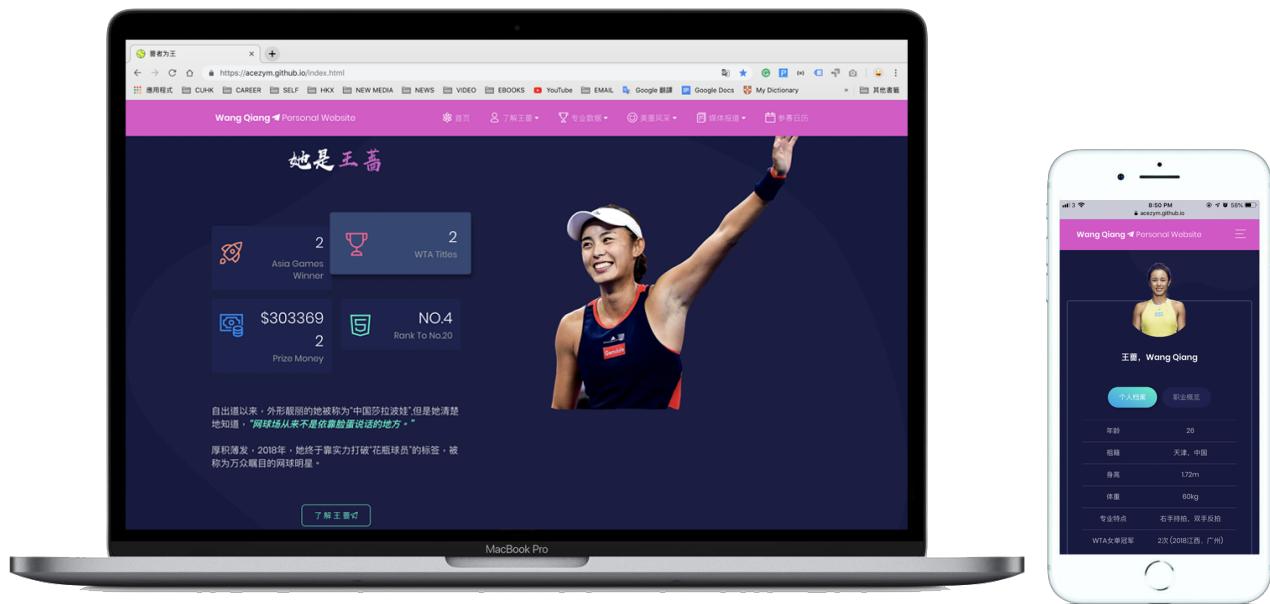


Final Report

Website Design - COM 5961 CUHK

Zhang Yiming
1155112789
December 10, 2018



<https://acezym.github.io/index.html>

Catalog

1 Introduction	3
2 Strategy and Scope	3
Who?	4
Why?	4
What?	5
Survey and Adjustments	6
3 Data	8
4 Content Design	10
Navigation bar	10
Prototype	11
5 Test	12
Quantitative Analysis: A/B test	12
A/B Test 1: Homepage	12
A/B Test 2: Profile page	14
Qualitative Research: 5 User Tests	15
6 Data Analysis	17
Google Analytics Dashboard	17
User Dashboard	17
Behavior Flow	18
Google Data Studio	20
7 Review and Plan	21

1

Introduction

As world is about to change even faster, we need to equip ourself with more tech and design skills to keep up with the pace of innovation. Website design is such a thing that combines technology and design tightly, a great opportunity for us to develop the STEAM skills as well as computational thinking and design thinking.

In the final website design project, I chose to build a personal website for my favorite Chinese women tennis player, Wang Qiang. She is a professional tennis player, considered as a potential super star who may surpass Li Na. The website's name is “薔者为王”, meaning Wang Qiang is the tennis queen.

In this report, I will present my journey from beginning to end. To be honest, the process is not smooth at all. I suffered a lot to get what I want. Fortunately, I made it and I enjoyed it. It took me about three weeks to think about it, to do some research, to design the prototype, to do some tests and to analyze data and review about it.

2

Strategy and Scope

Bernard reminds us to always keep in mind the 5-levels UX elements, and that we should pay more attention on the first two planes - strategy and scope, before we get into it.

The first thing to think about when design a website is the “WHO, WHAT, WHY”. Before started the project, I made a User Understanding map (Figure 1) to give myself a clear direction and remind.

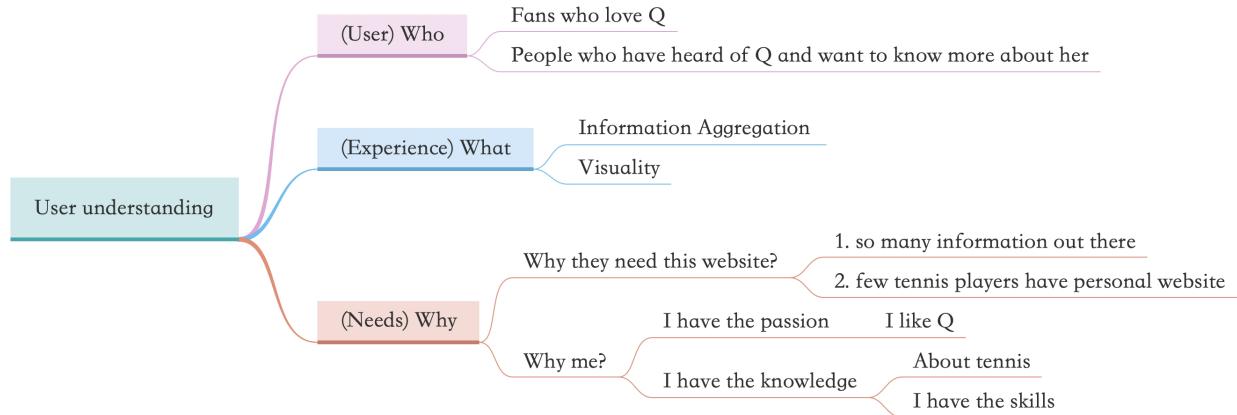


Figure 1. User Understanding Map

* “Q” stands for Wang Qiang

Who?

I want to design the website mainly for Wang's fans and people who want to know more about her, most of which are Chinese people. I will mention their need later in the report.

Why?

There are several reasons for me to choose a tennis-related topic, both huge demand and my own passion.

1. China is becoming a larger market in tennis world with great potential. After the success of Li Na, Asian especially Chinese people began to pay more attention to this sport and they are willing to pay more for deeper involvements in tennis. WTA (Women Tennis Association) thrilled to be part of this market. China currently hosts seven WTA events, including the Premier Mandatory China Open, only next to the four majors. The attendance of many famous international players and local players attracts more people to buy the tickets, which will also

let more people know about tennis. So a website related to tennis topic will have a large number of audience.

2. Wang Qiang is suddenly become famous in 2018, and more people like her for the outstanding performance and attractive appearance. I began to love her since Hong Kong Open in this October, so I searched for many information about her but I found that disorganized and uneven information is a huge barrier in the process. I guess many people have the same problem, so I want to build a website with all the important information and data about her where people can get most of what they want.

3. Tennis player' own website is still in a blue ocean. Although there are many famous tennis players out there, few of them have own personal websites, except for Serena Williams and Maria Sharapova. This means when I designed the website for Wang, there is not enough reference but on the other hand, it is an unexplored market space where I can be the pioneer.

4. Why me? Bernard once said that apart from thinking about the user demand, we also need to consider the “why me” question in order to come up with more unique “selling points”. First I am one of Wang's fans and I empathize the pain points when I first get involved in this process. Secondly, I know some basic knowledge about tennis so I can collect and analyze data in a more professional way. Third, thanks to Bernard, I can code now! So I can make it happen.

What?

I recalled the difficulties when I searching for information and I developed this Why-How Laddering (Figure 2) to see what I can do to solve the users' pain points.

As can be seen in the mind map, I first defined the problems statements (Why) and then divided the Needs (Who) into three parts, for Wang, for fans and for other users, and I further

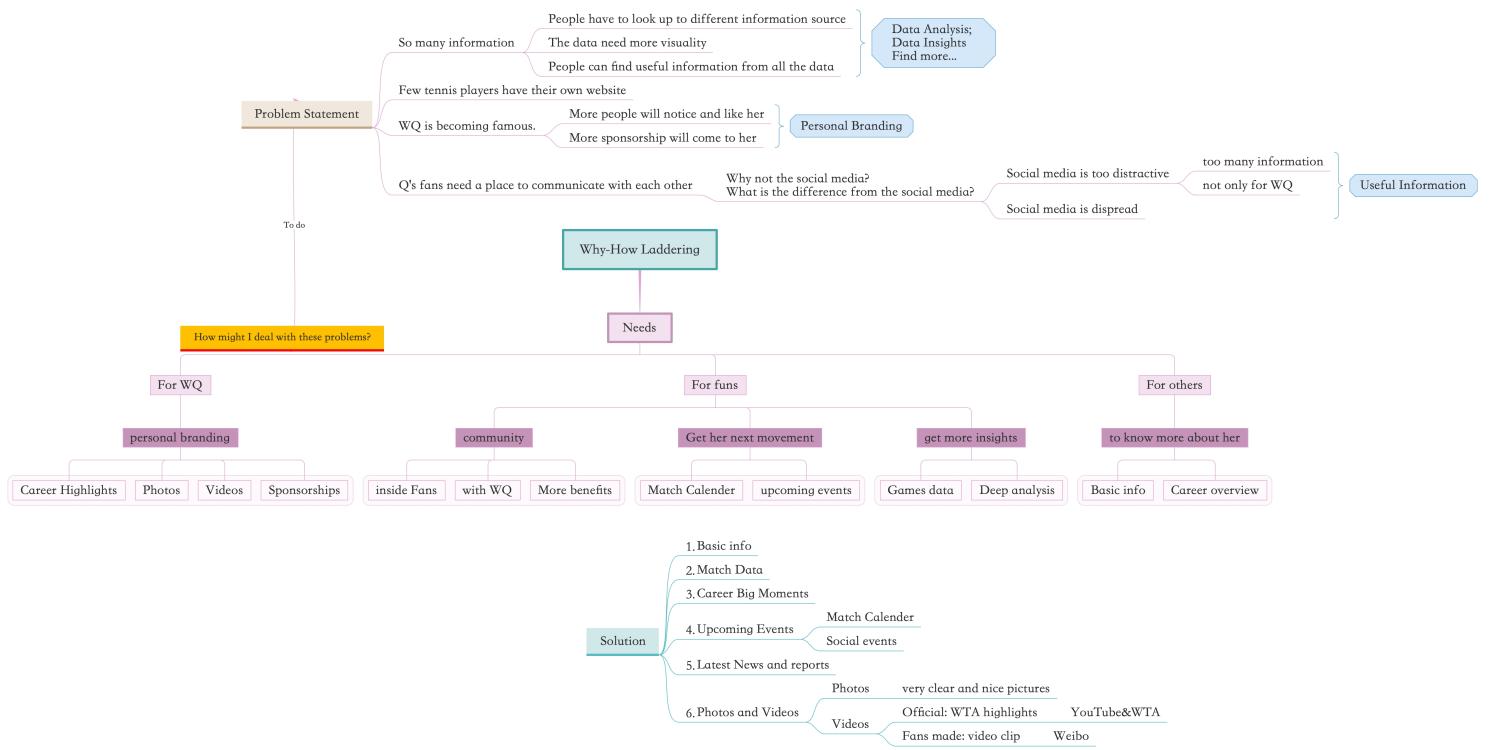


Figure 2. Why-How Laddering

developed their needs and what I can provide (What). With this map, I can clearly see what I need to do to match different users' need. Please notice that I put Wang here not because she is my target audience, but because I want to show what benefits that the website might bring to her, such as personal branding.

Of course, this is just my hypothesis before getting down to the users' requirement survey. Later I will talk about the findings and how I made adjustments to the map.

Survey and Adjustments

To better understand my target users - Wang's fans - needs and expectations for the website, I conducted a simple online survey and distributed it to Wang's fans group chat on WeChat and collected 40 valid responses. Figure 3 shows the scale-response question results.

I also designed an opening question to ask for more advices. “Apart from all the options above, what functions would you expect to see in the website?” After analyzing the answers, I was

glad that I had raised this question because I found that people want more despite of what I had come up with. I categorized the answers in Airtable: <https://airtable.com/shr0nJtzwpF2osy7V>. The most outstanding finding is that 11/40 people want “community” function to meet more friends, leave a message or talk to Wang. So I would consider to add this to my plan to improve a better user experience.

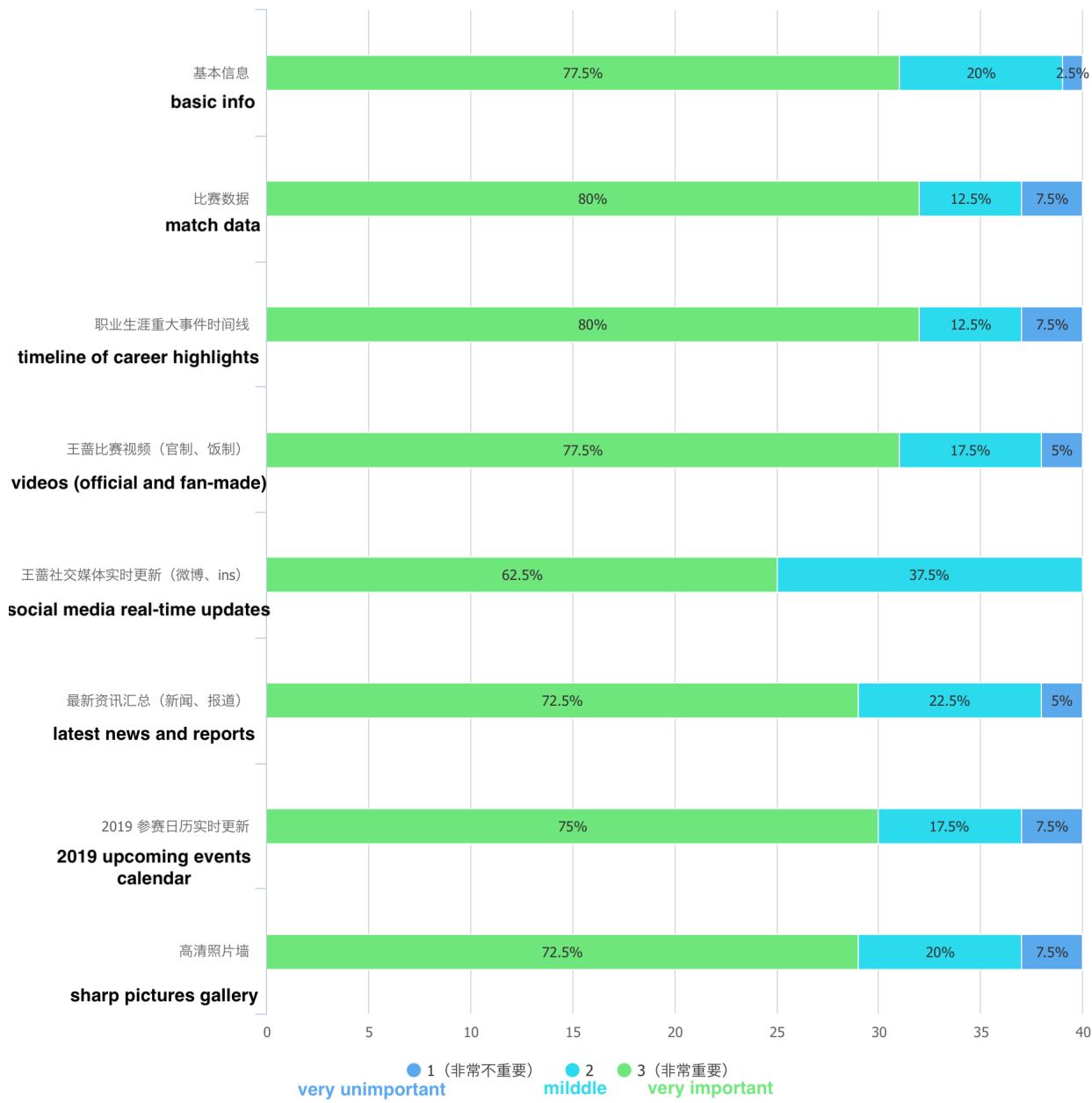


Figure 3. Survey results

*Original data: <https://airtable.com/shrUzHchPcxcVCtNo>

3 Data

Now comes to the most important part of preparation - data collection and analysis. Recall to the Why-How Laddering and focus on “solution” part. These are all the data I need to support the content.

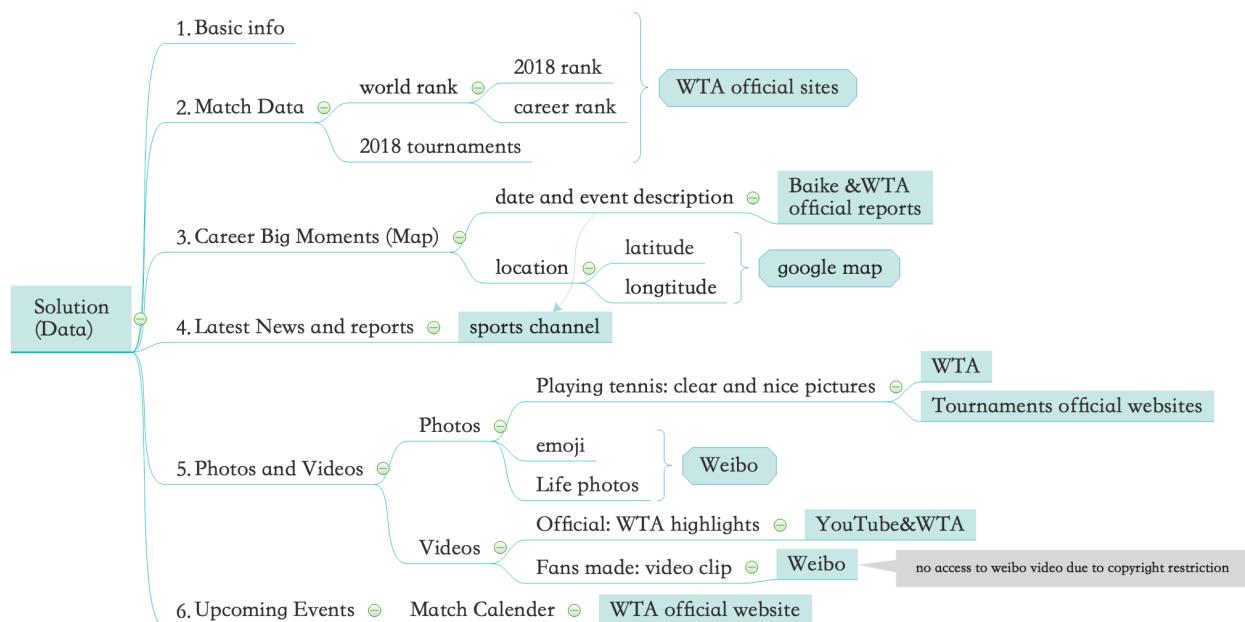


Figure 4. Data requirements and sources

I used ParseHub to crawl data, including highlight videos on YouTube, posts on Instagram, match data, rank data and upcoming events on WTA official website. Please notice that I have no access to Weibo videos due to the copyright restriction in mainland China. However, the crawling data is not satisfied and I need to “clean” them to with Open Refine. Then I import all the data to Airtable with further improvement. For those data I could not simply grabbed, such as the interviews and reports as well as the emoji pictures dispersed in Weibo, which need to be carefully chosen, I inputted them in Airtable.

Your data is ready!
Click on the green buttons to download.

Download Data

[CSV/Excel](#) [JSON](#) [API](#)

Run Details

Status	complete
Pages	5 collected
Initialized	2018-12-01T05:40:57
Start Time	2018-12-01T05:40:59
Finished	2018-12-01T05:42:09
API Key	tq7-MD-CFG4
Project Token	tq7-MD-CFG4
Run Token	teFr5KrnwMON

Settings

URL	http://www.wtatennis.com/tournaments
Starting Template	main_template
Starting Value	0
Load Javascript	true
Rotate IPs	false

1. All dates and times are in UTC +0000.
2. Empty file with no results? [Click here to fix.](#)

[API](#) [Tutorials](#) [Contact](#)

[OpenRefine](#) [calendar](#) [Permalink](#)

Facet / Filter Undo / Redo 3 / 5 Extract... Apply...

66 records

Show as: rows records Show: 5 10 25 50 records Extensions: Wikidata ▾

All	tournament	location	tournament_logo	tournament_start	tournament_end
1.	Shenzhen Open	Shenzhen, China		Dec 30	
2.	ASB Classic	Auckland, New Zealand		Dec 31	
3.	Brisbane International	Brisbane, Australia		Dec 31	
4.	Hobart International	Hobart, Australia		Jan 7	
5.	Sydney International	Sydney, Australia		Jan 7	
6.	Australian Open	Melbourne, Australia		Jan 14	
7.	Oracle Challenger Series	Newport Beach, CA, USA		Jan 21	
8.	Thailand Open	Hua Hin, THA		Jan 28	
9.	St. Petersburg Ladies Trophy	St. Petersburg, Russia		Jan 28	
10.	Catral Total Open 2019	Doha, Qatar		Feb 11	
11.	Dubai Duty Free Tennis Championships	Dubai, UAE		Feb 17	
12.	Hungarian Ladies Open	Budapest, Hungary		Feb 18	
13.	Abierto Mexicano TELCEL Presentado por HSBC	Acapulco, Mexico		Feb 25	
14.	Oracle Challenger Series	Indian Wells, CA, USA		Feb 25	
15.	BNP Paribas Open	Indian Wells, CA, USA		Mar 6	
16.	Abierto De Zapopan	Guadalajara, JA, MEX		Mar 11	
17.	Miami Open presented by Itau	Miami, FL, USA		Mar 19	
18.	Volvo Car Open	Charleston, SC, USA		Apr 1	
19.	Abierto GNP Seguros Monterrey	Monterrey, Mexico		Apr 1	
20.	Samsung Open presented by Comer	Lugano, Switzerland		Apr 8	
21.	Claro Open Colsanitas	Bogota, Colombia		Apr 8	
22.	2019 Zhengzhou Women's Tennis Open	Zhengzhou, China		Apr 15	
23.	TEB BNP Paribas Istanbul Cup	Istanbul, Turkey		Apr 22	
24.	Porsche Tennis Grand Prix	Stuttgart, Germany		Apr 22	
25.	Grand Prix De SAR La Princesse Lalla Meryem	Rabat, Morocco		Apr 29	
26.	2019 Kunming Open	Anning, China		Apr 29	
27.	J&T Bank Prague Open	Prague, Czech Republic		Apr 29	

Grid view Hide fields Filter Group Sort Color ...

YouTube link 2019Calendar SHARE BLOCKS

31 records

[OpenRefine](#) [calendar](#) [Permalink](#)

Figure 5. Data collection process

4 Content Design

Navigation bar

After dealing with data, the preparation is almost done, so I started to design the user journey.

In order to keep a clear logic behind the visualization and remind myself where I am in the process,

I used mind map to record all the thoughts and kept updating changes everyday.

Figure 6. The development of navigation



I planned to design a multiple pages and navigation-oriented website from the start, because I have so many different kinds of things to cover. Therefore, a clear and navigation is even more important than a single page. The navigation of my website has experienced many times of iteration, including the changes of structure, visualization and copywriting. Besides, I want to make the website work in a long run, so I updated three latest news and the upcoming events on Dec 9.

Here is the latest navigation bar (English version).

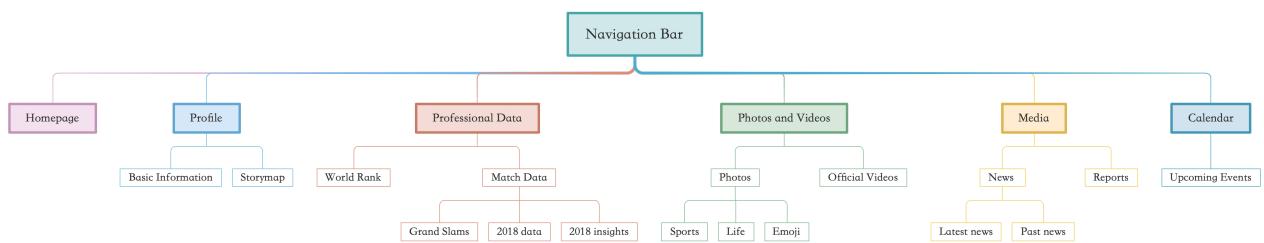


Figure 7. The final version navigation bar

Prototype

When I designed every single subpage, I will draw prototype on a piece of white paper¹. The advantage of drawing down is that it is easy and efficient for me to implement the ideas, adjust immediately once I realized a problem and use it as a reference to arrange elements in Atom. Whenever I finished a part, I wrote a “✓” on the paper to remind myself that this part is done.

When drawing the prototype, I asked Gyllennis for some advice, because he is a huge fan of tennis and has been playing tennis for more than ten years. I was not sure whether to put the “official video” part under “Professional Data” or “Wang Qiang Style”; the former included rank and match data while the latter is all about photos. I showed the prototype to Gyllennis and he said it would be more reasonable to put the “official video” under the “Wang Qiang Style”.

¹ I attached a prototype pdf file because there are too many slides. Please check the full version in pdf.

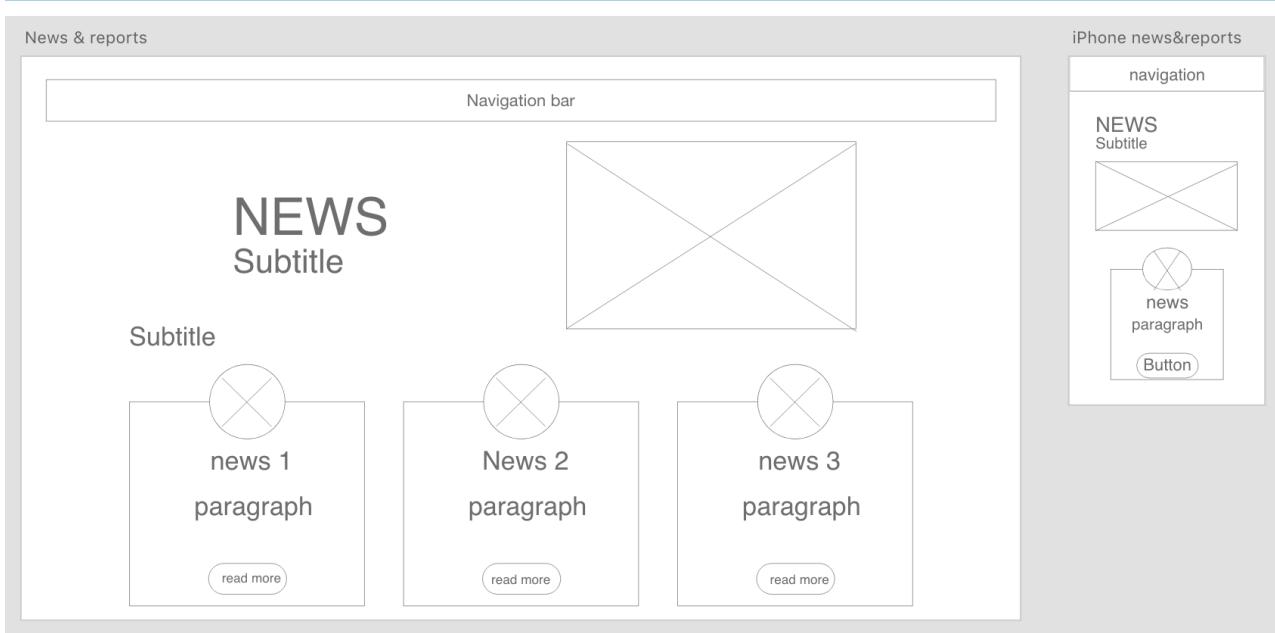


Figure 8. An example of prototype

5 Test

Quantitative Analysis: A/B test

I used Google Optimize to do two A/B tests respectively on the landing page and the profile page, where most conversations are completed. The experiments are still under going and I will report the current situation in this report.

A/B Test 1: Homepage

I designed two versions of the homepage, the difference between the A and B is whether there is a “Go to the profile page” button or not. The reason why I designed this is that in the original version, I tracked how many people would click the picture. I supposed that when the mouse appeared on the picture, a line of hidden text “Know Wang Qiang” would show up to encourage people to go to the profile page. Unfortunately, most people used mobile devices so they

couldn't see the button unless they click the picture, which they didn't because it is unreasonable. Based on this, I redesigned the homepage and add a button directly link to the profile page (version A), and I made the "click" event as a conversion goal. Then I wanted to know whether the button really matters so I made a version B which without the button to see the difference.

A/B Test 1 lasts for 5 days with 120 sessions. As expected, the conversion rate of version A (25.00%) is significantly higher than version B (7.81%), as can be seen in Google

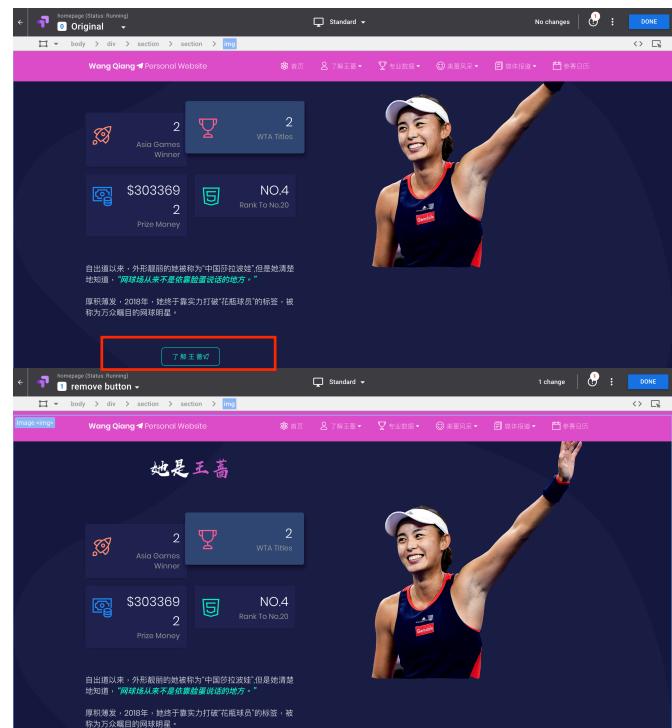


Figure 9 . A/B version of homepage

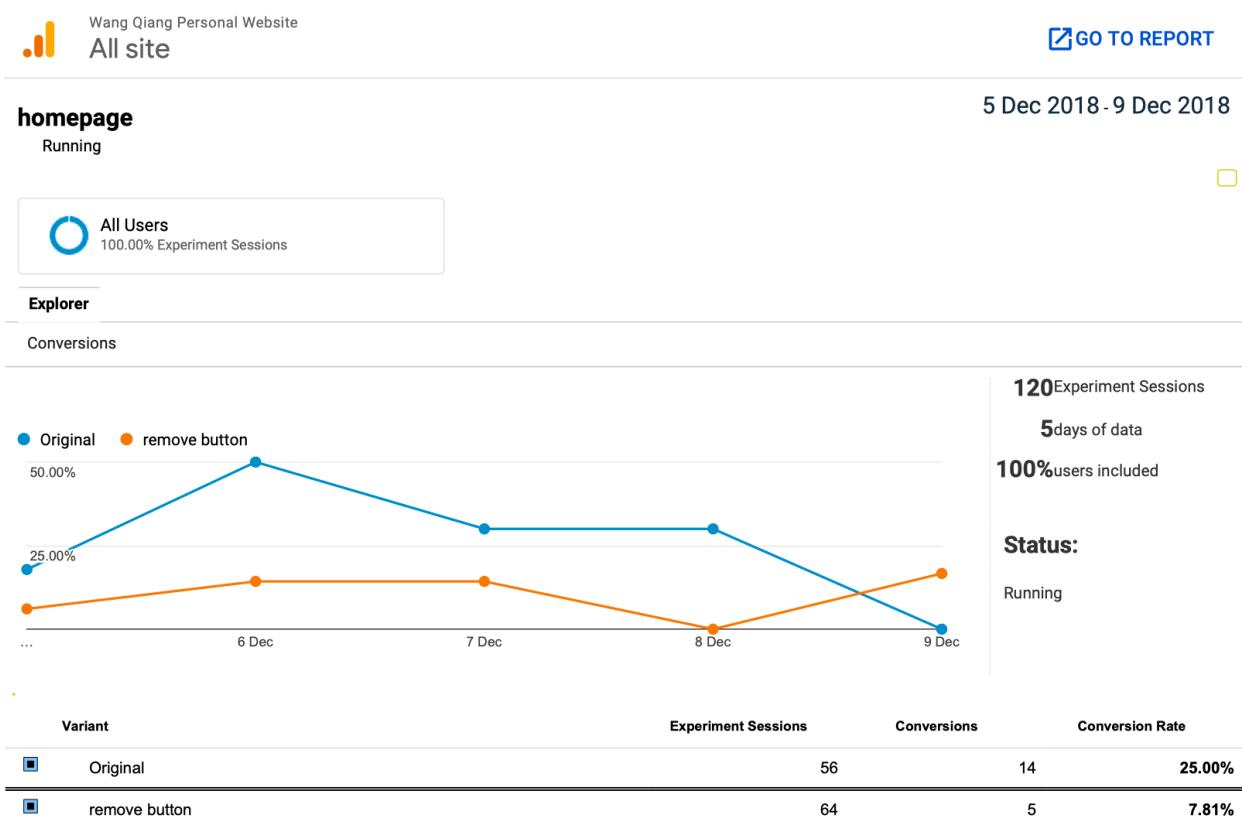


Figure 10. Google Optimize report of Homepage A/B Test

Optimize report (Figure 10). The button did provide effective guidance. So in the final version after the experiment, I will keep to button.

In conclusion, A/B Test taught me that the user experience is more important than the visualization. In the beginning I thought a hidden text on the picture is cool and attractive but actually few people even know about the trick.

A/B Test 2: Profile page

In the A/B Test for profile page, I did not add or remove any element, but just changed the layout slightly: version A is more dispersed, while version B is more compact. The experiment lasts for 7 days and collect 81 experiment sessions. As can be seen in the Google Optimize report(Figure 11), the conversion rate of version B (23.26%) is slightly higher than version A (15.79%), which indicates that more compact layout especially in mobile devices is important.

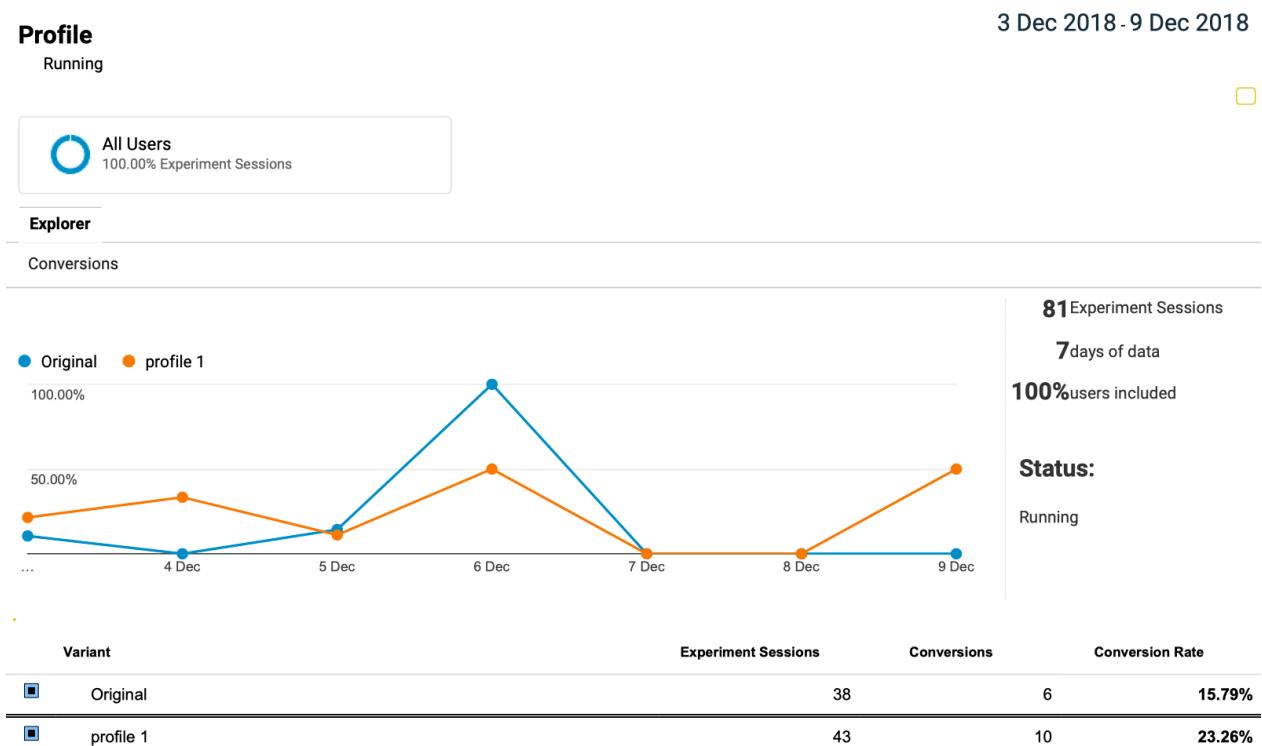


Figure 11. Google Optimize report of Profile A/B Test

Qualitative Research: 5 User Tests

It is not enough to only analyze the data of quantitative research, qualitative research is essential as well. So I invited five users to join the online user test to see if they have any problems during the journey. I chose three typical types of my target users, Wang Qiang's fans (2), people who know tennis very well (1), and those who don't recognize her but want to know more information (1). Due to the device limitation, two of them have recorded the screen² and three of them just wrote down their thoughts. In this report I will analyze what I observed in two videos and presented the other three's thoughts and advices.

The first user Carman has no idea about Wang Qiang but is willing to know about her. I gave her the mission to explore the website as long as she wanted. She got the version B homepage which without the button, so she directly went to the navigation bar and checked the profile page. However, there was a bug that she could not see some pictures and information.

I guess it was because of region restriction. In the video, she said "generally, it is a good website. I can get more about the information about Wang Qiang, including her basic profiles and how many difficulties she had overcome."

The second user Julie knows tennis well. She complained many times for the slow loading speed. I had already reduce the pixel of my pictures before that, so maybe it was caused by other

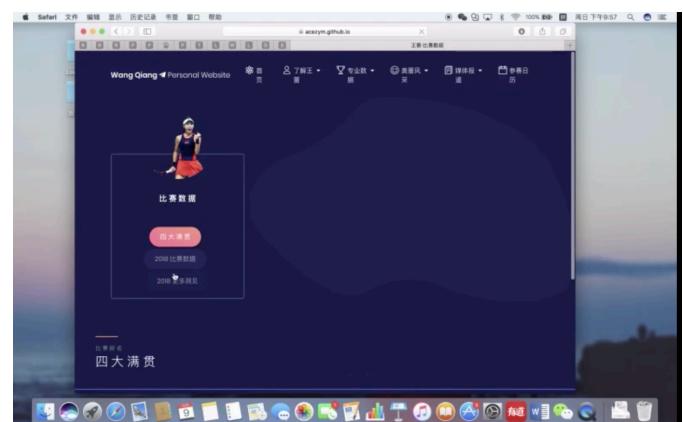


Figure 12. User test bug: no pictures

² Video url:
<https://pan.baidu.com/s/1oQXUa33Bxo3NBcXzdtzbag>
<https://pan.baidu.com/s/1ApmN8cVqC5WGtsV5--EfDw>.
*The video sizes are too big that I just kept them on Baidu Cloud.

contributors such as the Internet speed. Then she went to the “Story Map” and highly praised it.

I also collected some useful ideas from three users and I improved my website a little based on their advices.

The first one is about the color and theme. One user thought a single background color is dull and he suggested to add some gif banners on the top of the screen. The second one is to add a “return to the last page” button on every page and to add a sidebar to make the decision of where to go next easier. The third one is to replace the long description words with more forms or pictures because nowadays people have no patience to read long paragraphs. As I marked in Figure 14, he likes the picture with clear data, but thinks the paragraph is redundant. The fourth one was came up by a professional tennis lover who thought the prediction about upcoming events is useful. For example, how well Wang is going to perform in the next game based on the formal head to head history with the rival. To achieve that, I need more professional data and analysis. The last, a Wang’s big fan suggested that it would be more useful for fans if there was a community where they can team up to watch a game, to communicate with each other, to share their ideas and guidance, etc. This is also difficult to achieve because it means that I need more skills and time to build and operate the community.



Figure 13. User Julie likes this part



Figure 14. User test advice about the information presentation

6 Data Analysis

Completing the content design and test is never the end of the journey, I have to evaluate the website's performance and analyze the problems to support further improvement. Thanks to Google Analytics and Data Studio, I have the chance to look inside the data behind the behaviors.

Before that, I set many tracking goals on Google Tag Manager, a powerful tracking tool which can give me more information about what my users did on my website. I set different variables and triggers on every button on every page, in order to track the journey of my users. I also used the Campaign URL Builder to generate some urls to track the sources. Now all things are settled, all I need to do is to keep promoting my website to more people and waiting for Google tools help me collect the data. During Dec 3 to Dec 9, I regularly check the data and kept changing my strategies to promote my website.

Google Analytics Dashboard

User Dashboard

I designed a customized dashboard with 7 metrics, comparing the difference between all users and returning users. I selected sessions, page views, average time on page, bounce rate, average session duration, goal completions and goal conversion rate, which can give me a general view of the users.

The dashboard is divided in three part. The left one are the widgets that can reflect my website's overall performance. The returning users (46) are more than I expected. They stayed longer on my website and lower bounce rate compared to all users. However, the bounce rate is so

high (almost 50% for all users) that I could not help thinking about the reasons. The middle one shows the users countries or regions. Most of them come from China while more than 10 from other countries. It also shows that most of the users use mobile phones to check my website. I should have known that so I should have paid more attention on the user experience and interaction on mobile version. The right part revealed the goal completions by browsers and devices, which also give me some instructions about where I should pay more attention to in the future.

Behavior Flow

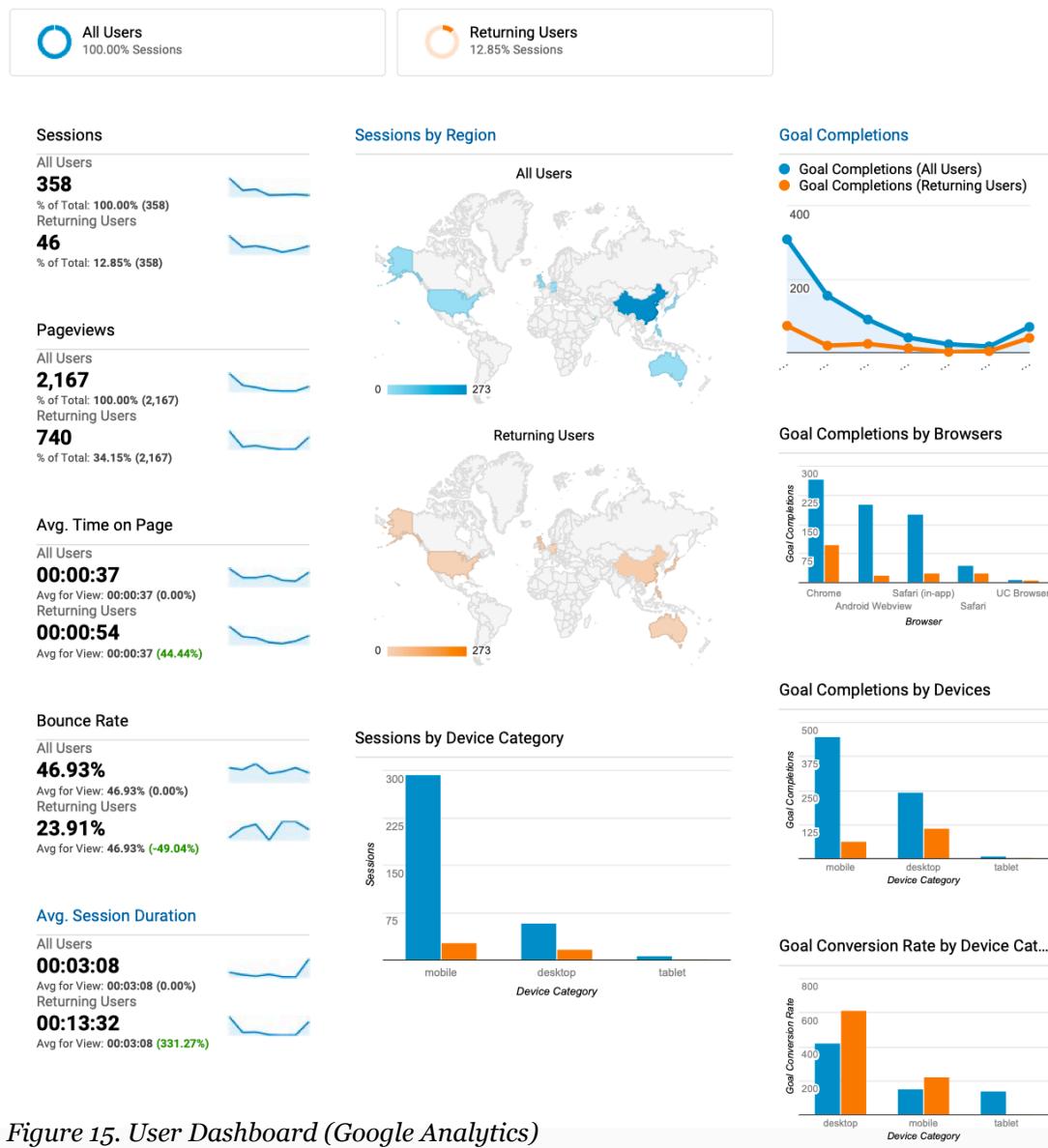


Figure 15. User Dashboard (Google Analytics)

Because the website I designed is a multiple-pages one, I was interested in how my users interacted with it so I went to the Behavior section in Google Analytics. Unfortunately, as can be seen in the Figure 16, 196 people dropped off after landing the page, which means more than half of people just left my website without any interaction. For those who still remained on the page, 18% clicked the “view profile info button” and went to the Profile page, as I expected. The choices became more various in the first interaction. More than 80% directly went to the navigation bar and click the pages that they were interested in. The Calendar was unexpectedly popular.

I lost 42 sessions between the first and second interaction. What make me confused is that why 25% of people went back to the homepage because I supposed that people would continue to look through other pages.

The highest times of interaction is 12 with 8 people left till the end, which is beyond my expectation. After reading the whole behavior flow I found that the longer people staying on the page the less possible for them to leave. I guess that it is because they found some useful information and I am glad to keep them on my website.



Figure 16 . Behavior Flow of first 3 interaction (Google Analytics)

* Full version is attached in the file

Google Data Studio

Apart from the dashboard in Google Analytics, I also tried to make a conclusion on Data Studio. I think it is a better look and more clear than the dashboard. And when you go through the [view page](#), you can see more information beyond the downloaded pdf file.

In the “Top Content” part, I ranked the page title by page views. Most people viewed Wang’s profile page (575) but most sessions happened on the homepage. The top two pages with highest average section duration were “Profile” and “Match Data”, which were the pages that took me most time on to make the content rich and reasonable. But it also may because some users just leave the window opening for a couple of minutes.

In the “Top Sources and Medium” part I can identify which are the main sources that people know about my website. But please noted that the source “instagram” is actually “Weibo” but not Instagram. I mistakenly mixed these two up when I made the short url. To gain

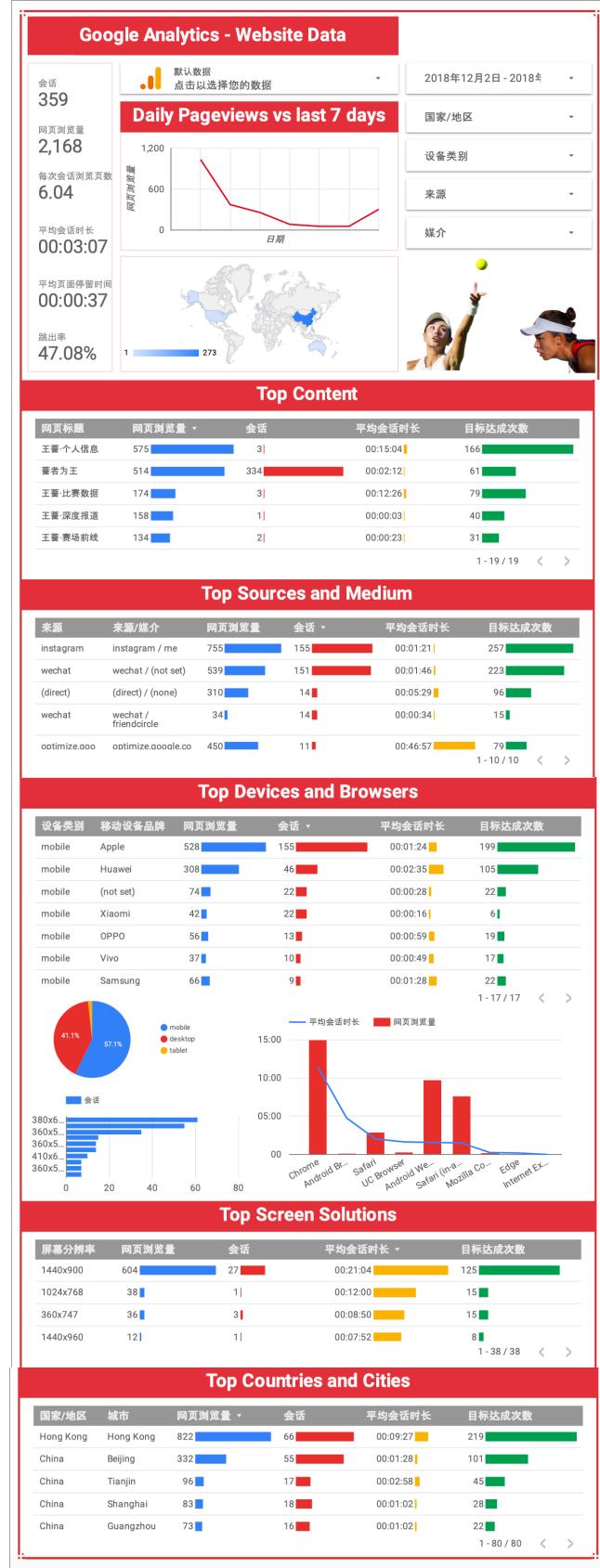


Figure 17 . Google Data Studio

more exposure, I contacted with Wang Qiang's Fans Club and they agreed to post my website url on their Weibo. As a result, the top one source is actually Fans Club's Weibo. I also shared the url on WeChat. Compared with the friend cycle (14 sessions), more sessions happened in the direct WeChat messages I sent to the WeChat groups. However, I deeply regret that I did not specify the source more clear. If only I had subdivided the campaign medium more detailed, I might have a better understanding about which WeChat group attributed most of the traffic.

Another one I want to mention about is "Top Devices and Browsers". For the mobile devices, Huawei and Samsung users had longer average session duration than Apple users. This might be ascribed to the screen size and operation system. I will see if I can optimize my website's user experience referring to the two factors.

7 Review and Plan

I am generally satisfied with the first website I have ever designed and I truly enjoyed the process of brainstorming, design and execution. I sent the link to Wang Qiang and her boyfriend to see what they say. Although Wang Qiang herself did not post my website on Weibo, her boyfriend said that "I like it. It is charming and stylish. You have chosen the right color which is Qiang's favorite." I also shared my website with Wang's fans on WeChat and Weibo to get more clicks and advices. Many of them were excited because no one has done this before. They also gave me some advices, for example, the pictures need to be more high-quality, and some tables need more improvements to look better on mobile devices. I will improve these later in the future.

However, my biggest regret is that I spent so much timing on planning that I did not have enough time to achieve the most exciting part: fans community. Apart from the community, I want

to make the upcoming events look better, have both the list and calendar modes so that people can check the events more convenient.

What's more, according to the quantitative and qualitative research, I found that it is the usability and the utility, not the visual design, that determines the success or failure of a website. Sometimes I make the same mistake to focus more on visuality but somehow sacrifice the better user experience and interaction.

In the future, I will continue to run this website. The first reason is that I really like Wang Qiang and I hope more people will like her. This is also one of the website's original intentions. The second reason is more personal. I don't want to give up the first product that was created in my own hand. I will make the best use of it for my career future.

Now when I recall to what Bernard told us, "There are a lot of tools to make a website, easier than coding. But I just want you to know the principles behind that." I can now understand it after all the journey. Only if we have the real skills, can we have the freedom to achieve what we want.