User Experience Design
of User Generated Content Products

Hongyuan Ma[✉]

Beijing Baidu Netcom Science Technology Co., Ltd., Beijing, China
mahongyuan@baidu.com

Abstract. Currently UGC model has been widely concerned in the Internet field. In China, Baidu is a technology-based Internet search engine company. However, in the process of development, Baidu hasn't been only helping the Chinese users to search for the content that already exists, but also encourage them to create and post content to users who are using the search engine. Based on that principle, a few of excellent and widely known products have been created, such as Baidu Post Bar (Baidu Tieba), Baidu Pedia (Baidu Baike), Baidu Knows (Baidu Zhidao), Baidu Travel (Baidu Lvyou), etc. By analyzing these UGC mainstream products, we will summarize the key design points and experience design rules of UGC products.

Keywords: User experience design · User generated content · User analysis · Baidu · China

1 Introduction

UGC (User Generated Content) means that users create original content by their own, which is followed by the rise of personalization characteristics of Web 2.0. It is not a specific business, but a new user behavior model on the internet. That is, users change their behavior from the original generating to both generating and consuming. With the development of the internet application, the interaction of network users is reflected, and the user is not only the browser of the web content, but also the creator of the content. Currently, UGC has been widely used in various types of websites, such as Wikipedia, blogs, microblog (Weibo), community networks, video sharing sites, etc.

According to data released by CNNIC (China National Network Information Center), on December 31, 2015, the number for SNS (Social Network Site) users reached 530 million the number of Online Video users reached 504 million, the number for forum and BBS users reached 119 million, and the number for online education users reached 110 million, all of which obviously reveals the great influence of UGC [3].

On February 2005, with the launch of video sharing site YouTube, UGC mode flourished and came into rapid development. In fact, most of current internet products more or less contain the UGC elements. For instance, replying and commenting can be considered as a relatively simple form of UGC. UGC products also bring high commercial value and user stickiness. Therefore, more and more internet products add UGC, so they can develop their own user groups, create high-quality content and build their brand by creating original content.

2   UGC Product and User Analysis

Before talking about UGC user experience, we need to analyze the users who use UGC products. In Baidu, what we are mainly doing in the very early stages of the PC era is UGC, which is about how users generated content. Different from Google, it does not index content that is already there, but let Chinese internet users create content. Therefore, this chapter will analyze how users participate in and use UGC Products by focusing on four Baidu's representative UGC products, such as Baidu Travel (Baidu Lvyou), Baidu Library (Baidu Wenku), Baidu Post Bar (Baidu Tieba), Baidu Knows (Baidu Zhidao).

2.1   User Behavior Analysis of Baidu Travel

Baidu Travel is a tourism information service platform, designed to help the people make travel decisions and satisfy the user with all kinds of requirements about tourism [7].

Creating content: users who love to travel, want to find friends who have the same interests or want to express themselves. For example, writing travel notes, writing travel tips, making comments on scenic spots (user A in Fig. 1).

Browsing the content, replying and commenting: when users want to travel, they need to know more information about the travel city and how to make more fun of it. They browse other users' travel notes and ask them for advice. If satisfied with the content, the users can share and copy the useful content so they can plan their travels in accordance (user B in Fig. 1).

Browsing the whole content: users can browse the high-quality part of the whole content created by users A and B (user C in Fig. 1).

Fig. 1. User behavior of Baidu travel

2.2   User Behavior Analysis of Baidu Library

Baidu Library is an online platform to share documents. The document of Baidu library is uploaded by users, users can also read online and download these documents [8].

1. Uploading: users upload the documents (user A in Fig. 2).

2. Browsing, downloading and commenting: the users discover documents by typing keywords, they can preview, download, save as favorite, rate, purchase and other related actions (user B in Fig. 2).
3. Browsing the whole content: With the increase in the number of documents, users can find useful documentation directly via the keywords, ratings, favorites, and the amount of downloads. One of pretty things Baidu Library has done is that users are allowed to download documents by using the payment what called 'virtual property'. You can obtain virtual property by uploading documents, which results in forming a closed-loop of UGC and consequently drive a huge commercial value (user C in Fig. 2).
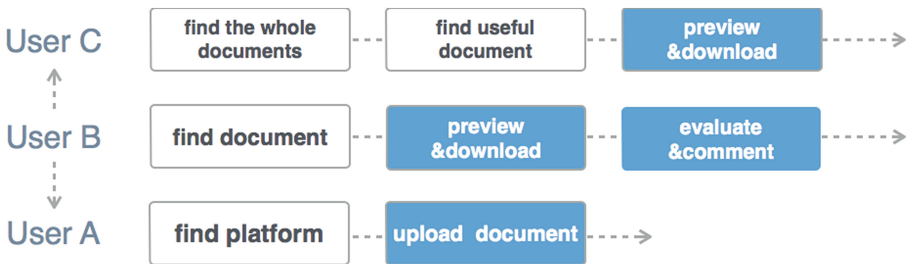

Fig. 2. User behavior of Baidu library

2.3 User Behavior Analysis of Baidu Knows

Baidu Knows is a question and answer platform, combining with search engines to let users learn knowledge efficiently [10].

1. Answering: users can answer others' questions, each of which is allowed to be answered by more than one person (user A in Fig. 3).
2. Browsing and commenting: after searching for the related questions, the users may find corresponding answers. Then they can give their feedbacks to the answer they are interested in, or evaluate its usefulness (user B in Fig. 3).
3. Browsing the whole content: users can gain the more premium answers with ease by sorting them by time or by the number of 'likes' of each answer (user C in Fig. 3).
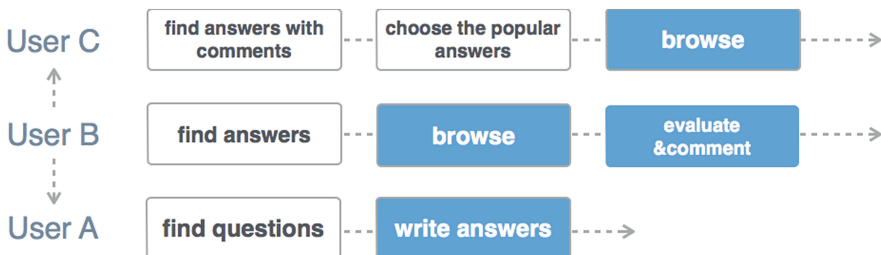

Fig. 3. User behavior of Baidu knows

2.4 User Behavior Analysis of Baidu Post Bar

Baidu Post Bar is an online communication platform, let those who interested in the same topic together to share and help each other easily [9].

1. Posting: users find whichever of the specific post bars they would like to follow, and post whatever topics they are glad to talk about, which is the main action in the post bar (user A in Fig. 4).
2. Browsing and replying: users can review and comment what other people have posted (user B in Fig. 4).
3. Browsing: users browse the whole content created by users A and B, they can read it in accordance with the high-quality posts and recent post, and a proper noun what is use to describe the users who only read posts and refuse to reply is a diver (user C in Fig. 4).
4. Creating a bar: in order to assemble the partners and share the same interests, the user can create a post bar and post some specific topics to attract them. The creator of the post bar becomes the master who can appoint administrators to manage and operate the post bar (user D in Fig. 4).
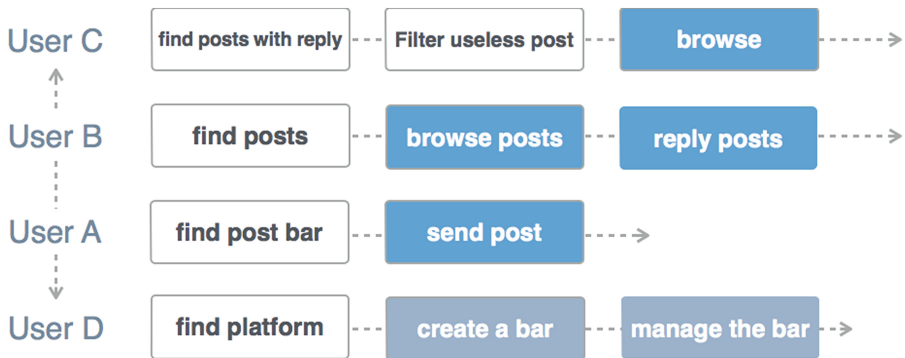

Fig. 4. User behavior of Baidu post bar

2.5 User Models of UGC Products

The users of Mainstream UGC products as the four cases above can be divided into three groups:

- Content creators: in addition to social identity, self-worth and motivated by altruism, social interaction is their main motivation. They contribute in providing quality content, show themselves, get respected by others and derive self-satisfaction from these achievements.
- Content respondents: their behavior is influenced by others or by the surrounding communities. They are active consumers and respondents of content. By consuming the content of UGC, they not only satisfy their individual mental needs, but also meet the demand of communicating with others.

- Content browsers: although they rarely generate content, they still have a strong desire for social interaction. The reason is that they have not yet been embraced into a community with a sense of belonging [2].

Therefore, in order to improve the UGC Product, it is essential for designers to pay attention to the touch points of all the above three kinds of users' behavior.

3   How to Design UGC Products

During the design process of UGC products, in addition to focusing on designing experience around the three kinds of users (content creators, content respondents and content browsers) as above, we still need to consider the relationship and interaction between 'user-platform' and 'user-user' [1].

As shown in Fig. 5, what content creator has created on the platform is the main source of the UGC platform. In response, the platform returns creator with positive feedback. Content respondent consumes the content created by content creator and then replies and rates. Content browser consumes the creator's product and the content respondent's feedback. During this process, there is a close interaction between the users and the platform. Besides, the users can also communicate with each other, the roles can be reversed smoothly. However, all the relationships and interactions between users and platform are content, so this chapter will describe how to design the UGC products in two parts, content generation and content consumption.
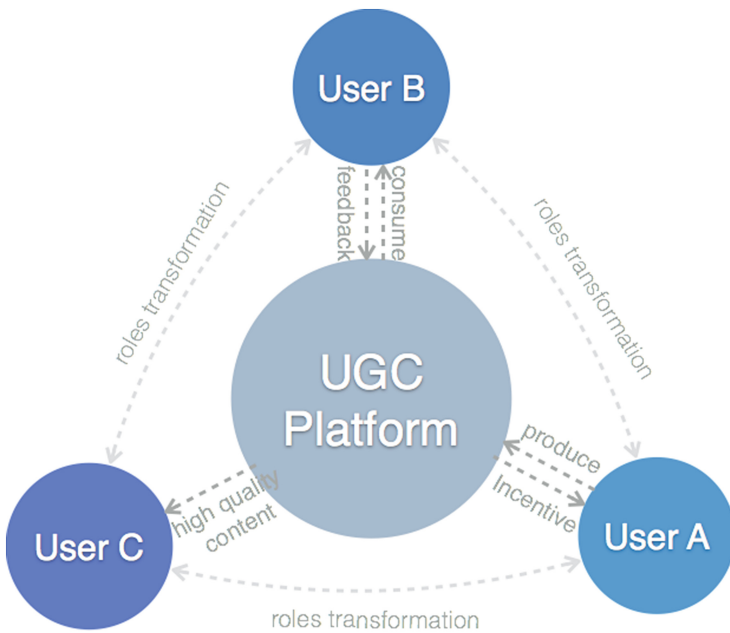

Fig. 5. The relationship and interaction between user and platform

3.1 Experience Design of Content Generation

(1) The content entry of scenario-based production

In UGC products, we often see a lot of buttons and information which direct users to produce content. Although this approach can be temporary to increase the amount of content, in the long run it is a kind of interference to the users through my observation of long-term data.

The most correct way is to allow users to produce content according to the user scenarios. If a travel app wants to let users contribute to content, it prompts the users to keep track of their travel itineraries by detecting where they have traveled. A Q&A product can put the input box of answer at the bottom instead of putting it after a question, so that users will be able to browse other users' answers and won't produce a repeating answer, which improves the quality of UGC.

(2) Easy-to-use tools for content production

Easy-to-use tools for content creators can reduce the maximum cost of contribution of content. So in the design process, designers need to pay attention to the three points as below:

- Reduce the users' learning costs as much as possible. As shown in Fig. 6, Baidu Pedia content editing tool is very familiar with some common office software like 'Word' in layout and operations. Users with Word experience can easily get started without learning costs.
- Provide users with the help and editing norm, and solve problems that users may have during the editing process. If possible, prepare the basic material for users, allow them to select directly instead of typing. As shown in Fig. 7, users can simply choose content rather than fill in a blank when editing their travel plans.
- Try to keep the consistency of content structure in both editing status and browsing status. If it cannot maintain consistency, we need to add the preview button, and allow the content creators to enter the editing mode smoothly at any time.

(3) User incentive

A platform can stimulate users to contribute on the content with both spiritual and material incentives. Spiritual incentives can be divided into several points:

- Offer users with the levels, the user medals and other encouraging labels.
- Give a positive feedback or praise according to the content of the users' production, especially when the user has just contributed to new content, which as a result makes them feel the popularity and love.
- Set up honor list, rank list, or recommend good content to the home page or other important position. Users care about whether their production will be recommended to the homepage.

On material incentives, monetary System can be implanted. For example, Baidu Literary requires mutual benefits from the mechanism, that is to say, only the users who have contributed to some content are qualified for having access to the content from others.

Users can also generate content to gain points to redeem gifts, or received gifts in the holidays, which reveals the importance of material incentives.

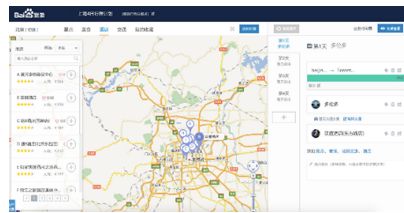**Fig. 6.** The editing page of Baidu Pedia

Fig. 7. The editing page of Baidu travel

In addition, the platform needs to show respect for original content and enhance copyright consciousness of Chinese users in order to encourage users to contribute more content. When other users want to copy, forward, or take advantage of it for other purposes, they have to quote the subsidiary author's name, source, and copyright information [4].

3.2 Experience Design of Content Consumption

(1) Low-cost of receiving information
   In terms of the user group who is consuming content, designers need to reduce the effort cost of having access to information. If the page navigation is clear, the user who is not logged in can still browse it. By using the searching engine, users can obtain different forms of content such as pictures, texts, videos, etc. If failed to retrieve relevant information, they can get timely feedbacks, related recommendations, manual or other relevant content from the platform. When users are browsing content, more content can be recommended based on the user's behavior or users other attribute. For instance, on China National Day holiday (7 days), some long journeys are recommended, and some short trips are recommended on other holidays such as Qingming Festival holiday, Labor Day holiday which last generally 3 days.
(2) High quality content presentation

   • Prioritize the second level pages. For the most users who use UGC products, the content pages are viewed for the most amount of times instead of viewing homepages. So designers need to focus on the design of them. With a clear navigation for users to understand the content, we can have the users quickly browse the content and modules which attract them enough (Figs. 8, 9 and 10).
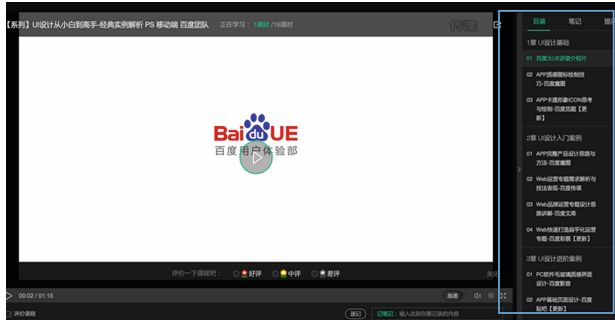
Fig. 8. The content page of Baidu Chuanke

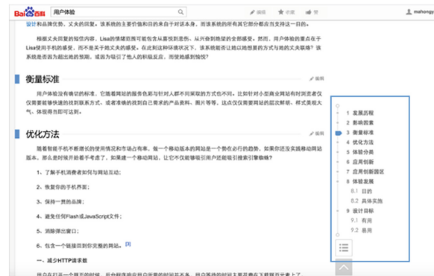**Fig. 9.** The content page of Baidu travel

Fig. 10. The content page of Baidu Pedia

- Regular summary of content. To many users, the first glance at the website content determines the first impression of these users. Based on that, the website regularly needs the arrangement and summary of the content. The website can send emails to the users regularly by summarizing and recommending high quality content, in order to keep the user viscosity and activity.

(3) Personalized customization

In the UGC products, since the content can be created by any user, there is a risk in the failure of ensuring the quality and credibility. Thus, we need tools to filter content to ensure credibility and higher quality content in terms of user needs.

Fig. 11. Making Trip Plan in Baidu Travel

Among those tools, big data is a powerful one. First, through data mining, we are capable of integrating the UGC content fragments into a useful and complete content so that the platform can supply high quality contents to users. As shown in Fig. 11 (making the user's trip plan in Baidu Travel), through the users input the information which they want to go to the city and date, we have dug out the quality content of the city at the time. This kind of service makes the information more efficient and effective to show. As a result, this feature which has been online for one year, has become the most popular function for users.

(4) Reasonable design of evaluation

It is necessary to design the evaluation system for UGC product, it can help users to find some good content to browse and block some useless content.

- For feedbacks that consist of negative criticism and positive praise: It applies the product which content is low-cost to produce and has the quality which varies considerably (Fig. 12 left).
- For feedbacks that only consist of positive praising. It applies the product which content is high-cost to produce and has the high quality (Fig. 12 middle).
- For feedbacks that only consist of scoring. It applies the product which content is high-cost to produce and multi-dimensional. The scoring is more objective and real (Fig. 12 right).

Fig. 12. The feedbacks of UGC products

3.3 Design Considerations

In China, in order to do the UGC experience design, in addition to the design rules of content generation and content consumption as above, we also need to pay attention to the following two points:

(1) The more, the better? Not really.

If a UGC product has a large amount of users, it may possibly be likely to become a bad product. In order to ensure the quality of content, designers should focus on the shape of the product to better prevent the user from generating a lot of invalid content.

Here comes the most typical example: every Baidu post bar has its own theme that assembles the users who's in tune. The conflict of different cultures often directs users burst into 'Post War' [5] spontaneously. 'Post War' means that a large number of users constantly post tons of topics that nothing short of spams, which makes the normal posters behind the spam posters by several pages and those posters cannot be viewed by users. Post War prevents users from normally browsing, posting, and commenting. The most serious result of Post War may crush the whole bar. So that's why a lot of relatively large post bar set limits of posting for users who are not 'fans' of the bar, as shown in Fig. 13, before posting, the users must submit a Chinese character verification code. After launching the verification feature, if there are still many spam posters, the post bar may stop the posting feature, users can only use the feature of browsing.

(2) Design for different devices

If the users are using a mobile device, we should reduce the times users need to type. When the users are browsing content, they prefer scanning the QR code and locating than inputting.

During the progress of content production, designers should design UGC content presentation styles based on the characteristics of mobile devices. For example, with the live feature of Baidu Travel app, users are allowed to publish current positional information with interested photos that have other users know the views of the city at the particular moment.
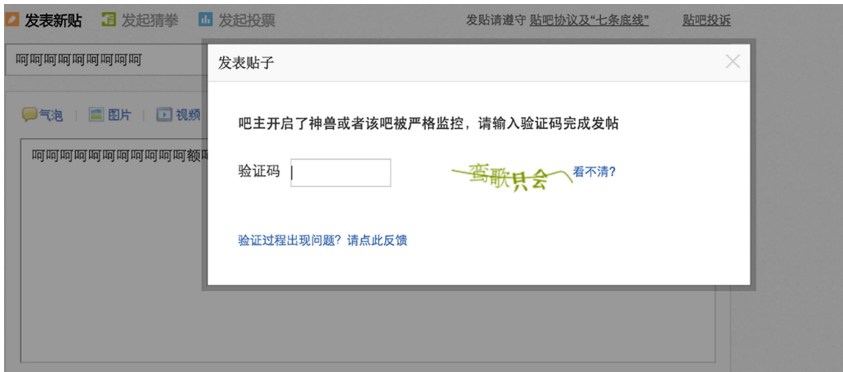
Fig. 13. Chinese character verification code in Baidu post bar

4   Conclusion

To sum up, the content is the most important in the UGC product design. Also, generating content needs users' active participation. As mentioned earlier, users are both suppliers and consumers of the content. Thus, the most core objective for designers is all about users' generating content and consuming content. Designers must ensure the efficiency of outputting and displaying content, which finally deposits the value of the user needs into the product value.

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