2018

Final Report for “On the ROAD”

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Contents

Introduction

"On the ROAD" is a photo sharing website, an integrated platform providing recommendations of where and how to take good pictures and also encourage users to share their pictures and travel experiences on it. For those who want to record their travelling memories and want to get familiar with photography, this website is capable of giving useful suggestions and solutions.

The following parts will introduce the process of defining the design concept, building the database together with the website based on the elements of user experience model.

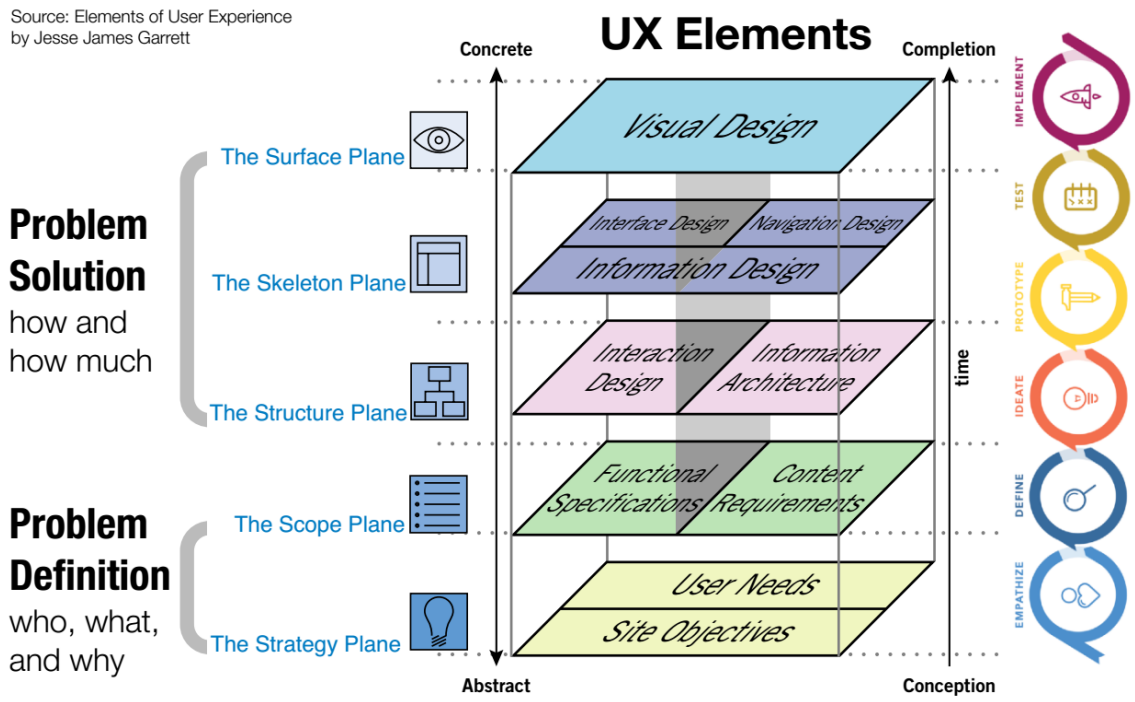


Figure 1: Elements of User Experience Model

Former Research

1. Defining problems

As the technology allows transportation to become more convenient, people nowadays gradually prefer independent travelling, and willing to spend time enjoying their trip by taking pictures to record their travel experiences and share their photos on the social media platforms. It has become a popular lifestyle among people who pay attention to their life standards.

However, sometimes taking pictures to record precious memories can be difficult. Some people only have no knowledge in photography. Sceneries are not so beautiful in their pictures. They are eager to take good pictures to not only record the memorable scenes but also to share them on social media.

At the same time, there are also a group of people who have difficulty in discovering suitable places to travel and take pictures. For those who choose independent travelling, they often go to the specialized travel apps for advice. Those travel apps, such as Ctrip and Fliggy, though have recommendations for travelling spots, the pictures on them are of different qualities, sometimes hard for users to identify which is true.

Although photo sharing has been quite common nowadays, as social media platforms such as Facebook and Instagram have been so popular, and more professional photo sharing sites such as Flickr worldwide and NetEase Lofter in China are also attracting large scale of users. However, those platforms either have too complicated functions which are sometimes difficult for users to meet their needs or are too limited to single functions. For example, Instagram is more focusing on social functions and Lofter includes cartoons, design and a lot of other elements in addition to photos.

Therefore, there are great opportunities for an integrated platform including both photography and travelling. It can help to solve their problems and provide inspirations in people's daily life. Users can learn about simple photography knowledge, discovering inspiring travel spots, sharing their travelling pictures and experiences with each other here.

2. Target publics

As analyzed before, the target users are those who prefer independent travelling and are willing to record their travel experiences. There are some common characters among them.

First, they pursue a life style with good quality. They will travel more than once in a year and are willing to spend time searching for good travel spots.

Second, they emphasize recording their experiences. They are willing to learn about photography or already have good knowledge of photography.

Third, they enjoy sharing their experiences with others on social media.

3. User Needs:

According to the analysis before, the needs of target users can be divided into different aspects.

First, basic photography tutorials. Users will want to learn about photography, in other words, how to take good pictures. Photography tutorials which are not too complicated but practical are necessary, such as different categories and styles of pictures, tips on how to use cameras and how to take travelling pictures.

Second, photos shared by other travelers. Good photos share by others will provide ideas for both users who know about photography or not. These photos shared should be in good

quality and provide the information of what categories and styles the photos belong to, where they are taken and what devices are applied. Also, there should be their travelling experiences shared together with the photos.

Third, recommendation of places for travelling. The recommended travelling spots will be automatically generated according to the data collected from the users sharing their photos. Places where most users have traveled to will be recommended to others.

Forth, recommendation of cameras. In most online photo sharing platforms, devices are often ignored. In addition to focus on pictures themselves, the devices applied are also of great importance in taking good pictures.

Fifth, the sharing functions. Users will want to share their photos with each other and communicate about travel and photography. The platform needs to provide them with sharing functions.

4. Objective

To fulfill needs of target users, “On the ROAD” is designed as integrated platform for users to generate interests in photography and traveling by providing data such as photos, camera information and travel tips. At the same time, it also aims to encourage them to record their life by uploading their photos and experiences on “On the ROAD”.

For “On the ROAD”, the platform is expected to gain enough UGC and generate user stickiness to maintain its traffic in order to become an integrated online community for travel photos and recommendations sharing. In conclusion, the strategy plane is shown in Figure 2.

Objectives	Target Users	User Needs
Become an integrated online community for travel photos and recommendations sharing.	People who enjoy independent travel and want to learn about travel photography.	Photography tutorials; Recommendations of good pictures, travel spots and devices; Sharing photos with others.

Figure 2: The strategy plane for "On the ROAD"

Functions and Contents

Before defining functions and contents, a user's journey map is designed, featuring the imaginary process of the target users looking for recommendations on "On the ROAD". The journey map is shown in Figure 3.

	起	承	转	合
人物	People who enjoy independent travel and want to learn about photography.	Interested in photography and want to learn more.	Try out tips learned from "On the ROAD".	Satisfied with travel and travel photos.
场景	-Social media platforms sharing -Travel App promotion	"On the ROAD" website	-Camera store; -Travel spots.	-Social media platforms; -"On the ROAD" website.
文物	Website	-Video tutorial -Photos with high quality -Travel maps and recommendations -Recommendations for devices	Cameras	Website
情况	-Look for information about photography online; -Search for travelling places on travel apps; -Look through photos taken by others on social media platforms for references; -Go to stores to learn about cameras.	-Sign up; -Watch photography tutorials; -Find photography categories and styles they are interested in; -Look for recommendations of travel places and devices.	-Purchase suitable cameras; -Explore travel places; -Take good photos on trip.	-Share photos on "On the ROAD" and other social media platforms; -Frequently visit "On the ROAD" and recommend it to friends.

Figure 3: The user journey map

To fulfill objectives conducted before, functions and contents need to be specified. Photos, travelling places and devices recommendations are the main contents on “On the ROAD”. They are organized separately and integrated to fit different functions.

- Function 1: Information search.

The most basic function of “On the ROAD” is providing information and recommendations of photography and travelling for users. On the website, users should be able to find the information they need and are interested in.

As people are more attracted to picture and videos instead of pure words, the information contains photos classified by different photography categories and styles, video tutorials introducing simple rules and tips of taking good pictures.

At the same time, visualized information is also applied in different modules. First, forms are applied to display photos and basic information. Line charts are suitable for comparing different devices based on prices as reference for users to choose. Maps are also applied as the most direct way to show travel places.

- Function 2: Interactions

Interactions are the key elements to engage users. In addition to show information and recommendations directly to users, interactions provide different forms of contents.

First, sign up. If contents on “On the ROAD” attract users, they can choose to sign up to get more recommendations and information compared with being a “visitor” to the website. The sign-up form requires users to provide personal information including email, birth date, sex and interests in photography. “On the ROAD” will send recommendations about photography to

those users via email and also on their personal page on “On the ROAD”. After signing up, users can also share their own photos, recommendations and experiences on the website, which will make the website closer to an online community in addition to listing information.

Second, click “like” button. When users find contents that they are interest in, they can click the “like” button. And “On the ROAD” can record their interests to generated individualized recommendations for users.

Third, upload personal photos and experiences. UGCs are the most fundamental and valuable elements in “On the ROAD”. By uploading their own photos, users can get more involved in the website. In addition to just look through photos taken by others, users are able to record their travel memories here and communicate with other users about travel and photography. The shared photos will also be exhibit on “On the ROAD”.

Forth, contact with “On the ROAD”. The website needs to provide the contacts of developer of “On the ROAD” including address, email and phone number for users to get in touch to share their advice or complaint of the website.

Based on functions and contents, the database needs to be established including all kinds of travel photos, travel places and also different devices.

Structure

In reference of the MVC model, the structure plane is designed as shown in Figure 4.

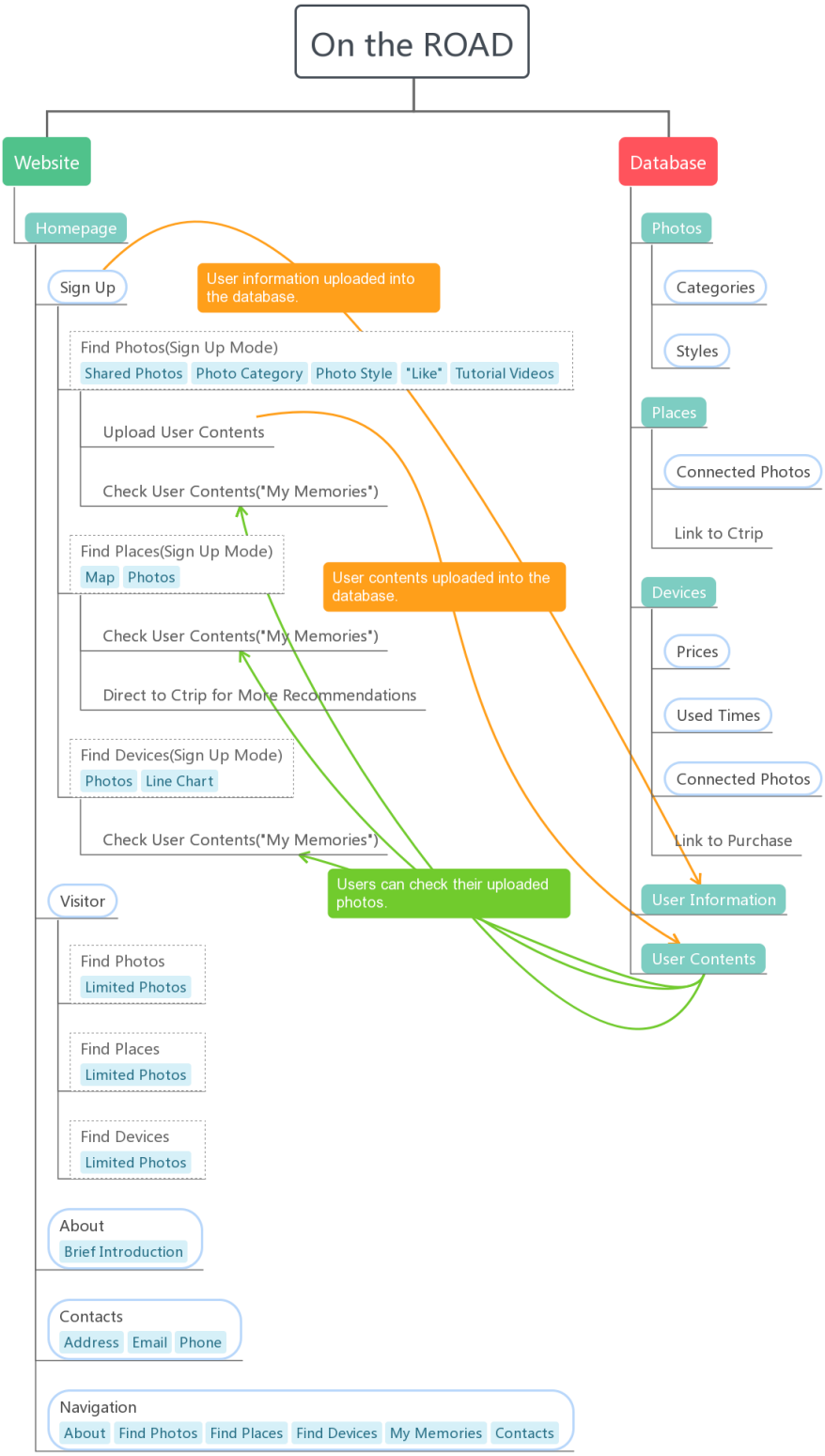


Figure 4: The structure plane for "On the ROAD" based on the MVC model

1. Model

Airtable is applied as the database, storing all the data and information needed for the website. The database is divided into different parts for different contents.

First, the “Photo Collection” part. This part stores all the photos provied as photo recommentations for users. Each record contains attributes including “Activity”, “Date”, “Photos”, “Year”, “Place”, “Category”, “People”, “Device”, “Photographer”, “Style”, “Description”, “Evaluation”. Those attributes are connected to information provided by users to generate individualized recommendations, as shown in Figure 5.

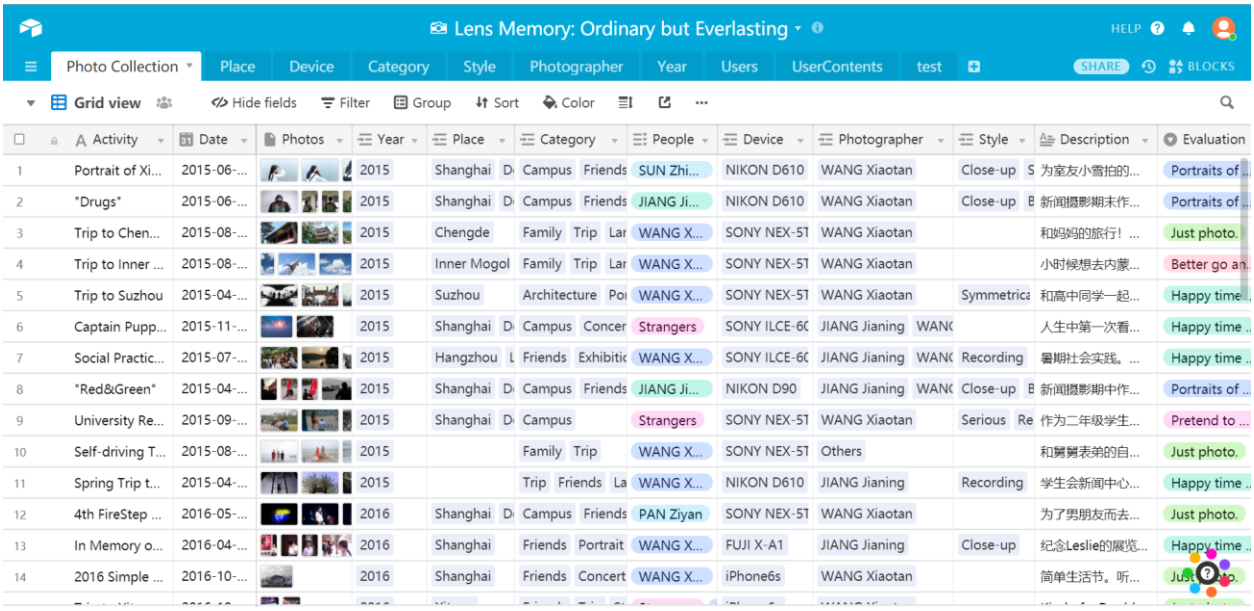


Figure 5: Database “Photo Collection”

Second, the “Place” part, containing all the places that users have traveled by analyzing attributes in “Photo Collection”, as shown in Figure 6.

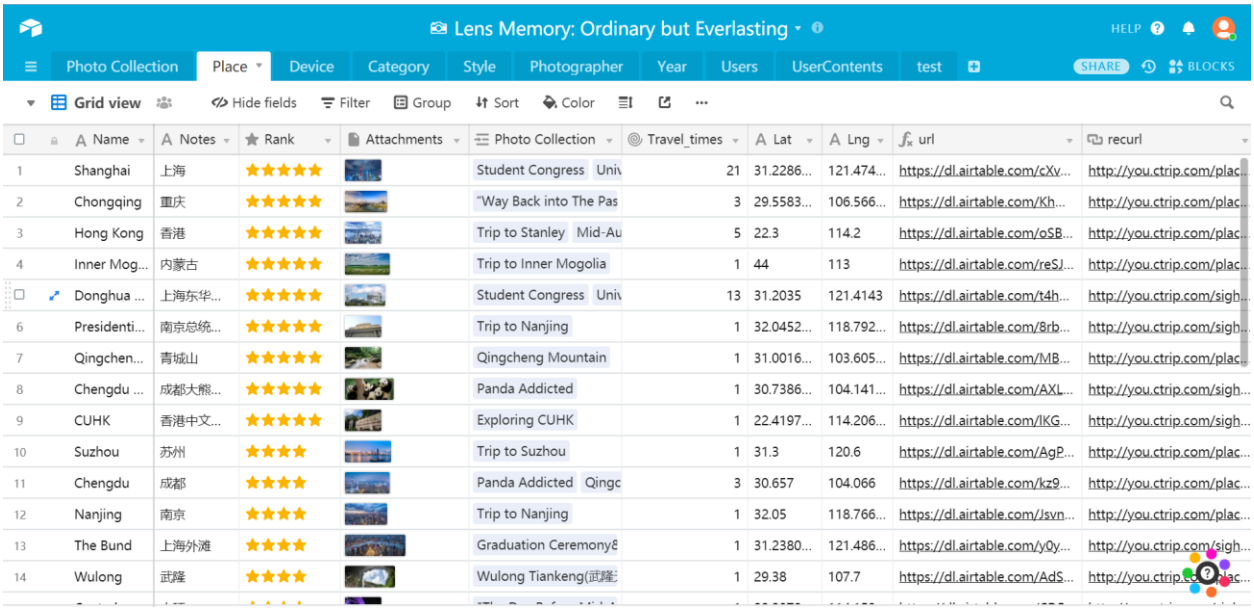


Figure 6: Database "Place"

Third, the "Device" part, containing all the devices which have been used by users in "Photo Collections". Prices and purchase links are also provided in this part. Calculation outcomes of times that each device has been used are generated in this part, as shown in Figure7.

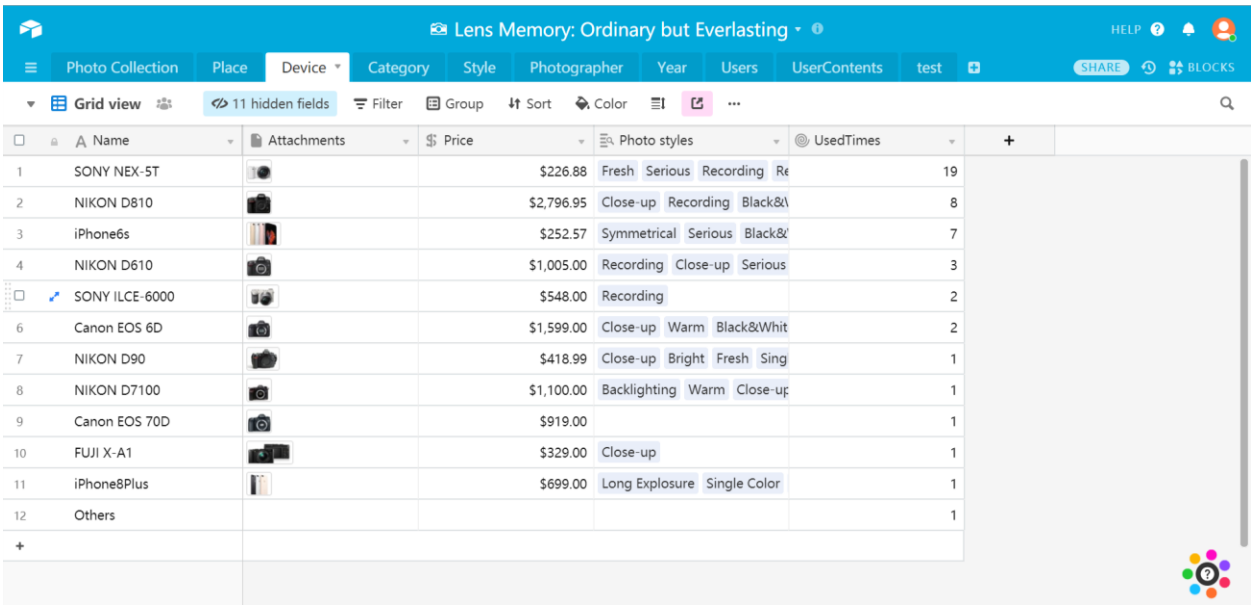


Figure 7: Database "Device"

Forth, the “Category” and “Style” part. This part is specifically for recommendations providing to users. Users can choose their interests in what photography category or style. The times that each category and style is applied in the photos taken by users are also calculated as a reference for other users to take their own photos, as shown in Figure 8.

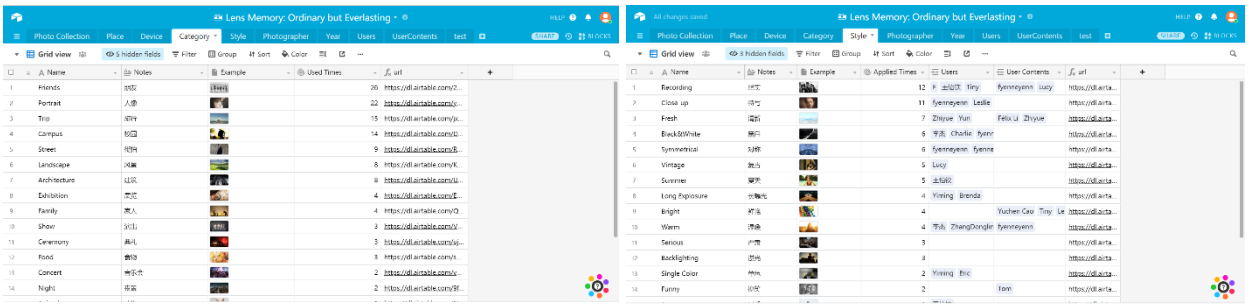


Figure 8: Database “Category” and “Style”

At last, the “Users” and “Users Contents” part. This part is obviously for storing information and data generated by users who have signed up and uploaded their own photos, as shown in Figure 9.

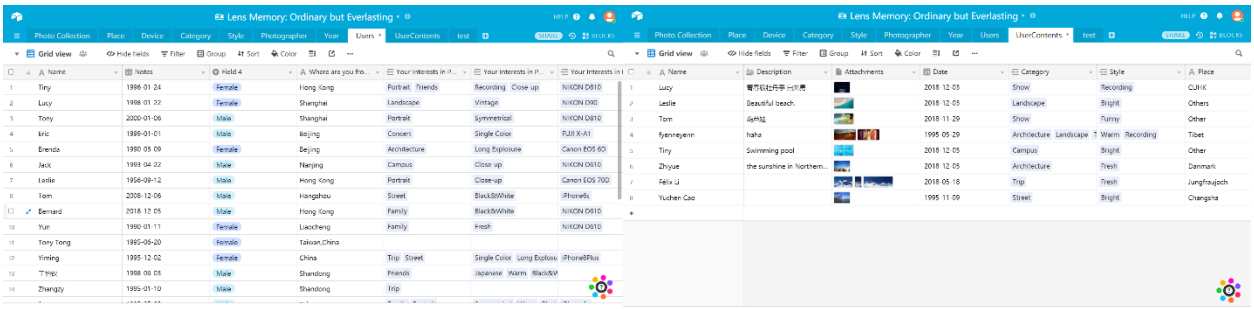


Figure 9: Database “Users” and “Users Contents”

2. View

Based on the strategy plane, to thoroughly apply functions and contents designed for users, view designing is of great importance.

The homepage of “On the ROAD” should have a brief introduction of the website and also contacts. For the sign-up function, the website is developed into two motions. One is for users who have signed up, and the other one is for users just as visitors. Both motions have “Find Photos”, “Find Places” and “Find Devices” sections. However, in the visitor motion, data provided in the three sections are limited. And each section also reminds users to sign up. In the sign-up motion, the three sections have detailed information, visualized data and interactive functions, such as charts, forms and maps. In addition, in the sign-up motion users can upload check their own photos in “My Memories” section.

Based on the structure plane, the skeleton plane is designed to fit all the functions and expected outcomes. As shown below, the website is divided into mainly 4 parts, including “Homepage”, “Subpage”, “Upload Page” and “Check Page”. “Subpage” is applied to “Find Photos”, “Find Places” and “Find Devices”, with a big heading and introduction on the top section, main contents on the middle section and contacts on the last section. “Upload Page” is applied in “Sign Up” and “Share Your Memories” pages, also with heading and contacts, and the upload form in the middle section. “Check Page” is for the “My Memories” page, with a search box on the top section. After clicking “Confirm Identity” button, there will be photos uploaded by users displayed below the search box. As shown in Figure 10 and 11.

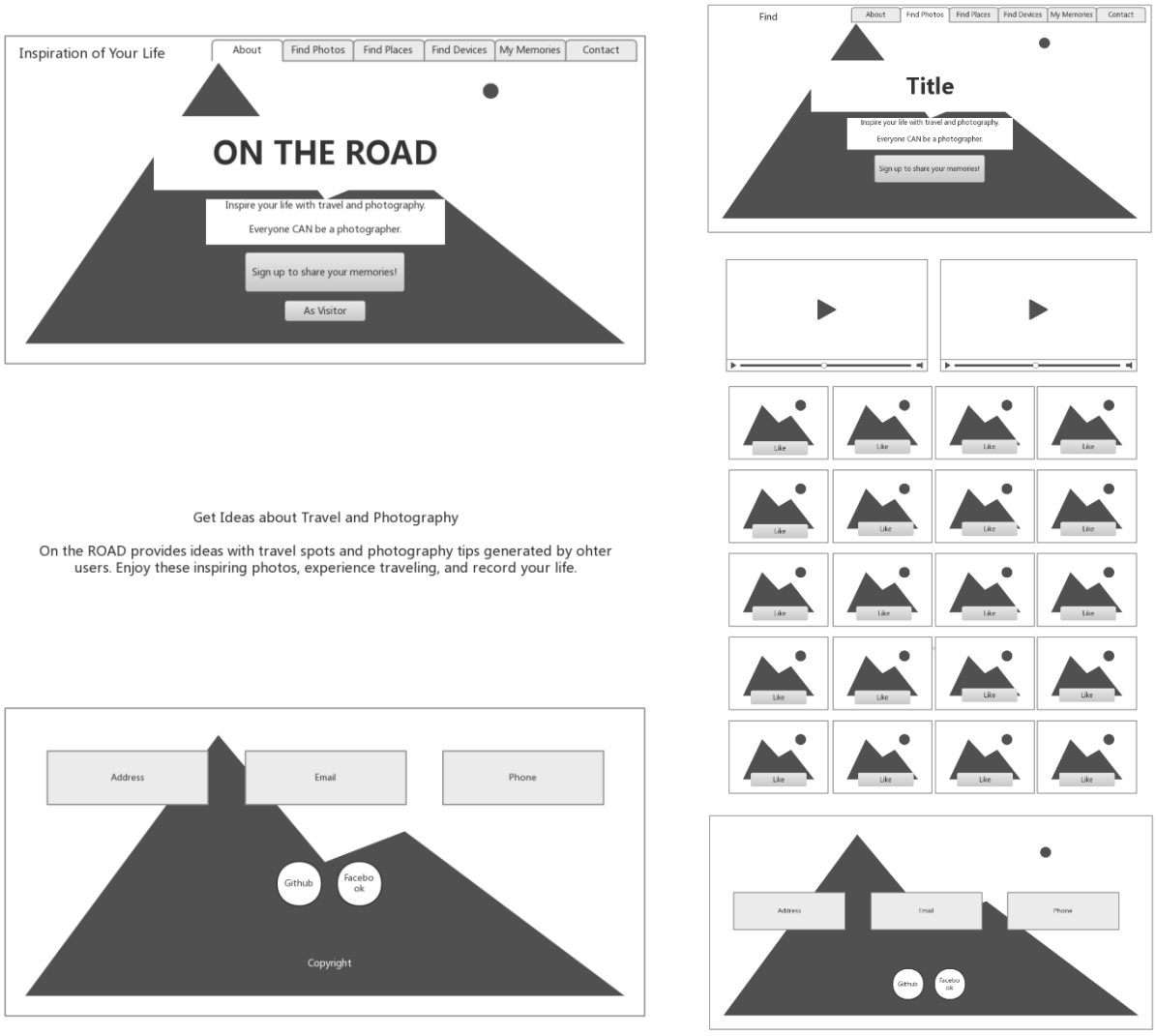


Figure 10: The skeleton plane of "Homepage" (left) and "Subpage" (right)

Figure 11: The skeleton plane of "Sign Up" page(left) and "My Memories" page(right)

As a photo sharing and travel recommendation website, "On the ROAD" needs to create a professional atmosphere with high-class color scheme, high quality pictures and clear structures. To simplify the process of designing the interface, Bootstrap and Pingendo are applied for choosing suitable templates. Based on that, languages like HTML5, CSS and JavaScript can work together to refine the final visual design.

3. Controller

To connect the database and the website, the Airtable API is applied for retrieving data from the database and displaying on the website.

Users information will be uploaded to the database after signing up. And the photos they upload on the website will also be stored in the database. If users want to check on the photos they have uploaded, they can type in their user name in the “My Memories” search box to confirm their identity. Once their user name can be found in the database, the record following their names will be automatically retrieved from the database to the website with photos they have uploaded.

Visual Design

Based on the skeleton plane, the final visual design is determined. The homepage design is as follows, including head section, “about” section and contacts. All pages have the “contacts” part. As shown in Figure 11 and 12.

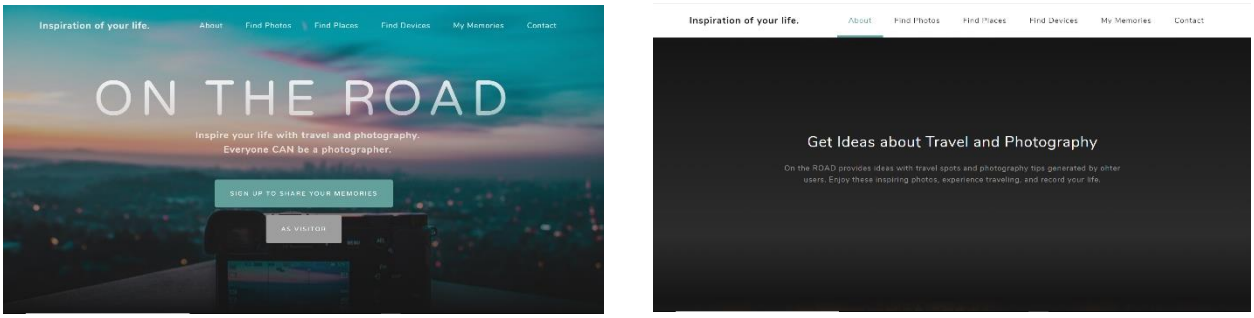


Figure 11: The visual design of Homepage(left) and “About” page(right)

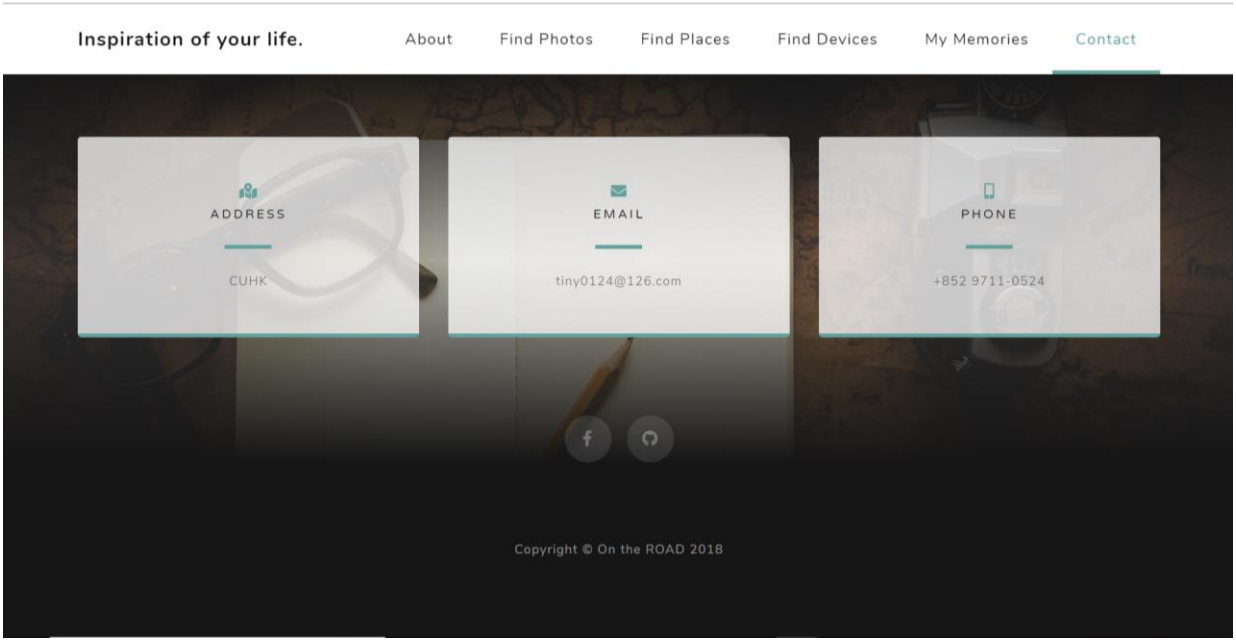
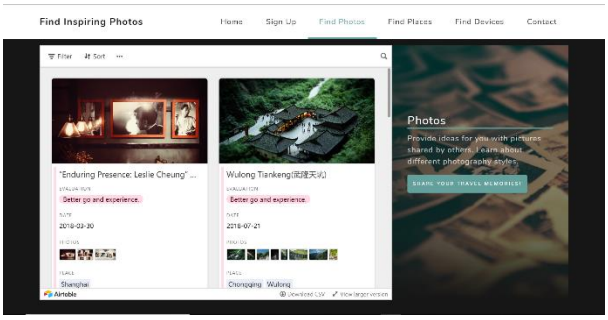


Figure 12: The visual design of "Contacts" page

"Find Photos" part has two versions. The first version is in the "Visitor" motion when users haven't signed up, as shown below, with limited photos. In the second version, when users have signed up, there will be video tutorials, photos, "like" functions and "share photos" button. As shown in Figure 13 and 14.



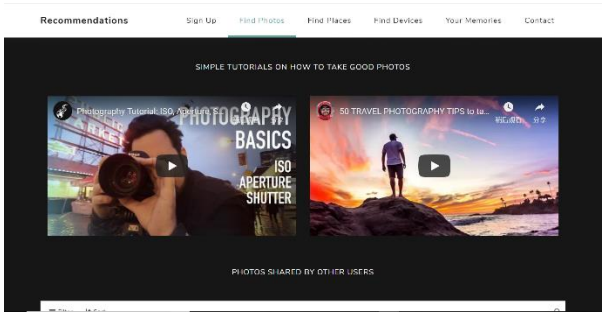


Figure 13: The visual design of "Find Photos" page

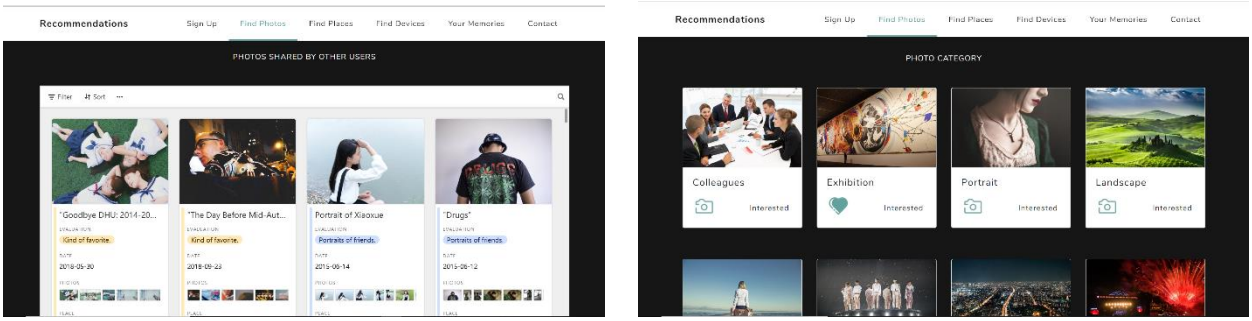


Figure 14: The visual design of "Find Photos" page

"Find Places" is also divided into two versions. One is with limited recommendation and the other is with detailed recommendations and map. As shown in Figure 15. The map applies Leaflet cdn to generate the model, and data are directly retrived from the database.

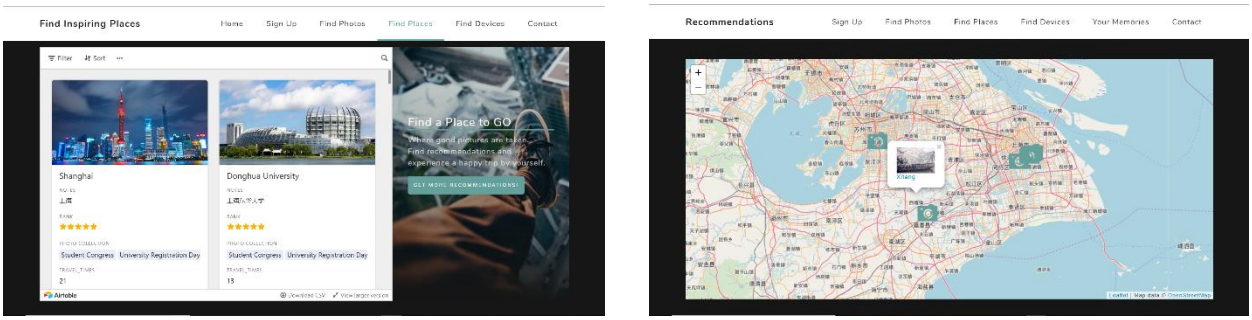


Figure 15: The visual design of "Find Places" page

"Find Devices" has the comparasion charts in the sign-up version. The line chart is generated using Char.js, comparing two kinds of data including price of cameras and how many times each device has been used by all users on "On the ROAD". Users can compare different devices directly from the line chart and consider which device they want to choose.

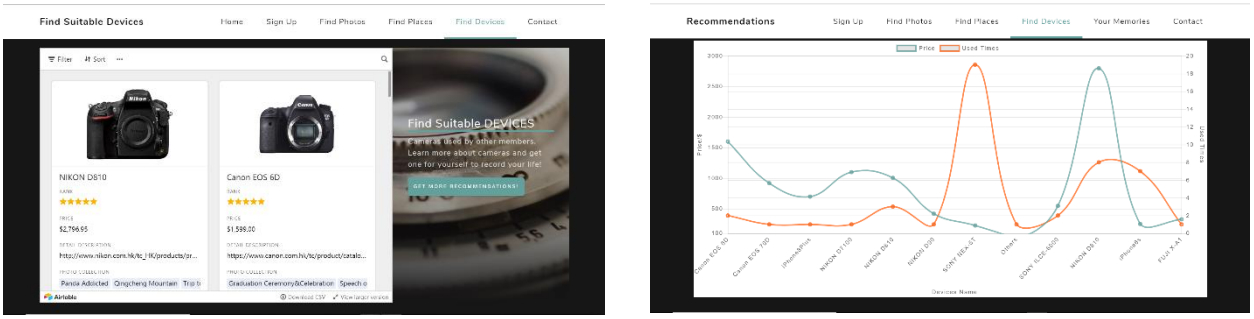


Figure 16: The visual design of "Find Devices" page

"Sign Up" and "Share Memories" parts are both with a form generated in Airtable. After submitting the form, users will directly jump to the next website in "On the ROAD".

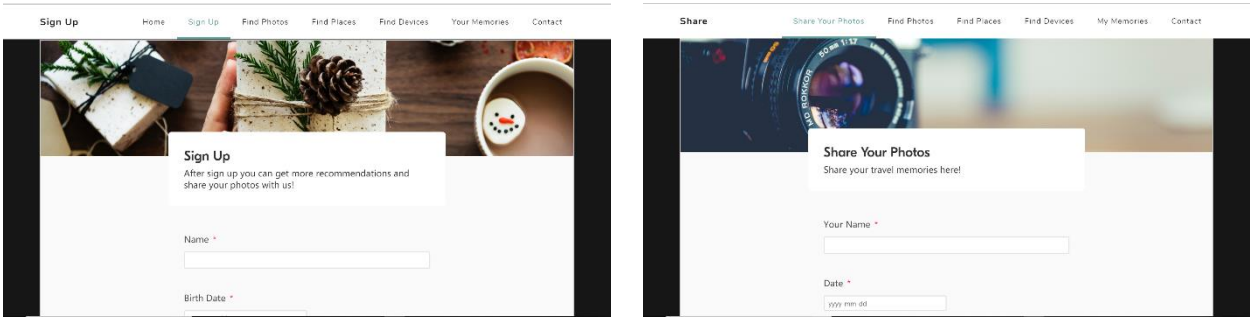


Figure 17: The visual design of "Sign Up" page (left) and "Share Your Photos" page (right)

"My Memories" is as follows. After users tyoe their name in the input box and click "Confirm Identity", the photos they have uploaded will appear under the box, as shown in Figure 18.

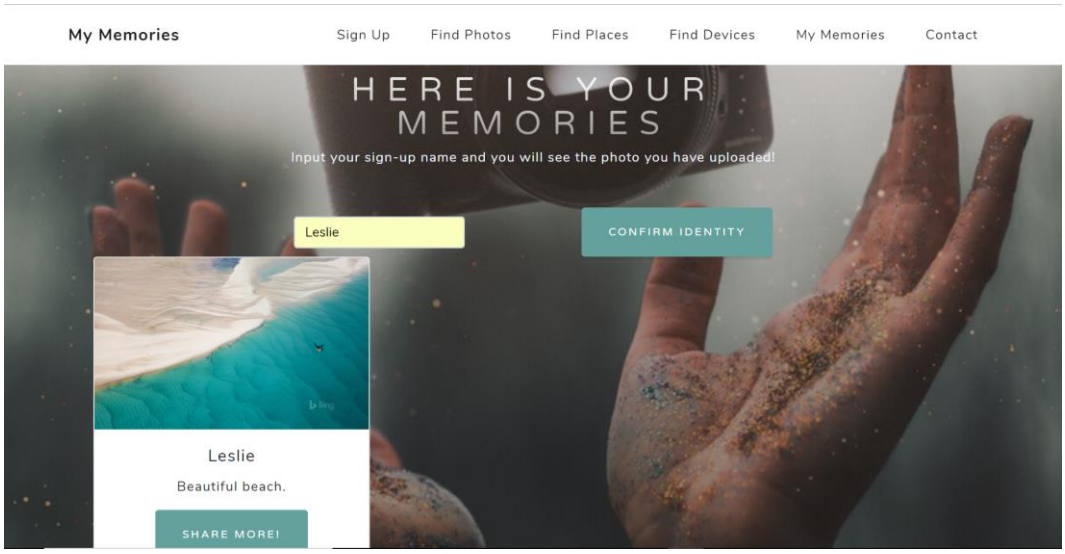


Figure 18: The visual design of "My Memories" page

Implementation and Test

After the visual design, the website is put into implementation. To track data on the website, Google Analytics and Tag Manager are applied in "On the ROAD" From Dec 4th to Dec 7th. Also, an A/B test is conducted using Google Optimizer to define how users react to different website design during this period of time.

For "On the ROAD", the most valuable data is UGC. Therefore, the main goals set in Google Analytics are how many times that users have successfully signed up and how many users have uploaded their own photos on "On the ROAD". The two goals are defined separately as "成功 Sign Up"(Goal 1) and "成功 Upload 用户图片"(Goal 3).

1. Google Analytics Dashboard:

To better visualize the data collected by Google Analytics, an individualized dashboard is designed to show all the data in one page.

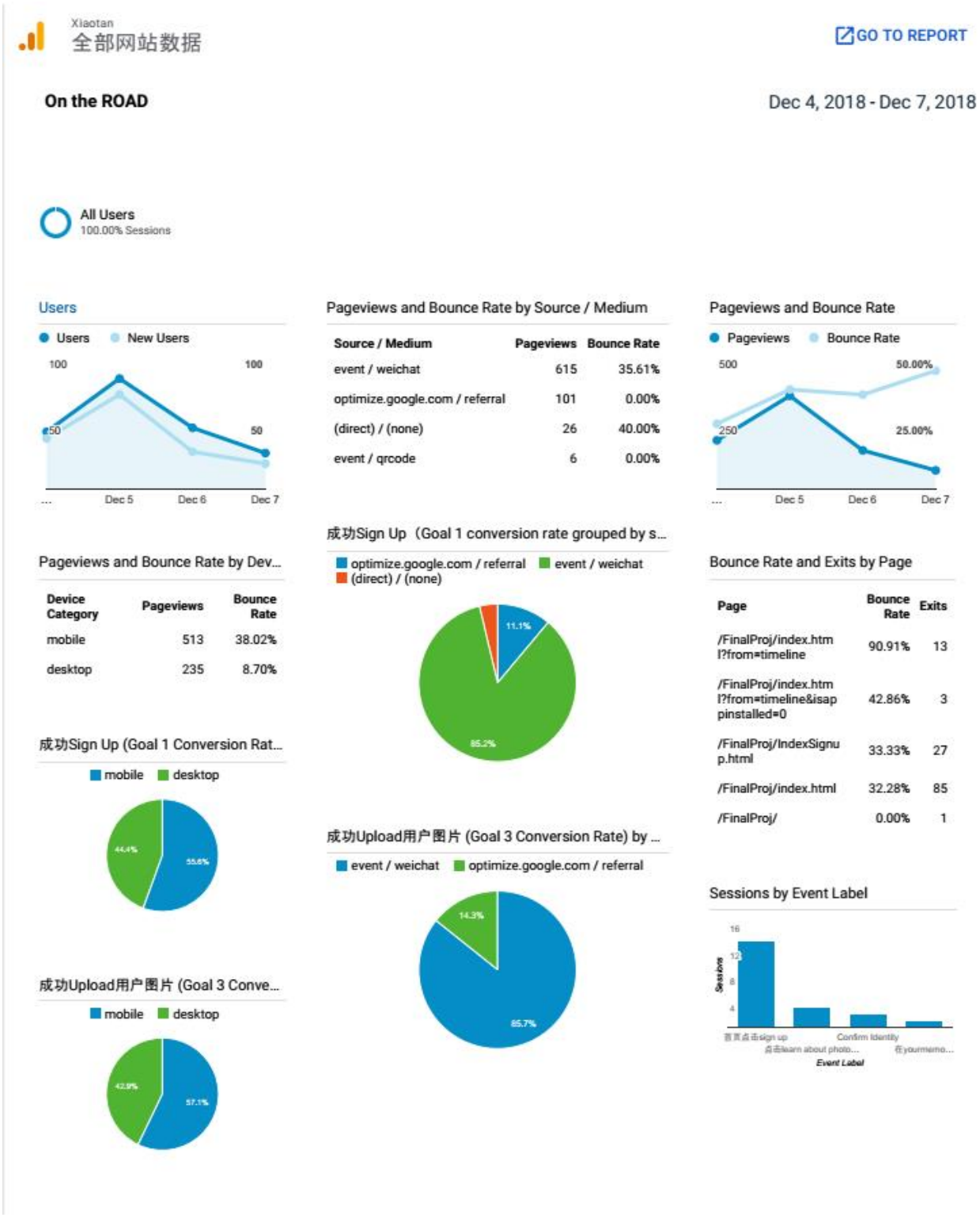


Figure 19: The Google Analytics Dashboard

- Audience Reports

The left column in the dashboard contains key elements in the audience reports. The "Users" widget shows a timeline of the number of users and new users visiting "On the ROAD" each day from Dec 4th to Dec 7th. Users are grouped by devices to analyze how "On the ROAD" respond to different devices including mobile and desktop. In the "Pageview and Bounce Rate by Devices" midget, the form shows that pageviews generated by mobile users are more than two times of that generated by desktop users, while the bounce rate of mobile users are more than four times of desktop users, which indicates that users prefer to view "On the ROAD" on their mobile phone but the responsive design of "On the ROAD" in mobile devices seems not successful compared with that of desktop devices. By measuring the conversion rate of the two main goals in the following two midgets, it shows that mobile users have higher rates of both sign-up function and upload function than desktop users.

- Acquisition Reports

The middle column in the dashboard focuses on the acquisition performances of "On the ROAD". In this section, the comparation between users from different mediums is of highlighted. During Dec 4th to Dec 7th, there are four main mediums including "WeChat", "Referral", "none" (directly input the website URL) and QR code. As shown in the first midget, users from WeChat generated the most pageviews, while the bounce rate is also relatively higher. However, those who directly input website URL generated the most bounce rate.

In terms of the conversion rate of the two objectives, users from WeChat also generated the most conversion rates of both goals as high as 85%. It is probably because people spend most

of their time on WeChat compared with other applications. It provides the insight that “On the ROAD” can develop more function connected with WeChat to engage more users.

- Behavior Reports

The right column of the dashboard focuses on the behavior analysis of users. In the “Pageviews and Bounce Rate” midget, it states clearly that the pageviews reached the peak on Dec 5th and continued to go down, reaching the bottom on Dec 7th, while the bounce rate also reached the highest on Dec 7th. This phenomenon indicates that user stickiness is low, and “On the ROAD” needs to refine its functions to keep users coming back.

In the “Bounce Rate and Exists by Pages” midget, the data shows that a large number of users exists “On the ROAD” from the homepage. It seems that users are unwilling to look through contents on “On the ROAD”. And some users exist from the sign-up page. However, the conversion rate of the goal “成功 Sign Up” is around 85%, which is not supposed to be so many users existing on the sign-up page. After testing the website, the reason is probably that after people signing up, users will not directly jump to the other page but stay at the sign-up page, especially those who use browse inside the WeChat. It seems to be a bug from the browser.

There are also four events set in Tag Manager to track the click times of some buttons, including “Sign Up” button on the homepage, “Learn About Photography” button on the “Find Photos” page, “Confirm Identity” and “Share More” buttons on the “My Memories” page. The data shows sessions of each events. From the bar graph in the midget, it is obviously that although many users clicked the “Sign Up” button on the homepage, fewer people looked through contents after signing up and fewer people have uploaded their own pictures.

2. A/B Test

To define what elements on the website will influence conversion rate of the main goal “成功 Sign Up” when users are visiting “On the ROAD”, an “A/B” test is conducted. The homepage is redesigned by changing font style of the heading and contents on the “Sign Up” button, as shown in the two pictures below.

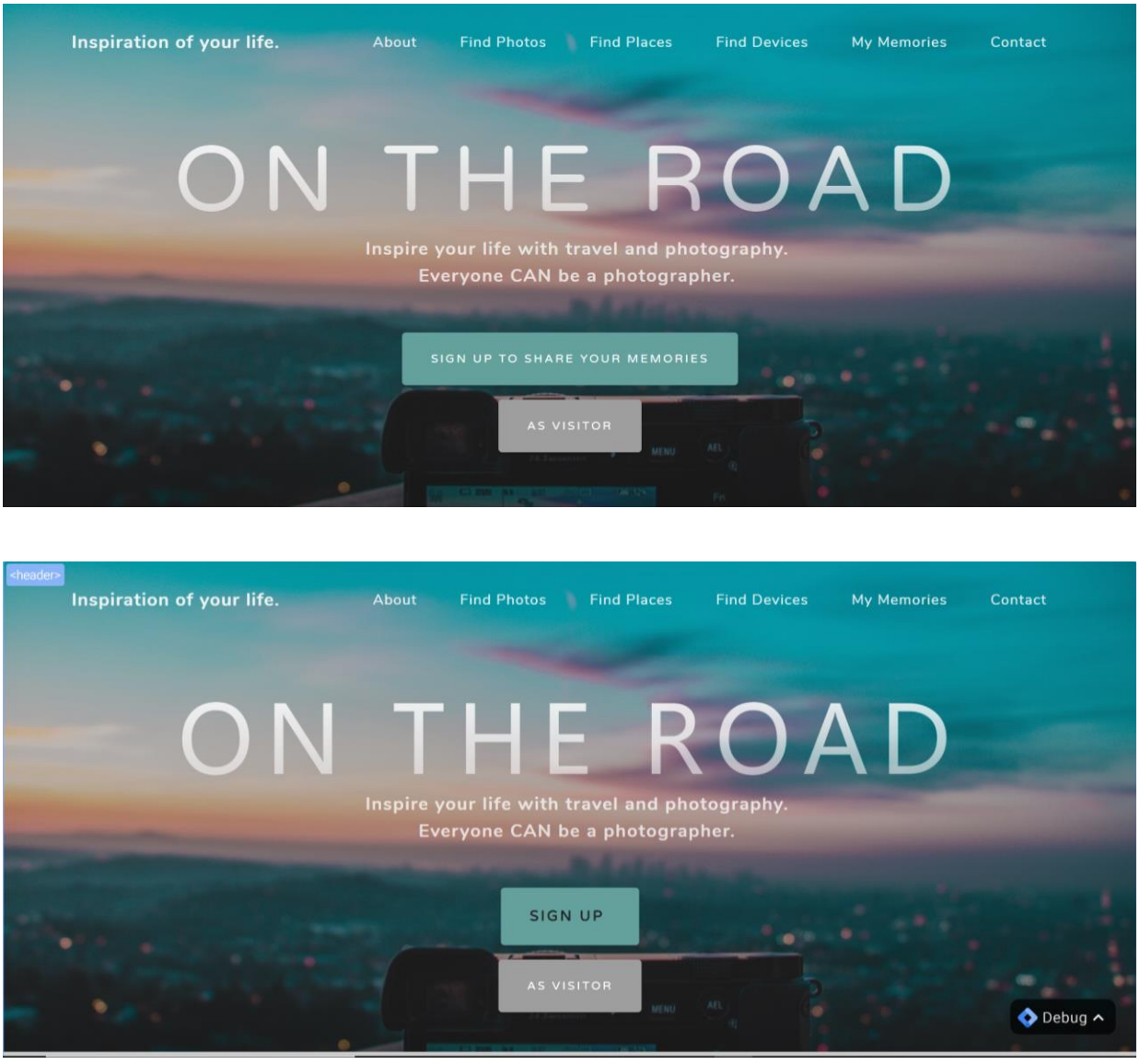


Figure 20: The original design of “Homepage” and Variant 1

The A/B Test continued from Dec 4th to Dec 7th, generating up to 201 sessions in total. To directly generate the conclusion, the comparasion of consersion rate of the goal “成功 Sign Up” with the total experiment sessions is applied.

In the comparasion, as shown in the line chart below, the conversion rate of the goal was changing everyday. At start, the conversion rate of variant 1 is much higher than that of the original website. However, it kept going down and reached the bottom on Dec 6th and the original website showed much better performance. While on Dec 7th, the concersion rate on the variant 1 went up again.

In conclusion, the total conversion rate of Variant 1 is higher than that of the original website. It indicates that when the “Sign Up” button is more obvious and less ambigurous in contents, the more people will click the button and complete the sign-up function.

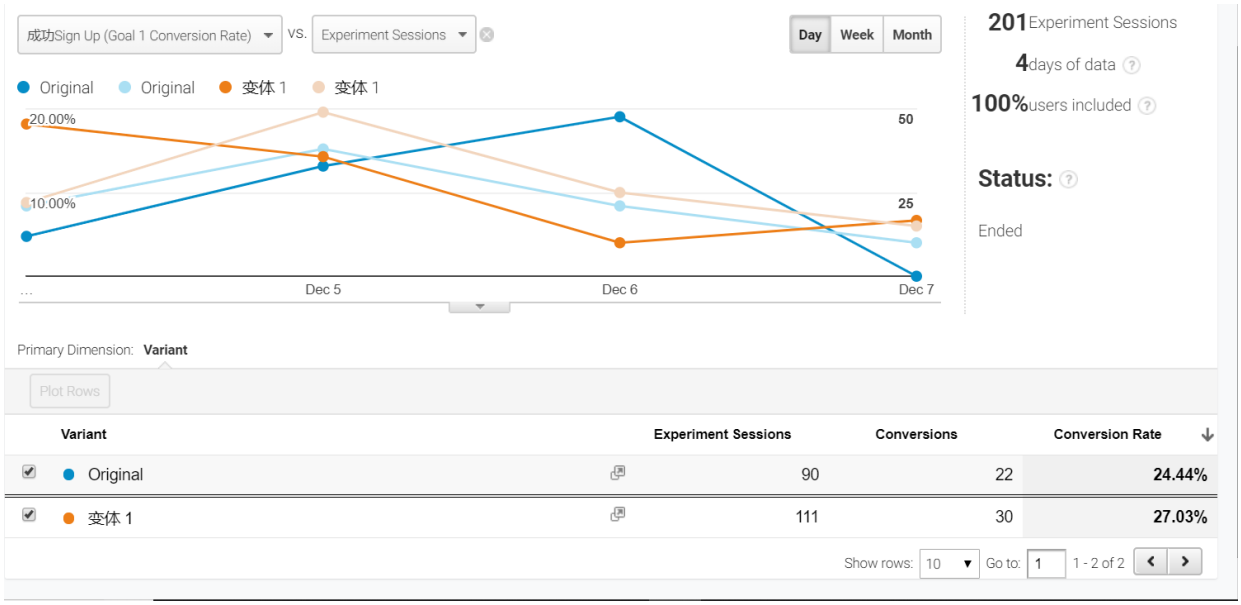


Figure 21: The analytics of A/B Test

3. Usability Test

In order to directly observe the users' performances visiting "On the ROAD", 5 volunteers are invited to participate in the task-based usability test on the desktop. All the 5 volunteers meet the definition of the target users, who are interested in photography and love independent travelling. All of them ae required to complete 3 tasks, including 1) choose photography categories and styles they are interested in, 2) upload their own photos and 3) check photos they have uploaded. After the usability test, there are similar patterns in the performances of all 5 volunteers.

In task 1, all volunteers ignored the "Sign Up" and "Visitor" button on the homepage and go straight to "Find Photos" on the navigation bar. However, the default "Visitor" motion has no photography categories nor styles. So, they all went back to the homepage and couldn't finish the task. This indicates that the "Find Photos" page in "Visitor" motion should have instructions about how users can access to more recommendations of photography, in addition to the reminder "sign up to share photos". Therefore, in the new version of "On the ROAD", the button on the "Find Photos" page is changed from "Sign up to share your memories" to "Sign up to learn more about photography". And the introduction next to photos is also changed to help users find photography categories and styles recommendations.

In task 2, all volunteers finished the task successfully. Some of them took more time because the navigation bar has no indicator such as "Upload Photos".

In task 3, the problem mostly exists in the user names when the volunteers uploaded their photos in the second task. Some of them couldn't remember the name the input in the form when uploading their photos. And only the correct name can be identified. At the same time, the name

they input in the “Sign Up” page is different with the name they input in the “Upload Photos” page, which caused confusions when checking photos they have uploaded. To solve the problem, to use a password will be more accurate than user names.

Expectations

In conclusion, “On the ROAD” can meet the basic demand of people who like independent travelling and who want to learn about photography. Still there are more potential functions which are not developed due to time and knowledge limit. If possible, here are some expectations for “On the ROAD”.

For its potential functions, it will be better if the interactions between users can be emphasized. In present state, users can only look through the pictures taken by other users, and they cannot comment or share photos nor respond to their photos on the website. To create an online community, engage more users and increase user’s stickiness, interactions between users are necessary.

When “On the ROAD” has gained enough number of users, it can launch its own photography courses for users to learn more about photography instead of just looking at pictures. As for those who looking for places to travel, “On the ROAD” can also generate individualized trip routes, together with photography schemes matching each route. In this way, users will be more willing to spend more time on the website and finally become loyal.

For device recommendations, “On the ROAD” can cooperate with E-commerce platforms such as “JD.com”, “Taobao” and “Amazon” for users to directly purchase devices.