Final Report: *Drink Milk*

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Category

1 Introduction

Drink Milk (https://kkksxy.github.io/assignment10/Final%20site/) is a Chinese website that aims to recommend some high-quality milk for young people. This article will summarize the production process of the website from 0 to 1, starting from the aspects of requirement, design, and evaluation.

2 Requirement

2.1 Source of ideas

As a milk lover, I am always looking for delicious milk. However, due to the large variety and quantity of milk on the market, I cannot taste every kind of milk. Therefore, I will search for information through the Internet, such as *Xiaohongshu*, *Gide Ranking*, etc. However, I found two problems with these sites.

First of all, the content on grass-rooting websites like *Xiaohongshu* is user-generated content, and everyone's evaluation criteria and recommended products are different, which can cause confusion. So, users still need to spend a lot of time comparing products.

Secondly, the content on websites like *Gide Ranking* is professionally-generated content, but because the website covers too much content, not just the category of milk, the content of milk on the website is not detailed and professional.

Therefore, in order to help young people who love milk like me and reduce the time and energy they spend in the process of comparing milk, I plan to develop this *Drink Milk* website. The slogan of the website is to be your milk expert.

2.2 Problem statement

2.2.1 Target users

The target users of this website are young people, roughly divided into two groups of young people. One is young people who lack basic knowledge about milk and don't know how to choose the milk that suits them; the other is young people who have some basic knowledge about milk, but want to try more milk with different characteristics.

2.2.2 User pain points

In the progress of customer journey, I interviewed several friends in depth. The following are the problems they encountered when choosing milk, which is the source of user pain points.

First of all, they generally choose milk according to their own inherent habits, because they don't know how to choose milk, so they prefer to choose milk that they drink often.

Second, they don't pay much attention to the specific ingredients of milk and lack the knowledge of the value of milk. Most people choose a product blindly. Only one friend said that he would choose skimmed milk when losing weight.

Third, two of my friends will browse articles related to milk recommendations. But they said that there are many articles with different content, and they need to spend more time to distinguish true from false.

2.2.3 User requirements

Based on the analysis of the above-mentioned user pain points, I have summarized the following user needs.

First of all, they want to learn more about the various components of milk and have a basic understanding of how to choose milk.

Second, they hope that the criteria for judging milk can be more objective and

standard.

Third, they hope to have a website with the concentrated content. So that they only need to browse the website to quickly select the milk they want.

2.2.4 Website goal

Combining the analysis of competing products and user needs, the overall goal of *Drink Milk* is to help users find their favorite milk according to their needs.

Specifically, there are the following goals. One is to build a website that focuses on milk recommendations, and to show the professionalism and credibility of the website through real and objective data.

The second goal is to maximize the efficiency of users choosing milk and to reduce unnecessary time and energy.

The third is to provide as much as possible multiple classification standards to meet the needs of different users.

3 Design

3.1 Usability test on *Gide Ranking*

Before designing the website, I did a usability test on my competitor website *Gide Ranking*, and summarized the advantages and disadvantages of the website in terms of usability.

3.3.1 Test tasks

The test has two main tasks, the first is to find Mengniu Xinyangdao zero-lactose low-fat milk in the low-fat recommendation list; the second is to find a cost-effective milk with a price of about 2 yuan per box.

3.3.2 Test results

a) Effectiveness-Test completion

The user's test situation is divided into three types: completion, abandonment and error.

Test completion					
	User1	User2	User3	User4	User5
Task1	abandonment	completion	completion	completion	completion
Task2	completion	completion	completion	error	completion

b) Efficiency-Time to complete

Time to complete					
	User1	User2	User3	User4	User5
Task1	1m28s	51s	2m3s	1m30s	1m40s
Task2	21s	23s	50s	30s	36s

3.3.3 Usability advantages

a) On the function points

It provides a variety of classification evaluation standards to meet the needs of different users. (Figure1) And there is a relatively specific positioning for each milk. (Figure2)

<div align="center">Figure1   Figure2</div>

b) On the interface design

Different standards and different products have obvious differences in color. (Figure1&Figure2)

c) On the flow design

Commodities can directly jump to the e-commerce platform for purchase and price comparison. (Figure3)

<div align="center">Figure3</div>

3.3.4 Usability disadvantages

a) On the function points

The products of each classification standard are all presented on the page,

resulting in too much content and unable to quickly find the target product. For example, user 3 took 2 minutes and 3 seconds to complete task 1. (Figure4&Figure5)

<div align="center">Figure4</div>

<div align="center">Figure5</div>

The content of the product introduction is very general and there is no clear data support. For example, under each milk is a long text introduction, which does not accurately describe the reason why the milk appeared on a certain ranking list.

It lacks ranking basis. For example, in the cost-effective ranking, how is the ranking of each milk obtained? (Figure6)

<div align="center">Figure6</div>

b)   On the interface design

The classification criteria cannot be displayed in full, resulting in users not finding it. For example, user 1 did not find the low-fat milk category. (Figure7)

Figure7

The difference between similar products is not clearly marked. For example, user 4 completed task 2, but the result was wrong.

c)   On the flow design

When clicking the six buttons on the product, page will jump back to the home page, and the process design is unreasonable. (Figure8)

Figure8

3.2 Structure diagram

3.2.1 Framework diagram

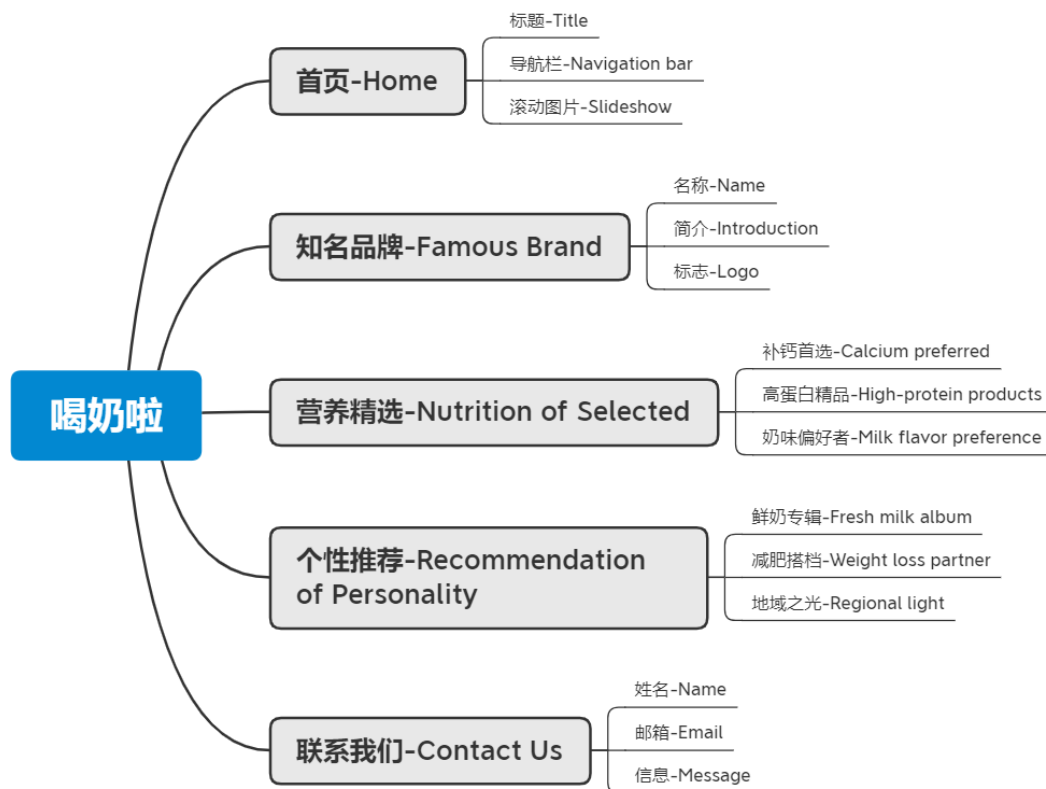The figure below（Figure9）is the basic framework of the website, revealing the content covered by the website.

Figure9. Framework diagram

3.2.2 Data flow diagram

The figure below（Figure10）is the data flow diagram of this website, which shows the relationship between website managers, users and website content.
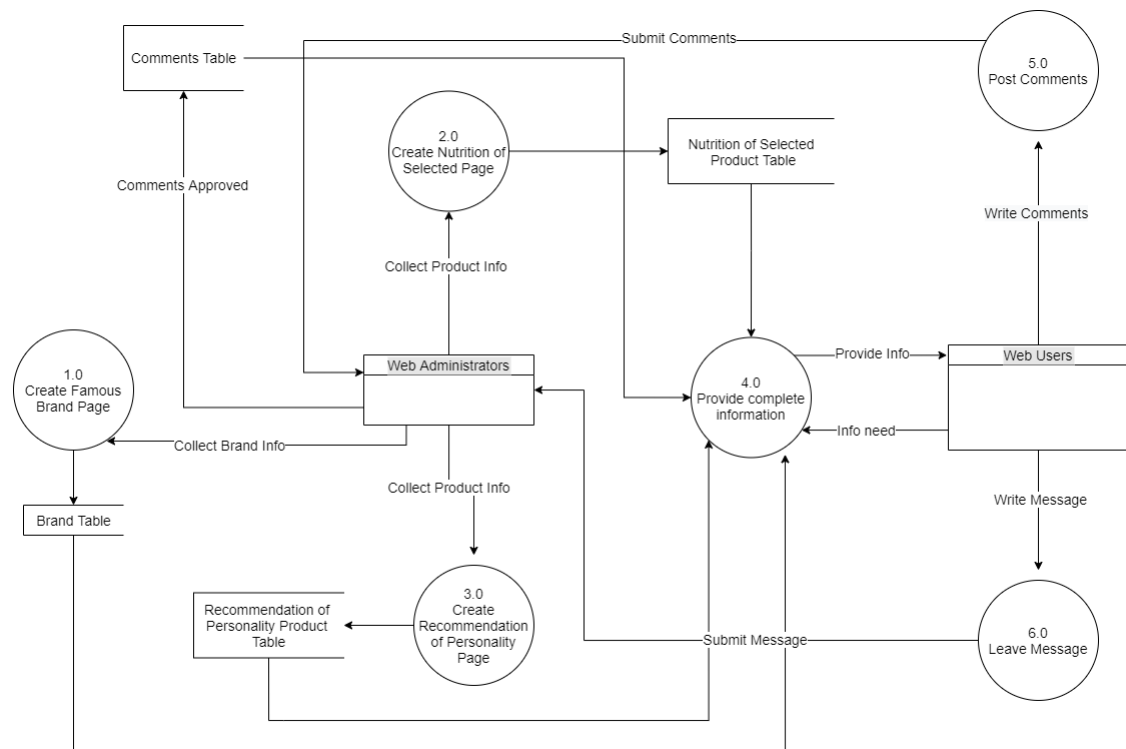
Figure10. Data flow diagram

3.2.3 Entity relationships diagram

The following figure （Figure11）is the entity relationships diagram of this website, which shows the information structure of the website.
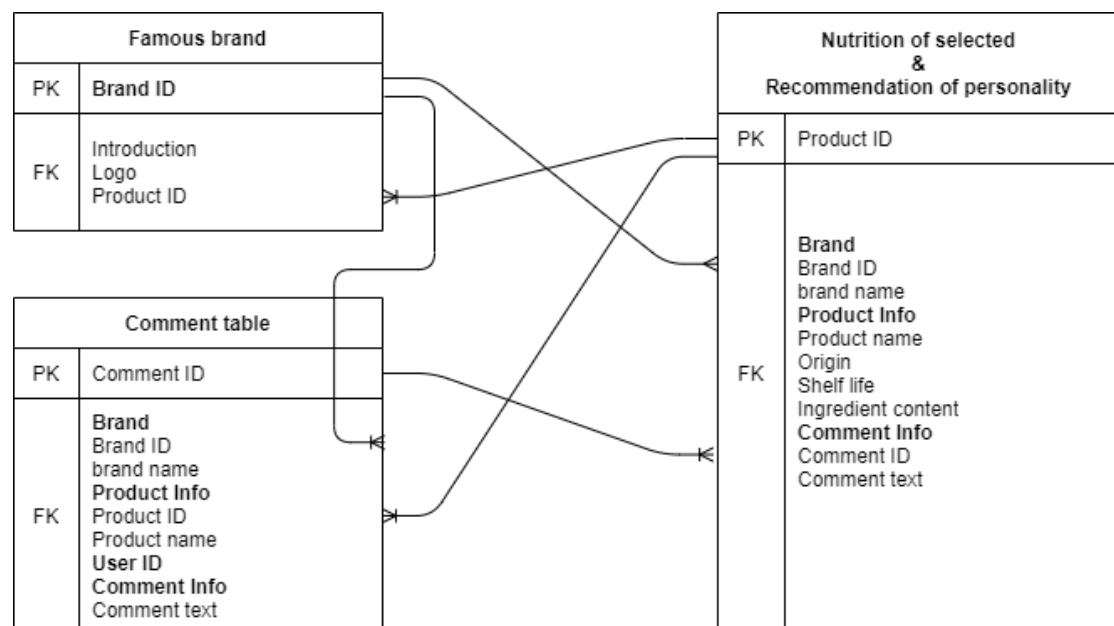

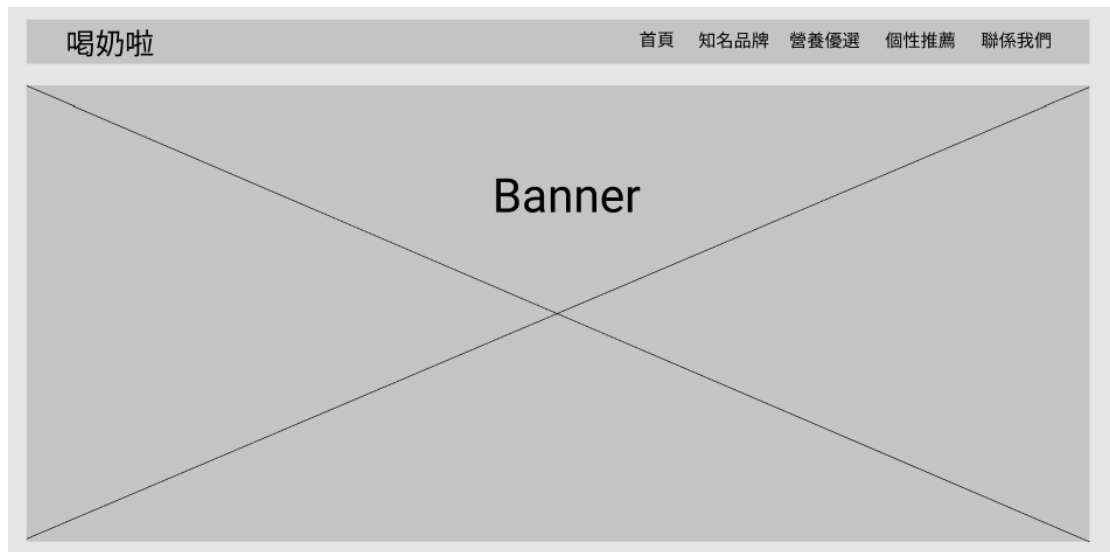
Figure11. Data flow diagram
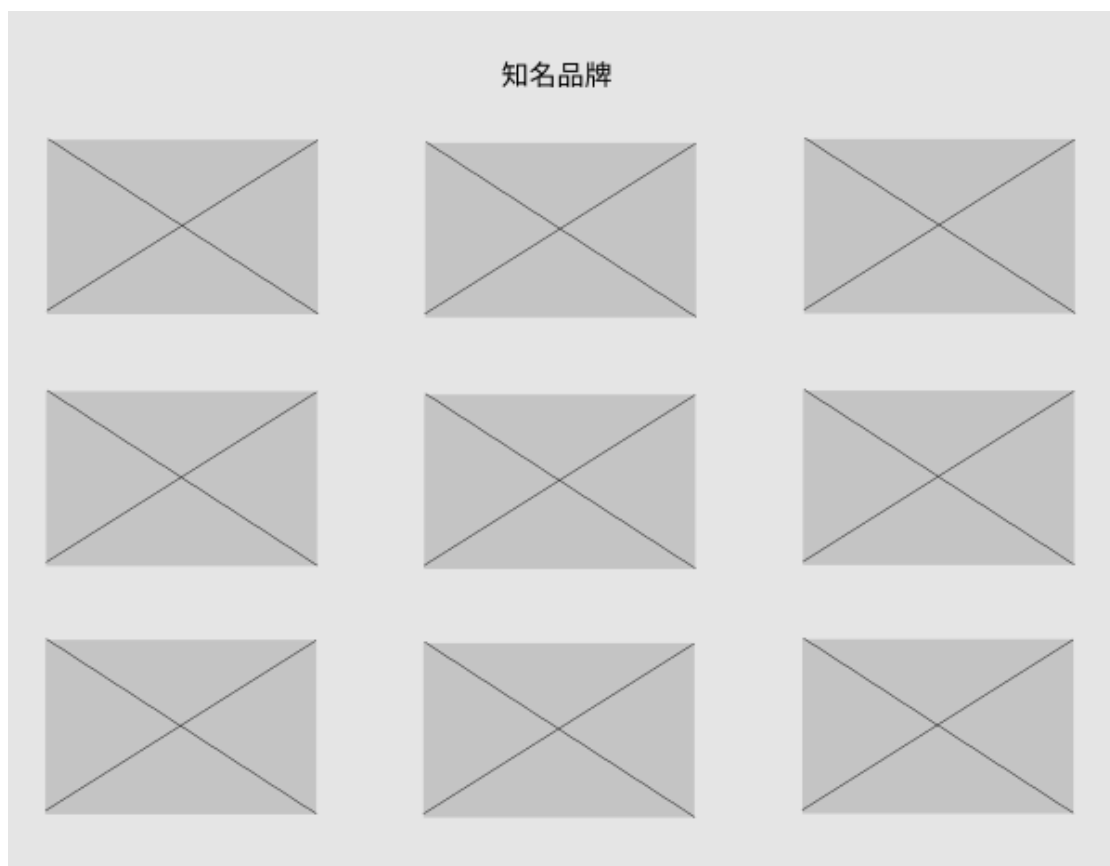
3.3 Low-fidelity Prototype

Figure12. Home Page

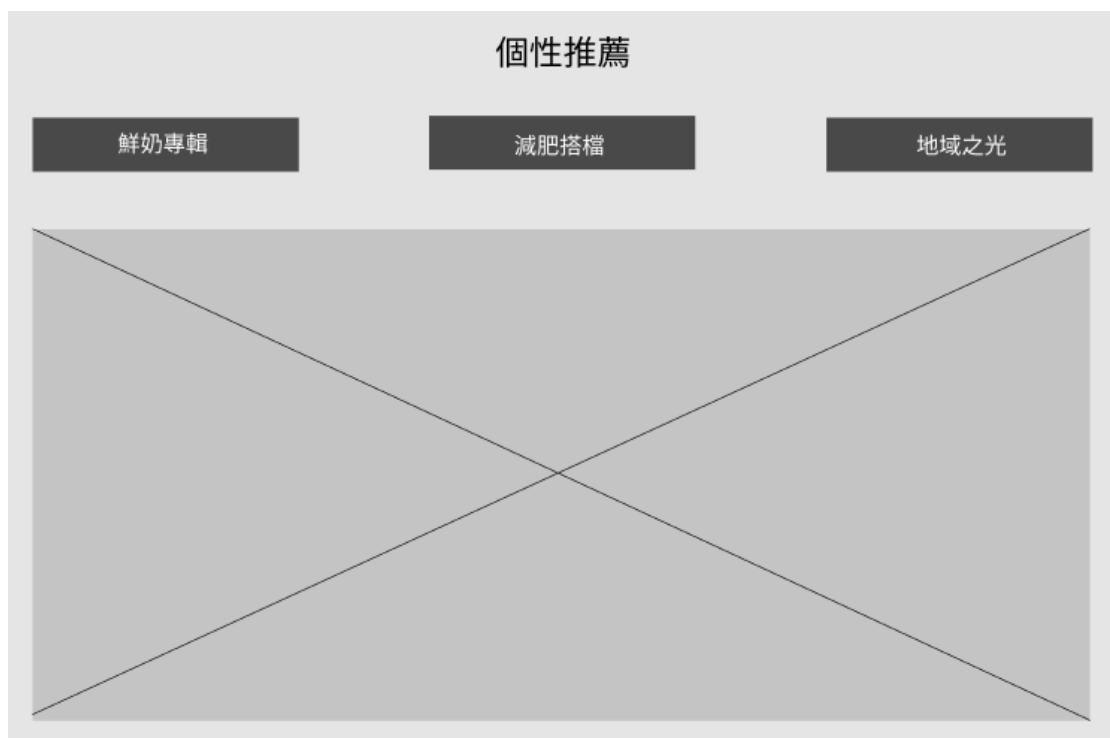Figure13. Famous brand Page

Figure14. Nutrition of selected Page

Figure15. Recommendation of personality Page

Figure16. Contact us Page
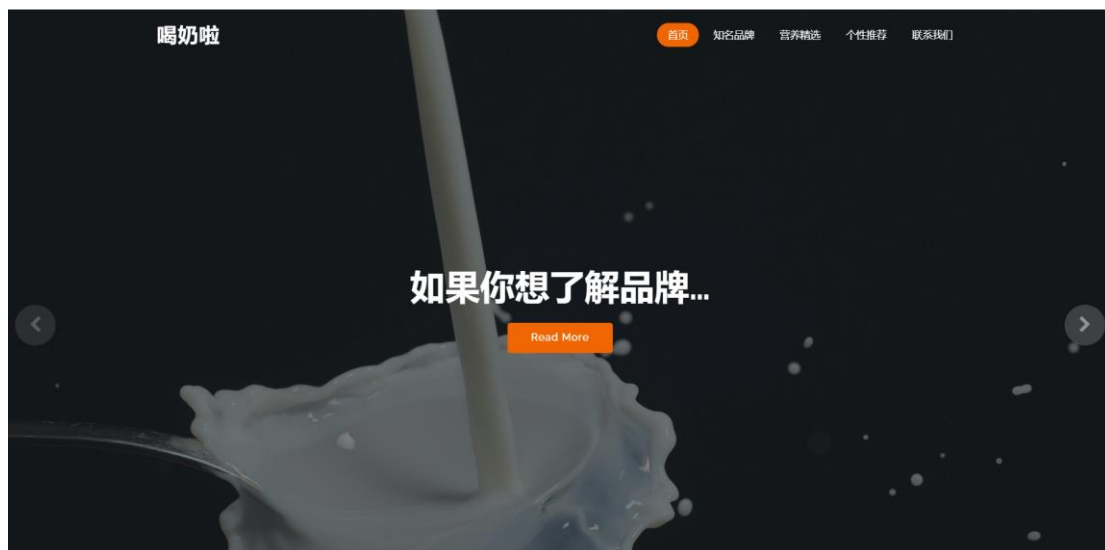
3.4 High-fidelity Prototype

Figure17. Home Page

听说你是品牌控?

伊利乳业

伊利集团稳居全球乳业第一阵营，蝉联亚洲乳业第一，也是中国规模最大、产品品类最全的乳制品企业。同时，伊利还是中国唯一一家符合奥运会标准，为2008年北京奥运会提供服务的乳制品企业；是中国唯一一家符合世博会标准，为2010年上海世博会提供服务的乳制品企业。

蒙牛乳业

作为中国领先的乳制品供应商，蒙牛专注于研发生产适合国人的乳制品，连续9年位列全球乳业20强。蒙牛成立19年来，已形成了拥有液态奶、冰淇淋、奶粉、奶酪等多品的产品矩阵系列，拥有特仑苏、纯甄、冠益乳、真果粒、优益C、未来星等拳头产品。

光明乳业

光明乳业业务渊源始于1911年，拥有100多年的历史，逐步确立以牧业、乳制品的开发、生产和销售为主营业务，是中国领先的高端乳品引领者。公司拥有世界一流的乳品研究院、乳品加工设备以及先进的乳品加工工艺。主营产品包括新鲜牛奶、新鲜酸奶、乳酸菌饮品、常温牛奶、常温酸奶、奶粉、婴儿奶粉、奶酪、黄油等多个品类。

特仑苏

特仑苏牛奶诞生于2005年，在蒙语中是"金牌牛奶"之意，是中国市场上第一个高端牛奶品牌。十余年发展历程中，特仑苏始终坚持创新，通过采用专属牧场的高品质奶源，以及坚持业内高标准的原料甄选和生产工艺，为消费者提供至高品质的营养，并逐步成长为全球销量领先的高端牛奶品牌，品牌标语"不是所有牛奶都叫特仑苏"家喻户晓。

金典

金典牛奶是伊利液体奶的首个高端副品牌，分为金典纯牛奶、金典低脂奶、金典有机奶三种，其主要营养成分是乳蛋白，有补钙的食用功效。金典牛奶诞生于2006年，作为伊利液体奶的首个高端副品牌；自上市起，即秉承奉献最佳品质的理念，致力于打造中国"最好的牛奶"，主要有三支单品：金典纯牛奶、金典低脂奶、金典有机奶。

完达山乳业

"十三五"期间，完达山乳业将以创建中国绿色有机乳品第一诚信品牌为目标，实现新跨越。2013年5月31日，国务院常务会议确定，国家将按药品标准监管婴幼儿配方奶粉，完达山乳业成为国家此次按药品标准生产婴幼儿奶粉的四家企业之一。

Figure18. Famous brand Page

含钙量、蛋白量、奶味

补钙首选
缺钙，就得补钙呀！

高蛋白精品
牛奶同样可以补充蛋白质哦~

奶味偏好者
你更偏爱奶味浓的还是淡的？

Figure19. Nutrition of selected Page

Figure20. Recommendation of personality Page

Figure21. Contact us Page

3.5 Comparison with *Gide Ranking*

I regard *Gide Ranking* as the competitive website. Therefore, I analyzed the shortcomings of *Gide Ranking* in content, typesetting, interface design and interactive design. On the basis of analyzing these shortcomings, I made improvements on my prototype. At the same time, my prototype has a disadvantage compared to *Gide Ranking.*

3.5.1 Improvements

a) Content

In *Gide Ranking*, there are basically 6 to 7 types of milk under each classification standard, and the brands and types are too limited. In my prototype, there are more brands involved, and there are generally more than 10 types of milk under each category. In addition, the milk brands and types I put are more diverse.

In *Gide Ranking*, the product introduction content is very general, and the long-form content is not focused. At the same time, many types of milk appear in different classification standards, but the introduction is the same. In my prototype, the content is more concise and clearer, with key points and not long-formed. Moreover, each category is more targeted.

In *Gide Ranking*, the classification standard is not clear, and there is no clear data support, that is, there is no clear explanation why a certain product is in this classification. In my prototype, the classification standard is clearer and has sufficient data support. For example, in the category of "calcium preferred", I summarized the calcium content in each milk.

b) Typeset

In *Gide Ranking*, all products of each classification standard are presented on the page, resulting in too much content and unable to quickly find the target product. In my prototype, I presented the product in a table form (in the end, I will use the Airtable) to make the content layout more structured and not appear chaotic.

c) User interface design

In *Gide Ranking*, the colors are very rich, and different standards and different products are clearly distinguished in color. In my prototype, the overall style is more refreshing and modern, without too much color.

d) Interactive design

In *Gide Ranking*, as long as you click the six buttons on the product page, you will jump back to the home page. Its process design is very unreasonable and has many

loopholes. In my prototype, I perfected all the interaction designs I can think of, and there are basically no interaction errors.

3.5.2 Disadvantages

Of course, my prototype still has disadvantages compared with *Gide Ranking*.

In *Gide Ranking*, users can directly compare prices and purchase. In my prototype, users cannot jump directly to the purchase link. However, because the website positioning is a display of evaluation results, and my personal ability and energy are limited, I do not decide to add this feature.

There are pictures of milk in the *Gide Ranking*. In my prototype, the milk picture is missing. In this regard, because this prototype is a short version, I will add it to the final website.

3.6 Usability test on my prototype

3.6.1 Test tasks

The test has two main tasks, the first is to a milk produced in Zhejiang; the second is to find a high-protein milk, and its origin is Australia.

3.6.2 Test results

a) Effectiveness-Test completion

The user's test situation is divided into three types: completion, abandonment and error.

Test completion					
	User1	User2	User3	User4	User5
Task1	completion	completion	completion	completion	completion
Task2	completion	completion	completion	completion	completion

b) Efficiency-Time to complete

Time to complete					
	User1	User2	User3	User4	User5
Task1	48s	25s	34s	65s	38s
Task2	31s	14s	12s	42s	25s

c) Conclusion

In general, 5 testers reported that it is not difficult to complete the two tasks. After completing the test, I interviewed them to talk about their evaluation of this website. After sorting, the following are the advantages and disadvantages of the website usability that the testers put forward.

3.6.3 Usability advantages

a) On the interface architecture

The organizational structure is basically reasonable, from large to small in depth. The navigation bar is clearly classified and can play a guiding effect.

b) On the content

The website provides different classification standards, including the classification of milk components (including protein content, calcium content and milk flavor), and special classification (including milk for people who lose weight and milk from all over the country).

c) On the design style

The overall style of the website is minimalist, more modern and in line with the aesthetics of young people.

There is no too much color, and the color is harmonious.

d) On the interactive experience

The interaction design is reasonable, the logic is clear, and the whole design process can be basically understood.

3.6.4 Usability disadvantages

a) **On the interface architecture**

A user feedback section can be added to help developers communicate with users and enhance the product experience.

b) **On the content**

The website lack a brief introduction to the product.

The website lack re-categorization or screening under the classification results in a messy whole. For example, a tester suggested that under the category of "milk flavour preference", there are different standards such as weak milk taste and strong milk taste, so that it is not easy to check when stacked together.

The picture does not match the content. For example, a tester suggested that the milk website with vegetables and landscape pictures are inappropriate.

The title does not match the content. As one tester pointed out, the "regional light" is hard to understand.

This website is only a content recommendation website and cannot be purchased on the website.

c) **On the Interactive Experience**

A tester suggested that when he clicked on a certain section of the navigation, the first large picture occupied the page, and he needed to slide down to see the contents of the section.

The "return" button is missing. A tester suggested that he opened a category, but could not find the return key. He needed to go back to the top and clicked on a section of the navigation bar to re-enter.

3.7 Data visualization

In data visualization, I used two methods, one is the gallery style of Airtable, and the other is the chart made by Datawrapper.

For rendering content, I mainly use Airtable. There are two main reasons. First, I

currently have limited abilities and I am not proficient in the use of tools such as jQuery Table. Theoretically, jQuery Table supports paging and direct keyword search functions, which is more suitable for website developers or users when the amount of data is large.

The second reason for using Airtable is that Airtable is indeed a powerful tool that can support rich data types such as file, picture, and long text. Airtable's gallery style can easily present pictures, give users a good visual experience, and greatly deepen the impression. In the "contact us" function, I used the form function because Airtable can easily collect data.

However, Airtable's data presentation method is in pieces, so it is inconvenient for users to compare items, especially when there are specific numbers. Therefore, I used Datawrapper to make some charts to show the difference between different data more intuitively.

4 Test&Evaluation

4.1 Prototype test

After designing the prototype, I invited 5 friends to do a usability test, mainly to test their first impression of the website, and to ask them to test the website and propose optimization points.

4.1.1 First impression of the website

I asked interviewees to look at the site for five seconds and then asked them two questions to test their first impressions.

Q1 : What do you think this website does?	
Tester 1	At first glance, I knew that this was a website for making milk, but it was not clear whether it was for milk evaluation or buying milk.
Tester 2	Popularize knowledge related to milk .
Tester 3	A website that makes milk recommendations .

Tester 4	It should be a test website of different milks.
Tester 5	A website for popular science introduction .

Conclusion: In view of this, I think that some users have deviations in website positioning, and I should make the website positioning more clear on the title.

Q2 : Which part did you pay attention to first?	
Tester 1	The slideshow.
Tester 2	The slideshow.
Tester 3	The slideshow.
Tester 4	The slideshow.
Tester 5	The slideshow.

Conclusion: The testers all stated that the first thing they pay attention to is the slideshow (the picture saw by each tester may not be the same). Later, they began to pay attention to the headline and navigation bar of the top website. In view of this, I think it is necessary to present more effective information on the slideshow.

4.1.2 Other optimization suggestions

Tester 1: When I browsed the "famous brand" category for the first time, I didn't know if clicking on the picture or the text would jump, which would give me confusion. The same problem, in the "Nutrition of selected" category, I don't know whether clicking will jump. Therefore, a clearer reminder may be needed.

Figure 22. "Famous Brand" page

Tester 2: The three small categories in the "Recommendation of personality" category are not displayed on the phone. The interface presentation on the mobile phone needs to be optimized.
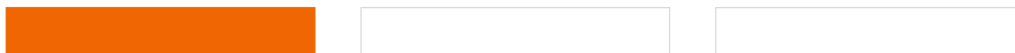

Figure 23. "Recommendation of personality" page

Tester 3: There are both Traditional Chinese and Simplified Chinese in the footer. It is recommended to be unified.
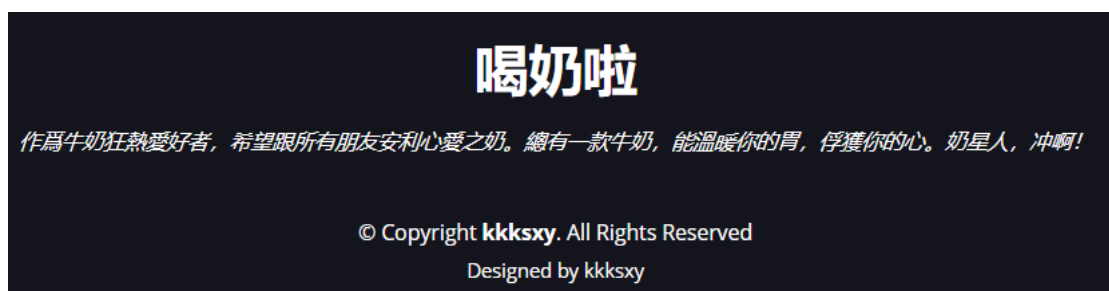

Figure 23. Footer page

4.2 A/B test

4.2.1 Version difference

In order to test how to design the homepage so that users can have a clearer positioning and better visual experience on the website, I did an A/B test through Google Optimize. In the version B, text content, font size and color are adjusted. Details are shown as following.

Version A (Original Version):

Version B:

Figure24. A/B test difference(1)

As shown in the figure above, Version A is the Original Version. Here, I mainly want to test which page title is better. Therefore, in Version A, I used "*Drink Milk*"; in Version B, I used "*Drink Milk | Your Milk Expert*". Obviously, Version B is more specific, but it may be too cumbersome as a title.

Version A (Original Version):

Version B:

Figure25. A/B test difference(2)

As shown in the figure above, "Calcium preferred", " High-protein products", and " Milk flavor preference" are the classification criteria. I want to test which layout the user is more likely to click on the button by changing the boldness of the font. In Version A, the font is bold. In Version B, the font is normal without bolding.

Version A (Original Version):

Version B:

Figure26. A/B test difference(3)

As shown in the figure above, "Fresh milk album", "Weight loss partner" and "Regional light" are the criteria for classification. I want to test the layout in which users are more likely to click the button by changing the color of the font. In Version A, the coler is black. In Version B, the color is orange. Obviously, the font color of Version B is more eye-catching.

4.2.2 Test report

In order to test which version has a higher conversion rate, I set a goal using Google Analytics. If the user stays on the homepage for more than 5 seconds, the system will record once.
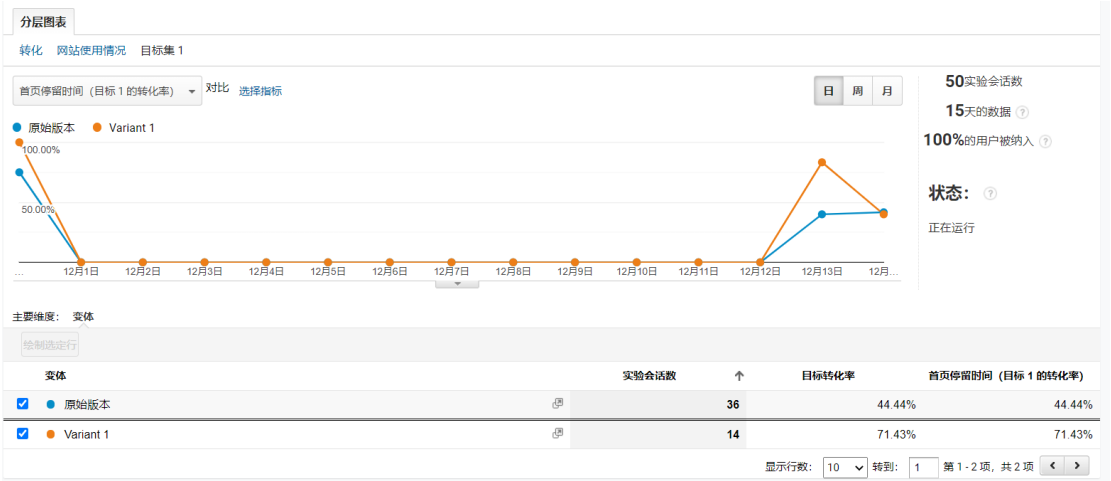

Figure27. Goal conversion rate

Among the 50 experimental sessions, the final target conversion rate of Version A was 44.44%, and the final target conversion rate of Version B was 71.43%. This shows that users stay on the homepage of Version B longer.

Therefore, for difference(1), Version B has more text in the title, which requires users more time to browse, which helps users to have a clearer website positioning. At the same time, for difference (2) and difference (3), users need more time to browse and then click the jump page, indicating that Version B has increased the user's judgment time, and they may not know whether they can click to realize the jump. This will reduce user efficiency.
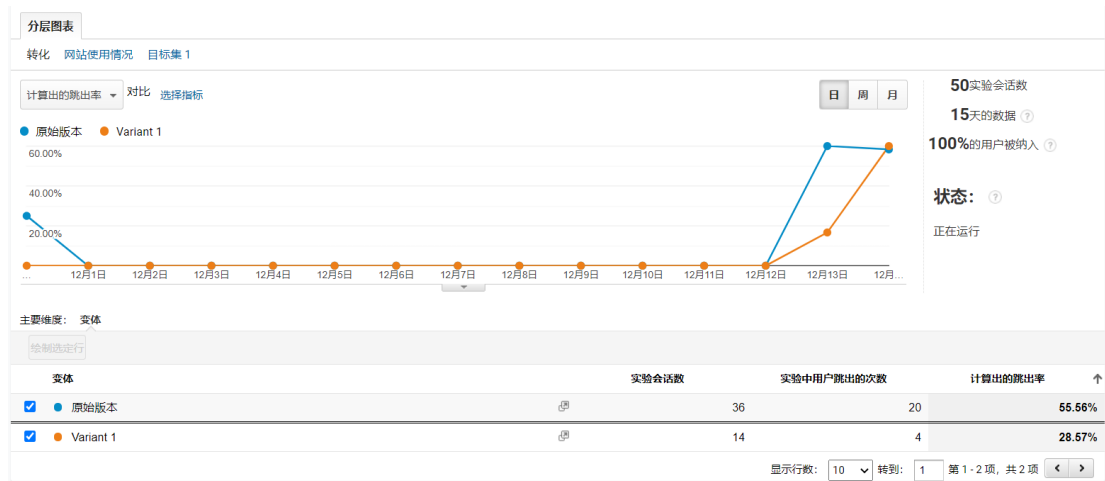
Figure28. Bounce rate

Looking at the bounce rate of the homepage again, the bounce rate of Version A is 55.56%, and the bounce rate of Version B is 28.75%. This shows that the design of Version A makes it easier for users to jump out of the homepage to browse other pages, which once again proves that the design of Version B is not conducive to users to click buttons and realize page jumps.
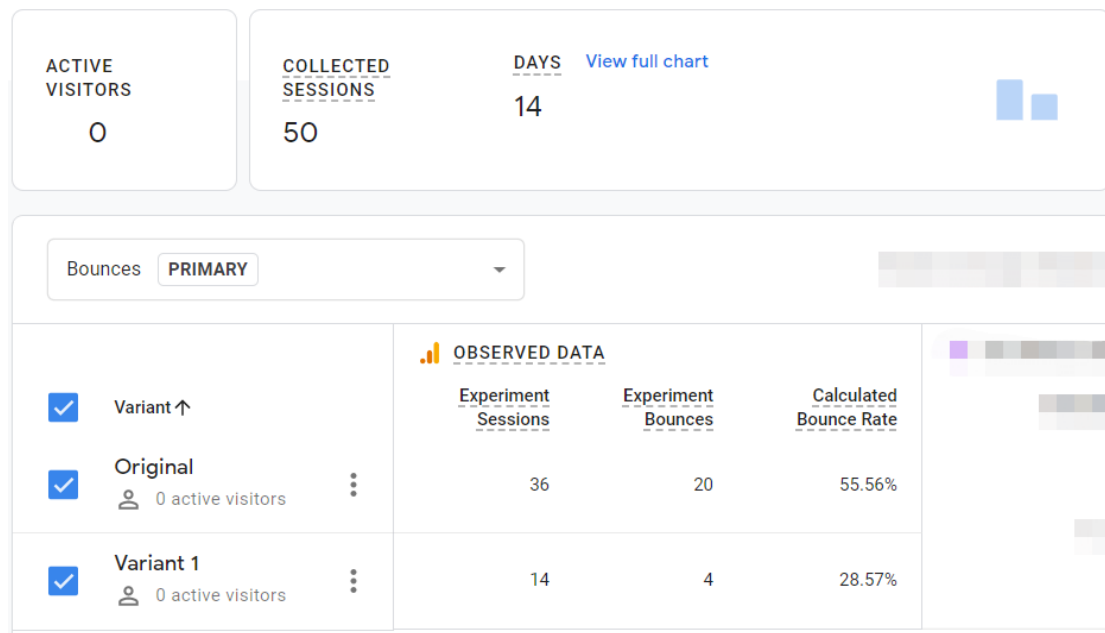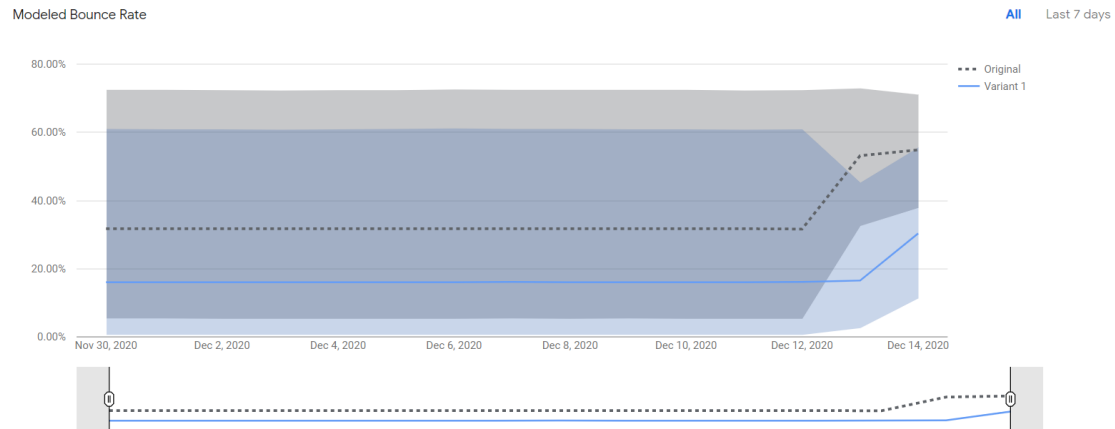

Figure29. Bounce rate

Figure30. Bounce rate

It can also be seen from the data in Google Optimize that in a total of 50 experiment sessions, the home page bounce rate of Version A reached 55.56%, and the home page bounce rate of Version B was 28.57%.

In summary, Version B attracted more users to stay on the homepage. For the three main differences in A/B test settings, the difference(1) of Version B is more advantageous, allowing users to read the title more carefully and have a clearer understanding of the website. But the differences (2) and (3) of Version B are unfavorable because they increase the user's time cost.

4.3 Performance analysis

4.3.1 Location

Among these 37 users, 31 users are located in mainland, China. The other six are from Germany, the UK, Hong Kong and Japan. This is an ideal user group, because this website is a Chinese website, the target users are Chinese, and the products on the website are mainly domestic milk.

Figure32. Location

4.3.2 Use equipment

Among the 37 users, the number of users using mobile phones to open the website reached 25, accounting for 67.57%. Users who use mobile phones to open web pages, depending on the mobile phone system, paste the URL into Safari or Android Webview to open it. This shows that the page presentation of the website on the mobile phone is very important, and the website needs to be made into a responsive style that is more compatible with mobile phones.

设备类别	流量获取		
	用户数 ↓	新用户	会话数
	37 占总数的百分 比: 100.00% (37)	37 占总数的百分 比: 100.00% (37)	54 占总数的百分 比: 100.00% (54)
1.　mobile	25 (67.57%)	25 (67.57%)	31 (57.41%)
2.　desktop	10 (27.03%)	10 (27.03%)	21 (38.89%)
3.　tablet	2 (5.41%)	2 (5.41%)	2 (3.70%)

Figure33. Device

浏览器	流量获取		
	用户数 ↓	新用户	会话数
	37 占总数的百分 比: 100.00% (37)	37 占总数的百分 比: 100.00% (37)	54 占总数的百分 比: 100.00% (54)
1.　Android Webview	13 (35.14%)	13 (35.14%)	14 (25.93%)
2.　Safari (in-app)	13 (35.14%)	13 (35.14%)	18 (33.33%)
3.　Chrome	9 (24.32%)	9 (24.32%)	20 (37.04%)
4.　Safari	2 (5.41%)	2 (5.41%)	2 (3.70%)

Figure34. Browser

4.3.3 Traffic acquisition

Of the 37 users, 37 are from direct channels, and these users are basically testers I targeted. There is a user from the referral channel, but he also comes from the direct channel. This shows that the current traffic of the website only comes from direct channels. On the one hand, it is because the website has not been promoted. On the

other hand, the content of the website may not be attractive enough to convince users to recommend to others.
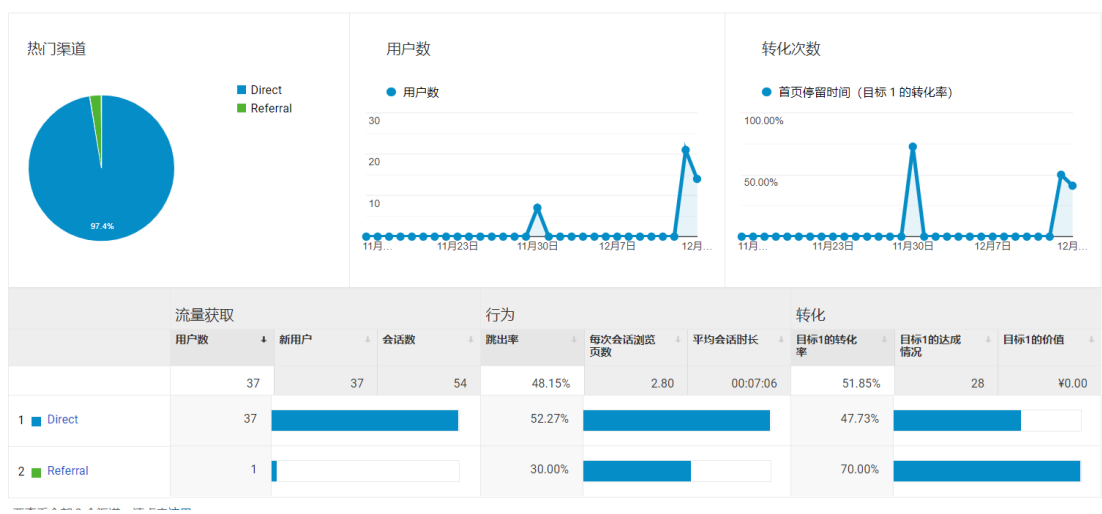

Figure35. Traffic acquisition

4.4 Web page adjustment

After combining various optimization opinions and test results, I made some adjustments. The following are three main adjustments.

4.4.1 Use Airtable and add instructions.

In the category of "famous brands", the content of each brand is directly displayed, occupying a large amount of space on the page. So I ended up putting everything on the Airtable page. In order to let users who have not contacted Airtable know how to use it better, I have added instructions.
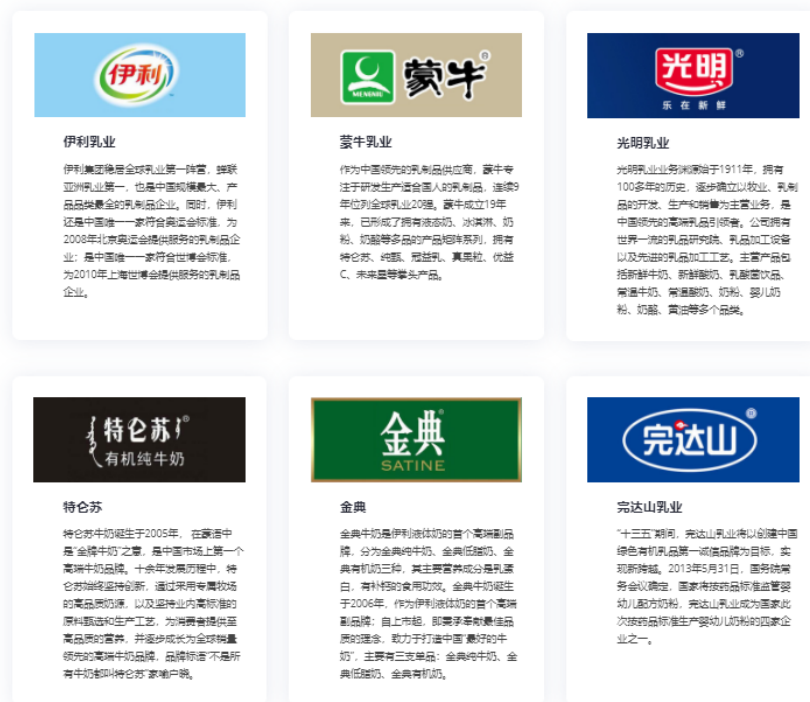
Figure36. Before the adjustment

Figure37. After the adjustment

4.4.2 Add buttons

There are three categories under the category " Nutrition of selected ". In order to

remind users that they need to click the button to view the details, I added a button in each box and added a description prompt below the title.

Figure38. Before the adjustment

Figure39. After the adjustment

4.4.3 Add chart

Airtable has a natural disadvantage when comparing data, and the chart just compensates for this shortcoming and can compare data intuitively. At the same time, since the chart cannot carry too much information, Airtable can play its advantages. Therefore, I added a chart to the page where I needed to compare data, while also retaining the Airtable.
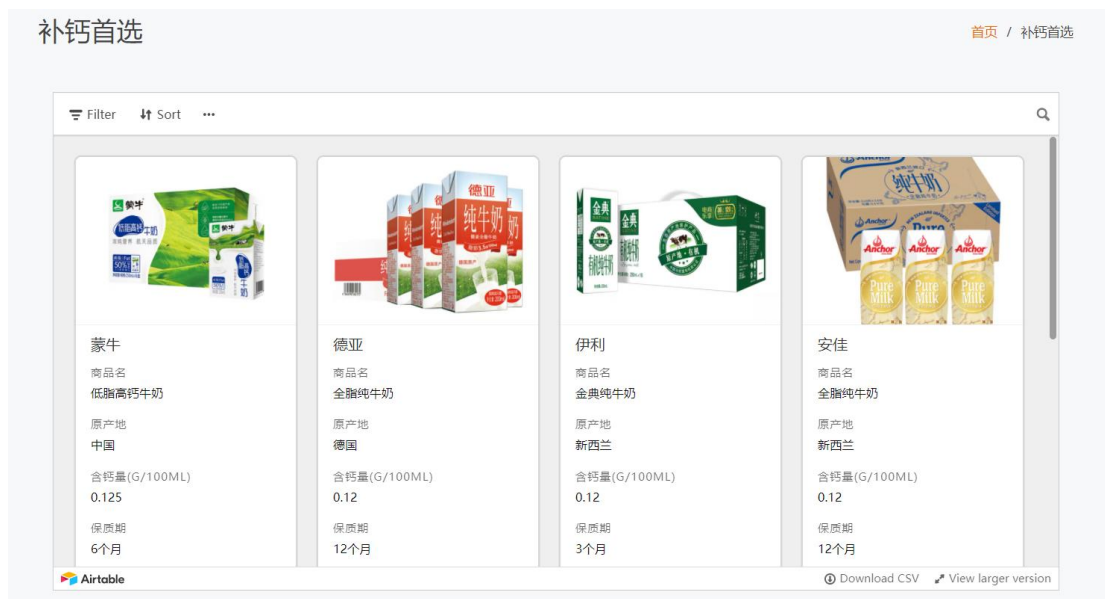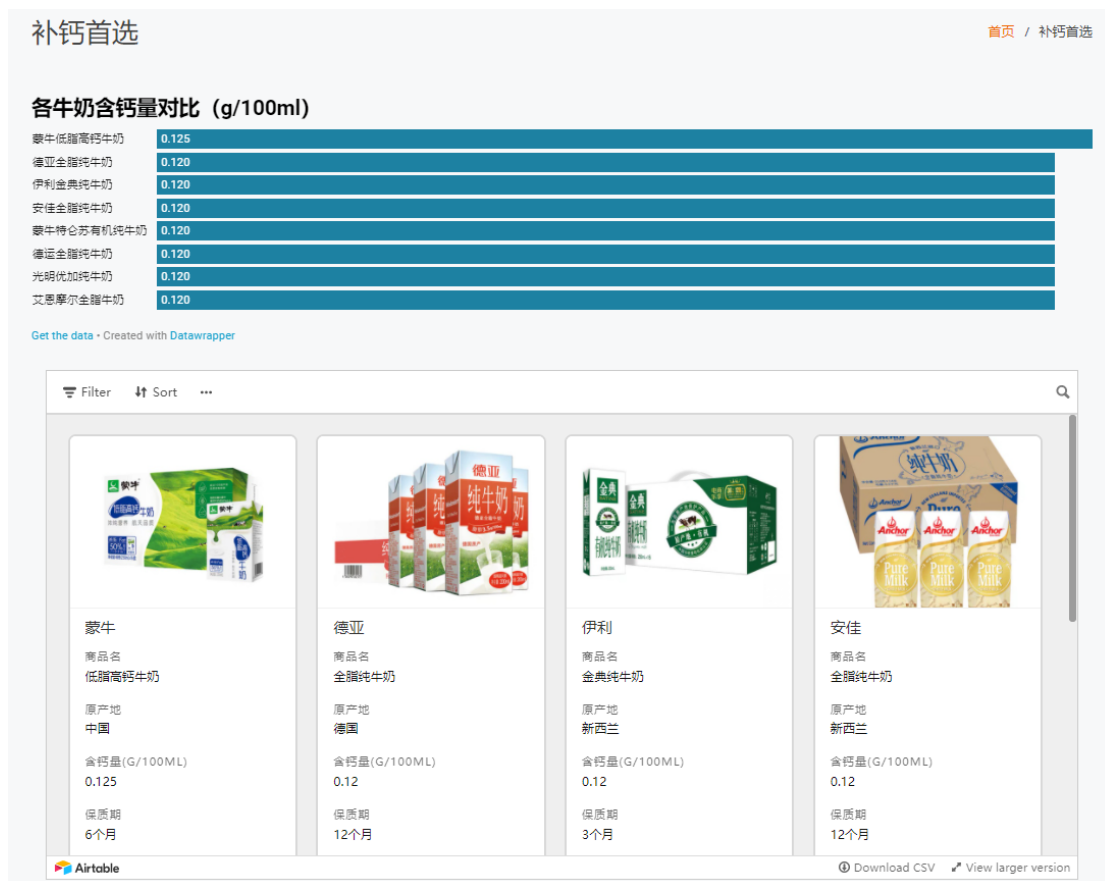
Figure40. Before the adjustment

Figure41. After the adjustment

4.5 Recommendations

4.5.1 Website improvement

a) Data visualization should be more efficient. With the increase of content, if the website uses Airtable, users need to keep dropping, which is obviously inconvenient. Since jQuery Table supports paging and direct keyword search, jQuery Table will be used to carry more data in the future.

b) The website design should be more detailed. The current website layout is relatively simple, and with the increase of functions in the future, the design needs to be further updated.

c) The content needs to be richer. At present, the website provides a total of 6 classification standards for milk, about 80 types of milk, but the number is still relatively limited.

d) A/B test needs to continue. At present, A/B test has tested 45 users, the number is small, which may affect the conclusion. To make the conclusion more prepared, more testers are needed.

4.5.2 Content update

It is necessary for the website to be updated and constantly improved. My plan for the future update of the website mainly starts from two aspects.

a) Website owners need to continuously enrich their content. On the one hand, increase the number of products tested and recommend more products; on the other hand, tap new demand points, that is, adopt more classification standards.

b) Encourage users to actively generate content. There are two main ways for users to participate in content generation. First, users can post comments on any milk, but all comments need to be reviewed before they can be displayed. Because I hope this is a professional boutique website, user reviews need a certain quality. Second, I will initiate topics and polls on the website, which can not only increase the user's

sense of participation and presence, but also a channel to obtain user needs and user comments.

4.5.3 User incentives

How to motivate users to participate? I plan to motivate through rewards.

Before adding the purchase function to the website, I will set some tasks for users. Users get different points by completing tasks, which can be used to redeem milk.

After the purchase function is added to the website, I will change the rewards to on-site shopping coupons, because this can not only bring discounts to users, but also a way to increase website revenue.

4.5.4 Possible business case

Regarding the Possible business case, I have two plans.

The first plan is to sell goods. I plan to add a purchase function to the website. Users can make purchases directly on this website, and the website makes a profit. Or, the website displays purchase links and draws a certain percentage of commissions from sales.

This program can be started immediately because it is not affected by website traffic. However, to profit through this method, the initial price must be low, and users will pay here only if it is lower than the market price. Small profits but quick turnover is the reason. At the same time, low prices can also attract more traffic, which is conducive to the subsequent development of the website.

The second plan is to advertise. The website advertises to various brands to increase the advertising revenue of the website. Of course, I need to strictly consider the quality of milk.

However, this method is difficult to make money in the initial stage of the website, because if the website does not have a certain amount of traffic, the brand will not come to place ads here. Therefore, the website needs to improve the content, increase delivery,

make good use of SEO, etc., to provide visibility and increase website traffic, so as to

attract advertisers to place on the website.