

Research on User Experience of News and Information APP

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Abstract: With the development of the times and society, the Internet has played a more and more important role in people's lives. Unconsciously, mobile phones have become an important tool for people to use the Internet. The proportion of Internet users accessing the Internet through mobile phones in China has reached 98.6%, and the number of news users is 663 million. People can access a wide range of information through the Internet only through mobile terminals. In 2017 and 2018, the total number of users of news and information applications increased by nearly 230 million. The use stickiness of news and information APP users is on the rise. The value of news and information independent APP is enhanced, and the diversified features of news and information APP products are highlighted. The success of news and information application is inseparable from every user holding a mobile terminal, and user experience is increasingly becoming a key factor in product development. Therefore, it is of great significance to tap the user's needs, improve the user experience, and transform the user retention rate to make the products develop sustainably.

Keywords: News Information; Applications; User Experience

The development of mobile information client is becoming more and more mature, and the public has completed the transformation from passive audience to active users. When the status of users is getting higher and higher, the awakening of self-awareness and the enhancement of demand put forward higher requirements for the development of news information APP. A large user base is the core element of any industry's sustainable development, and "put the users' experience first" has also become the guideline pursued by the industry. Because of its convenient and wide coverage, news and information applications account for an increasing proportion in various mobile phone applications. As a new means of obtaining news and information, the research on user experience can promote the healthier development of applications.

1. Theoretical basis and concept

definition

1.1 Theoretical basis

1.1.1 The user experience theory

User experience refers to the subjective feelings of users on product use and service in the whole process of using products, including sensory satisfaction, sense of belonging and emotions. The ISO 9241-210 standard defines user experience as "people's perception and feedback on the products, systems or services used or expected to be used". The realization of good news and information APP user experience needs to be reflected from three aspects: before use, during use and after use, including APP appearance experience before use, interface setting experience, etc. The usability experience of APP includes information content, information source, auxiliary functions, etc. After use, the user's emotions,

social functions gradually penetrate the interaction process and affect the user.

User experience was first proposed by Norman, who pointed out from the perspective of emotional design that user experience comes from three aspects: instinct level, behavior level and reaction level. Instinct layer is the user's instinctive reaction, that is to say, the user's visual touch and other reactions when touching new products; behavior layer is the user's use reaction in the process of using products; and reaction layer can be attributed to the emotional reaction after use. From instinct to reflection, with the deepening of users' use of products, users' experience is restricted by perception and cognition.

Jesse James Garrett, one of the founders of Adaptive Path, a user experience consulting company, published the elements of user experience on the Internet for the first time in March 2000, and decomposed the design of user experience into five levels from top to bottom: strategy level, scope level, structure level, framework level and presentation level.

The five elements of user experience illustrate the key of product design from different levels. At the strategic level, from both users and products, the needs of users and the development direction of products are clearly defined. The scope level defines the scope of function and content: the structure level determines the information architecture and interaction mode design of the function level. At the framework level, refine the layout of products and the appearance of product interfaces. The presentation layer pays attention to visual design, so that the APP can be presented perfectly, and everything that users can see is displayed by the presentation layer.

1.1.2 The theory of use and satisfaction

The theory of "use and satisfaction", based on the psychological motivation and psychological needs of the audience, combined with the relevant knowledge of psychology and sociology, explains people's behavior of using the media to get satisfaction, and puts forward the social reasons and psychological motivation of the audience to accept the media.

In 1974, Katz summarized media contact behavior as a kind of satisfaction of media functionalism, which is a causal chain process of "social factors-psychological factors-media expectation-media contact-demand satis-

faction". In 1977, Yulang Takeuchi, a Japanese scholar, added the possibility of media contact and the variables of media impression. In 1981, Undall put forward the model of "use and effect", calling for the combination of effect research and use and satisfaction research. The rapid change of media technology has brought more choices to people. Researchers of use and satisfaction need to rethink the theoretical framework in order to meet the needs of the development of new communication technology and explore the new satisfaction brought by new media.

For the first time, the theory of "use and satisfaction" studies the basic social and psychological needs of audience from the perspective of audience, and emphasizes the importance of audience in the process of communication. According to the theory of "use and satisfaction", people are not passive when using the media, but actively interact with the media to obtain the information they want or meet their needs through the media. People choose specific media and content to start using the media, and whether they are satisfied or not after use will affect the selective use behavior of the media. In the new media era, it is consistent with the initiative of users on how to obtain information through news and information apps. In this development process, the theory of "use and satisfaction" plays a promoting role.

1.1.3 Maslow's hierarchy of needs theory

In 1943, Abraham Maslow put forward the "hierarchy of needs theory" for the first time in his article "theory of human motivation". He proposed that human behavior is caused by motivation, which originates from needs, and needs appear in the form of hierarchy. Human needs can be divided into physiological needs, security needs, social needs, respect needs and self-realization needs from low to high, and pointed out that high-level needs will appear only after low-level needs are basically met.

Physiological demand is the lowest demand among all demand levels. Only when people solve the problem of survival can they live and have the opportunity to pursue higher demand. Safety requirements include not only personal safety, but also health and property safety. Physiological needs and safety needs can be summarized as the body is the capital of revolution. Only with the capital can we think about social needs such as family,

friendship and love. Once people have a stable social status, they will pursue their rights, hoping that they can be respected by others, so as to realize their leading role and realize themselves as much as possible to reach the highest level of demand. Maslow also believes that these five levels may exist at the same time. It is not that after the highest demand is met, other needs do not exist, but the low-level demand is no longer the most demanding problem to be solved, and its influence on personal development is reduced. Therefore, starting from people's needs, to discuss the mass media, from content to form, from audience to users, from passive to active, like Maslow's hierarchy of needs theory, users' needs are constantly improving and being satisfied.

1.2 Concept definition

1.2.1 APP and news information APP

APP is the abbreviation of Application, which refers to the third-party software that can run on mobile smart devices, also called mobile phone client. Like social, music, tourism, sports and other applications, news and information applications are the dissemination platform of news and information on mobile smart devices, and are third-party applications that provide news and information services for users.

News information APP is a new communication channel from information content providers to news information users. Information content providers include traditional news media transformation, self-media platform and short video platform. Intermediate channels include aggregation information APP, portal information APP, vertical information APP, social media, audio and video media, search engine, etc. Traditional media can also be used as a channel to directly disseminate information content to users by transforming mobile independent apps. That is, news and information apps can be subdivided into traditional news media apps, aggregated information applications, portal APP and vertical information applications.

Traditional media transformation applications can be subdivided into newspapers, magazines, radio stations, TV stations and other apps with different information forms as the main communication content. In this study, we take the traditional media color training APP transformed by Jilin Daily, the portal-like Jike APP based on China Jilin Net and the aggregation-like Ersanli In-

formation APP as examples to study the user experience.

1.2.2 The user experience

The process of users using products is a process of experience. Users expect products before using products and want to achieve goals through products; What are the new requirements and expectations for the products in the process of using experience: after using the products, the feelings for the products, and whether there are new demands. All feedback generated by users before, during and after using the product is user experience.

Under the background of the popularity of mobile devices, the increase of network speed and the decrease of network fees, the users on the mobile side quickly opened a page, while the mobile information client lowered the threshold of information acquisition, which met people's demand for fragmented access to information anytime and anywhere. The status of users is getting higher and higher, and the awakening of self-awareness and the enhancement of demand put forward higher requirements for the development of news and information APP.

2. News and information APP enhances the development direction of user experience

2.1 Improve the content quality and meet the practical needs of localization

In the era of media convergence, great changes have taken place in the pattern of information dissemination, with mixed information sources and complex and changeable public opinions. Adhering to the principle of party spirit, spreading the mainstream voice, grasping the political direction and correctly guiding public opinion have become the bottom line that news and information applications should firmly adhere to. After the previous investigation and study, in terms of content, users prefer to watch the policies of benefiting the people from government agencies and official websites, and hope that the manuscripts have the unique style of the media, with more original manuscripts and special sections reflecting the aspirations of the people or things around them. Therefore, it is particularly important to pay attention to localization and practicality while ensuring the quality of content.

2.1.1 Increase the column of local dialect and tell vivid stories

No matter how the form of communication changes, high-quality information content is still just needed by the public. The localization and practicality of content should be taken into account while ensuring the quality of content. Only by firmly grasping the user groups in each region can we enhance the user stickiness and enhance the user experience.

“Content is king” does not only mean the depth of content, but high-quality information content has various connotations. Different regions have different regional cultures. To satisfy users in different regions, information content in different languages can be added. In order to make manuscripts better meet the needs of users, local language columns can be added. Interpret news and information from the perspective of the people in a way that conforms to the characteristics of local people’s speech. On the basis of ensuring the authenticity, correctness and reliability of news, information, information and knowledge, plain and understandable language should be used to the maximum extent in order to make users know the news content in all directions with the language of spring breeze and rain.

Cultural symbols representing local characteristics are added to the local dialect column. Taking Jilin as an example, Changbai Mountain, Songhua River and other elements can be added to the top of the column, so that users can identify the area and understand the characteristics of the area by cultural symbols when switching to a certain area. A series of thematic reports can also be published in the column. For example, “Ji Shi Ji Ren” starts with details, selects local typical figures or typical cases, and tells stories with local characteristics through the growth of small people and the development of cases, thus reflecting regional culture and the spirit of the times. It is also important to speak with facts, make articles more grounded in a homely language, and spread useful life information through distinctive information articles, so as to tell vivid stories well and make information apps a necessity in users’ lives.

2.1.2 Innovative communication methods and interesting interpretation of difficult news

For the easy interpretation of the serious content put forward by users, the users can follow the policy news

link to interpret a policy, interpret the “hard” news from the user’s perspective in a through way, and interpret the news in a simple and understandable way, so as to give users a sense of ease and enjoy it, and the content that is really close to life is the content welcomed by the audience. Careful planning, professional writing and exquisite packaging of news topics and events can set off hot spots. Taking People’s Daily as an example, during the two sessions, People’s Daily APP launched the function of “AR watching the two sessions”, and users can see AR news by scanning newspapers with their mobile phones. Newspapers and mobile applications are effectively integrated to enhance user interaction and interpret difficult news in different ways of communication.

With the rapid development of science and technology, the forms of communication have been upgraded, and the forms of communication are not only words, pictures and videos. In the past, words were the mainstream, but later pictures were more realistic, and now short videos are more vivid. In the future, VR, AR and artificial intelligence will occupy the mainstream. The change of communication mode is the inevitable result of the development of social science, technology and economy. The upgrading of users’ browsing mode is the fundamental driving force for the development of news and information APP. From organized production with agenda setting to organized production without agenda setting, the evolution of information production mode constantly innovates different modes of communication, from readable to visible to participative. The forms of carrying content are constantly changing, the channels of spreading content are constantly changing, the terminals of spreading content are constantly upgrading, and the requirements of recipients of spreading content are constantly increasing. In the era of media convergence, a single mode of communication can no longer meet the needs of users. With the continuous development of application technology and IT technology, the discourse system of news communication has been reconstructed. New things become the life of form and channel, while being changeable is the eternal trend. The change of communication technology requires the content of news and information to be changed. The attractive headlines are no longer popular, which the audience are no longer curious about. Only by using various forms to enhance interactivity can news topics be presented to

users in a panoramic way in time.

2.2 Increase product functions and improve user participation

In terms of functions, after the previous investigation and study, the color matching of the interface, the choice of night mode or eye protection mode when reading, and the function of adjusting font size are more popular among users. User stickiness is maintained by user emotion, and user satisfaction directly affects the daily life of products. How to establish good user stickiness, let users have something to say and dare to say, give users enough interactive social space, and give users more care and protection is an important magic weapon to maintain user stickiness for a long time.

2.2.1 Invite government departments to settle in and improve service awareness

Since users take the initiative in communication, service awareness is the basic survival skill that every communicator, which every information platform should possess. Improving service awareness cannot just be an empty slogan. At present, Media integration is no longer a new word. As the development direction of mainstream media, media integration must take advantage of the situation. The development of news and information APP should not only be a producer of content and a disseminator of information, but also a builder participating in social construction. As a provincial-level media news and information APP in Jilin Province, Jike has specially set up a service column, and the current service column is limited to the publicity of some information.

The development of media integration should closely meet the needs of social development. On the one hand, APP can invite different government departments such as municipal administration, taxation, transportation, medicine and health, water and electricity, and environment to settle in. In this way, not only can the information content be provided in the APP, but also a special column can be given to the government department, and various functions such as government service and convenience service can be added on the basis of publishing information. In the prominent position of the government service channel, a public supervision mechanism can be established to make the government service open and transparent.

2.2.2 It provides a user communication platform to enhance user stickiness

Users express the hope that there will be a special section to reflect people's voices or things around them, so that users can fully express themselves. Both the provision of news and the comments of information content give users the opportunity to fully express themselves. The explosion of short videos such as vibrato and Aauto Quicker is not only due to the spread of videos, but more importantly, it provides a platform and concern for grassroots to express themselves. Respond to users' feedback in time to let users know that they are concerned. In order to tap the local social function, it is necessary to strengthen the function of UGC, provide users with a voice platform, let users have something to say, and encourage users to publish high-quality original content, so that everyone can truly become a reporter, record things around them, satisfy users' desire to express, attract more users, and improve the convenience and practicality of news and information applications.

Setting topics for users to discuss can also allow users to initiate topics themselves and attract users to publish original content. After careful review, the content published by users can be recommended to the information interface, encouraging originality and letting users speak, breaking the deadlock of homogenization of major APP content. Set the comment function of information content in an obvious position to encourage users to participate in comments. It is important to pay attention to user comments under public events and news hotspots, and answer questions and queries raised by users at the first time, so that users can reasonably safeguard their own interests and enhance their stickiness. Games, H5, surveys and other activities in different forms can be set online to encourage users to participate.

2.3 Strengthen product performance and enhance user experience

In terms of product performance, it runs fast and fluently. Pushing the content that users like at an appropriate time and fully protecting the privacy of users can enhance the user experience. At present, information applications have the function of pushing messages. It is good to recommend important news content to users, so that users can receive fresh information at the first time. However, regular and fixed-point push every day will

affect the user experience. On the issue of user privacy, each user has a unique user database. How to protect the user's data from outflow and protect the user's privacy from malicious exploitation is a problem that every Internet platform should solve.

2.3.1 Strengthen technical means to solve the problem of slow running of recommendation

Every process of users' use needs the support of science and technology. How to speed up the development of technology, reduce the storage capacity in the design of APP and improve the running speed in the background has become a problem that technical departments continue to solve, making it a reality to use smoothly without jamming or bug. In the process of product development, excessive redundant design should be reduced, the rendering speed of UI should be improved, and the memory of mobile terminal occupied by APP should be reduced, so as to improve the fluency of software operation.

Recommending on the function of sending messages, it is good to recommend important news content to users, so that users can receive fresh information at the first time. However, regular and fixed-point push every day may affect the user experience. At present, the recommendation function is turned on by default in the initial installation of news and information apps. As long as it is recommended in the background, users will receive the recommended content at the same time. Enhance the accuracy of technical means and algorithms, recommend the news content that users often browse to users, or turn off this function by default, prompt users to turn on the recommend function when opening the APP in initial installation, and let users choose the time period and news channel for receiving the recommendation.

2.3.2 Pay attention to user interaction experience and protect user privacy

In the design of functional sections, developers should consider the practicality of users from the perspective of users. As far as the functions of mobile news and information apps are concerned, the color matching of the interface, the choice of night mode or eye protection mode when reading, and the function of adjusting font size are more popular among users. Understanding users' needs and using technology to recommend information accurately can serve users better. In the interac-

tive process of users' use, every action and reaction of the product affects the hearts of users. From the initial learning tutorial of using the product, to the display situation, font color, font size and font change after the user presses the button, and then to the gestures and special effects of converting the page, it is the interactive experience of the user. Only the interactive functions that conform to the user's habits can improve the user's satisfaction, and the user's habitual reaction results can make the user fondle admiringly.

It is reasonable for software to access user data, but in terms of user privacy setting, a perfect user privacy protection system should be established rationally. APP platform can anonymize user data, only obtain some data of user software development, and inform the user which part of data to obtain in advance before obtaining user data, and then obtain the user's consent. Anonymous processing in the process of data transmission, storage and sharing prevents users' privacy from being exposed to the sunshine of the Internet, and supports a "protective umbrella" for users' privacy.

3. Conclusion

With the advent of the 5G era, network communication and mobile terminals are also developing. User experience plays a key role in the development of all kinds of applications, and it is increasingly important to strive for more users to seize the market and obtain rich economic benefits. The premise of seizing the user market is to meet the user's needs and enhance the user experience. It is the focus of research to find out which factors will affect the user experience and which aspects can make users use news and information apps better. It is hoped that relevant research can provide some practical opinions and suggestions for the development of news and information applications.

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