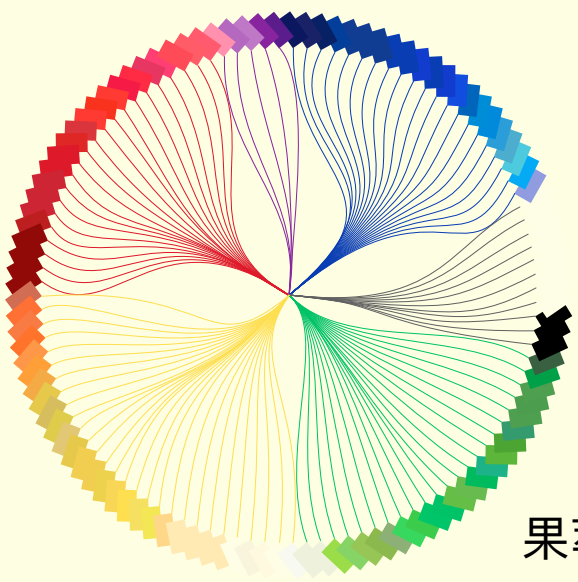
yellow		
category	yellow	
抗敏感	10	18.87%
防蛀护龈	8	15.09%
美白	7	13.21%
清新果萃	28	52.83%
all	53	

grey		
category	grey	
抗敏感	8	26.67%
防蛀护龈	4	13.33%
美白	15	50%
清新果萃	3	10%
all	30	

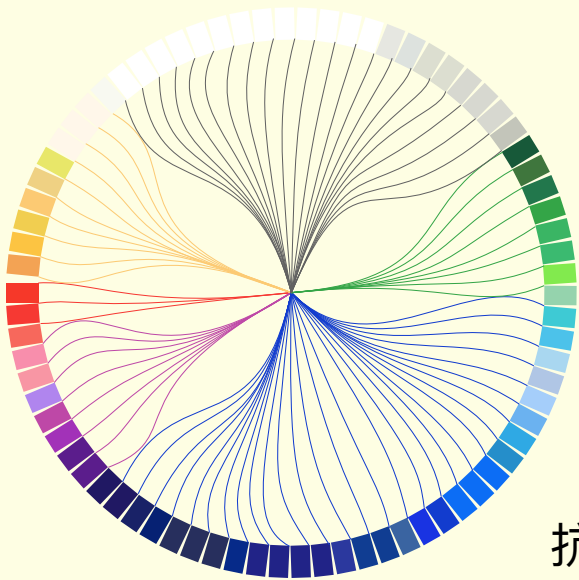
white		
category	white	
抗敏感	13	19.12%
防蛀护龈	17	25%
美白	30	44.12%
清新果萃	8	11.76%
all	68	



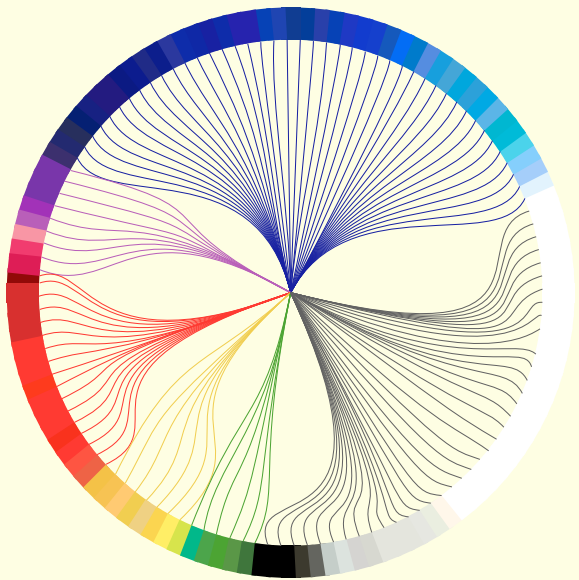
防蛀护龈



果萃清新



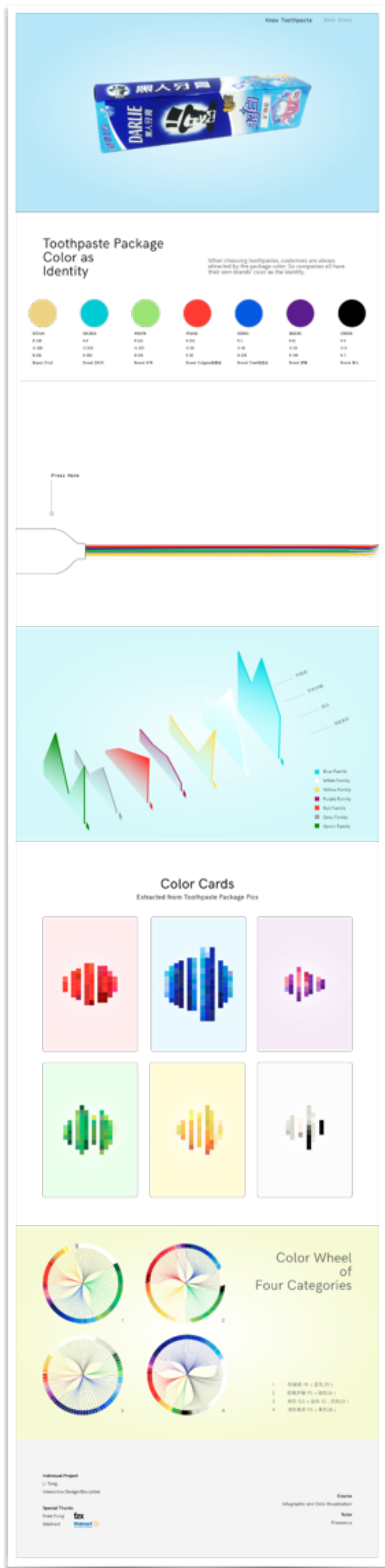
抗敏感



美白

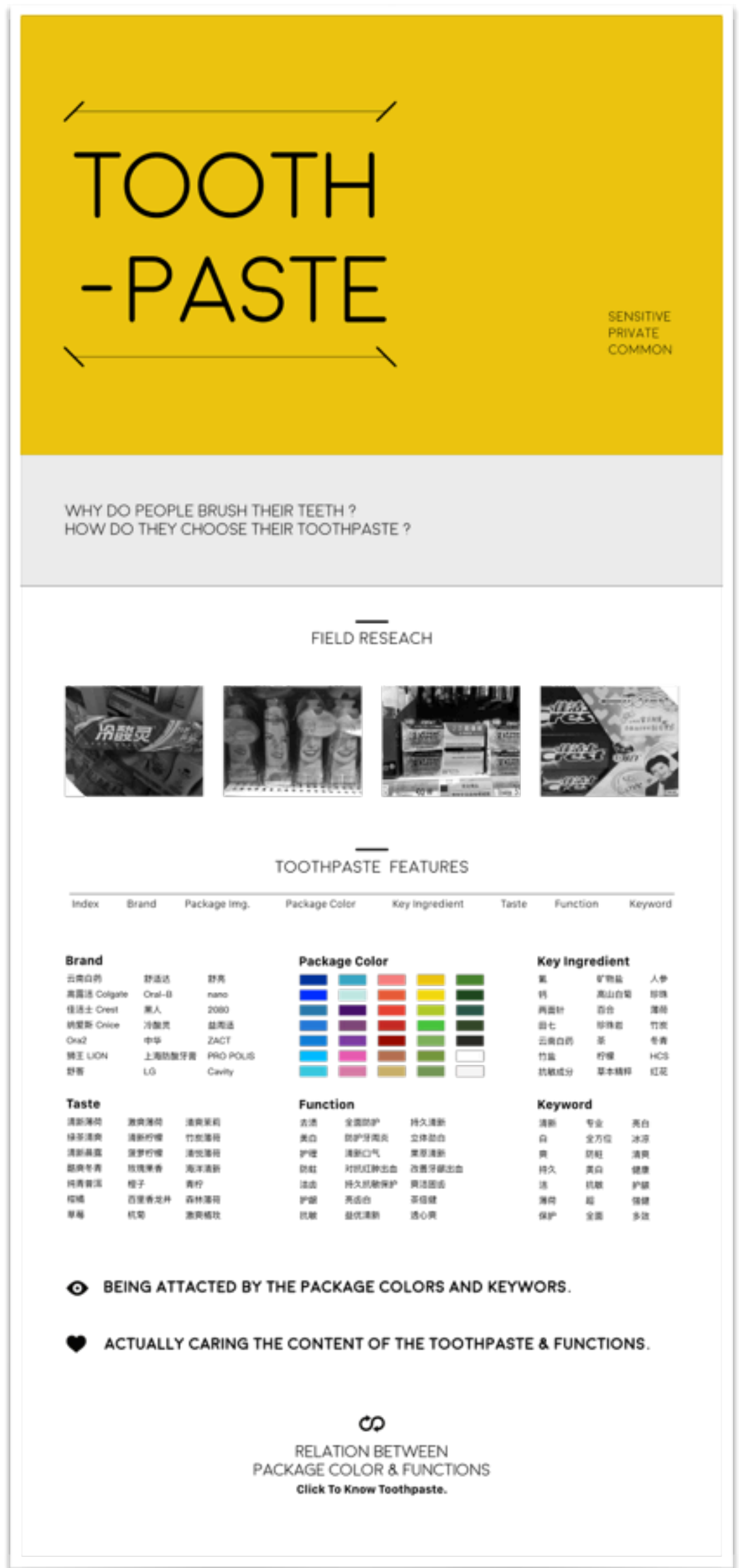
# Know Toothpaste Website

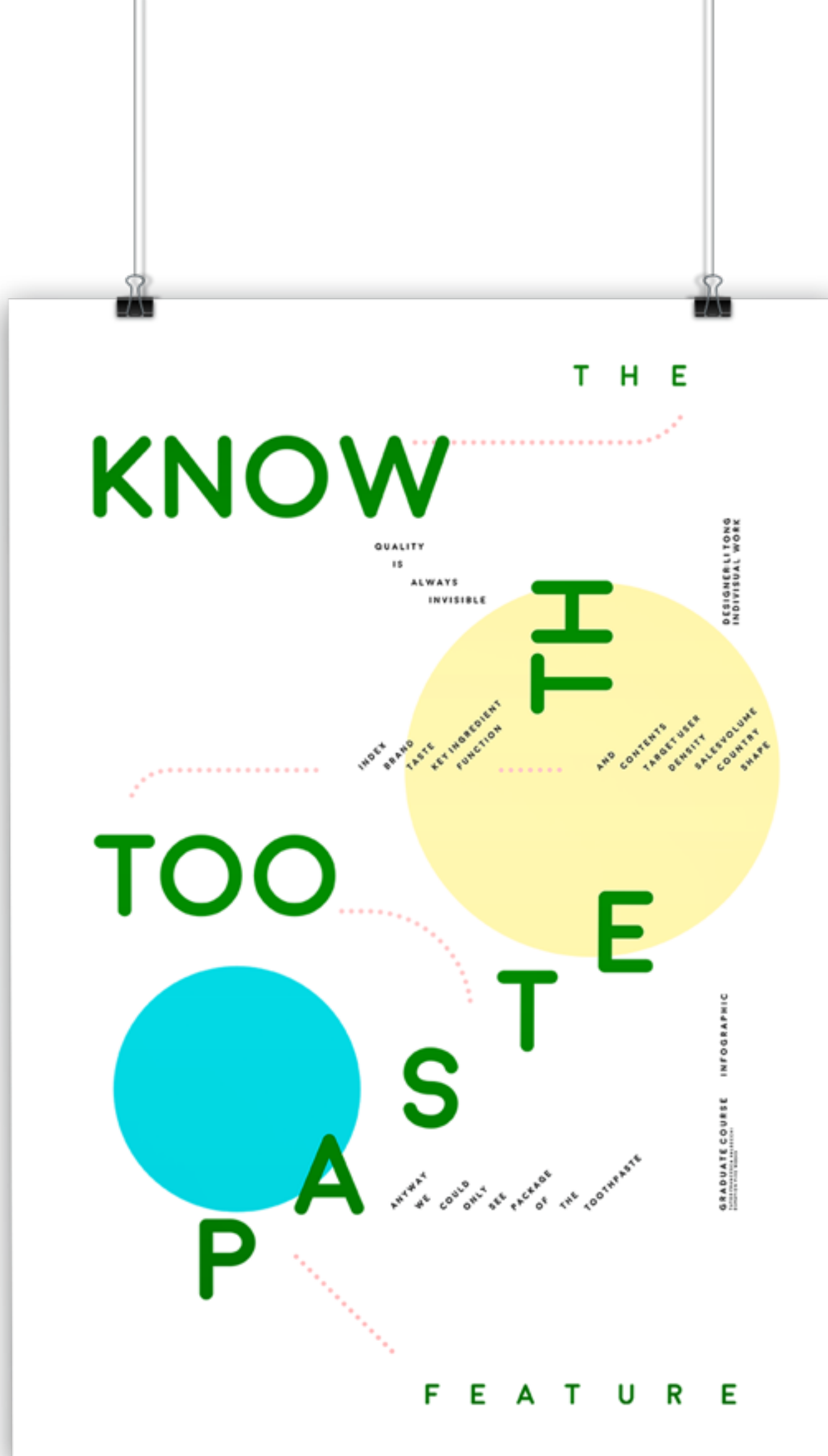
link: [littleblabla.github.io](http://littleblabla.github.io)



# Data Story Website

link: [littleblabla.github.io/data-story](https://littleblabla.github.io/data-story)





Exhibition  
Poster

# Many Thanks

Remember to brush your teeth everyday,  
and choose your toothpaste correctly.