Research on the application of advertising communication information system based on mobile Internet

Dongyu Yao

Liaoning Institute of Science and Technology

yaodongyu1225@163.com

Abstract. With the steady development of intelligent terminal equipment and wireless access network, the Internet has gradually changed from fixed to mobile, which not only creates a mobile Internet platform, but also changes the traditional single mode of information transmission. Through the use of mobile wireless communication to obtain business and services, the mobile communication and Internet platform fully combined, can simultaneously provide network users with images, data, multimedia and other high-quality telecommunications services. On the basis of understanding the current situation of mobile Internet research and application, according to the influence brought by the development of mobile Internet era, this paper deeply studies the mobile Internet as the core advertising communication system, and from the perspective of long-term development of the industry, put forward the application measures of advertising communication information system in the new era.

Keywords: Mobile Internet; Advertising communication; Business model; Advertising system

1. Introduction

Mobile Internet will combine mobile communication terminals with the Internet. System users can use mobile phones, ipads and other wireless terminal devices to access the network and obtain information anytime and anywhere in the mobile network platform with high speed, and integrate various network service systems such as business and entertainment. Nowadays, mobile Internet has penetrated into all aspects of people's life and work. Mobile Internet applications such as Alipay and wechat have developed rapidly, gradually transforming the social life in the information age and letting people get rid of the restrictions of time and space. Mobile Internet has been developing since the beginning of this century. Although the research and application time is relatively short, it has become the main content of research and discussion in a field with its own characteristics such as interactivity, portability and mobility.[1-3]

Advertising is the basic carrier of information. With the rapid development of multimedia technology, advertising and publicity methods show a diversified development trend, such as LED lights, street posters, video and digital. In the construction and development of modern society, people's demand for advertising has gradually changed from simple information transmission to obtaining more valuable content and fully satisfying their own visual, auditory and tactile needs. Therefore, how to efficiently and reasonably control the node of advertising area has become the focus of current social construction and development. From the perspective of advertising marketing, advertising production only needs to spend less cost, and more concentrated in the late advertising space investment. In order to make full use of digital media and regional advertising facilities to convey mobile product information and new ideas to the public, most enterprises need to invest a lot of time and money in advertising every year, gradually improve the investment efficiency of practical work, shift the focus of work to the reasonable allocation of advertising resources, and attract more attention from the public. In the theoretical innovation and development of mobile Internet technology, some enterprises propose to build promotion advertising

communication system, regard information as the basis for development, integrate the use of modern advertising resources represented by digital, graphic, video and so on, to create a high-quality advertising environment for the modern society.[4]

According to the application situation of advertising communication information system in recent years, after entering the era of mobile Internet, advertising communication channels and communication environment have changed, which is reflected in the following points: First, from real-time to anytime. Real time refers to the actual time when something is happening, the same time when something is happening and developing. In the traditional network environment, users can timely obtain the latest information from the outside world and watch relevant content according to their own preferences and time, which can further enhance the interaction and selectivity between users and the network. But real-time needs the user to sit in front of the computer to receive and transmit information, which has certain limitations. And "anytime" means that information is available anywhere at any time. In the mobile Internet environment, users can access the network and use relevant services anytime and anywhere in the mobile state, and the time of contact and use of the network will also change. Under this condition, users can break through the restrictions of time and region, make full use of fragmented time to realize reading, and the actual use time is much higher than that of other devices. Second, from online to present. Online refers to the computer in the online state, users can directly through the network platform, without leaving home to learn news information or online shopping, users can not only have daily living space, but also can establish their own digital living space, but the relevant technology is limited, the use of space will also have problems. Being present usually means being physically present at the place where the event took place. In the mobile Internet environment, users can receive and consume information and services directly through mobile terminals in any space. At this time, information will rise from network communication to mobile communication, and users' spatial concept will also change from online to present. Because the presence breaks through the restrictions of the location of media use and truly shows the application value of spatial variables, it is more in line with the life form and consumption demand of users in the new era, creating favorable conditions for the application and promotion of advertising communication information system. Finally, from function to intelligence. Function refers to the object can meet certain requirements. In the traditional network environment, PC is the update and iteration of the hardware system and software system to fully meet the needs of users in work and life. Intelligence is the ability of a machine to control itself and adjust itself according to the environment. Mobile terminal is the core of mobile Internet competition. In the mobile network environment, it not only has the computing level far beyond the current PC, but also can gradually improve its basic functions, pay more attention to improving the user's cognitive experience, and actively respond to the service needs of various users.[5]

Based on the understanding of the current situation of mobile Internet technology development, this paper deeply discusses the design and main functions of mobile Internet oriented advertising communication information system according to the application impact of mobile Internet on advertising communication information system, and defines the application measures of advertising communication information system in the new era, so as to better meet the needs of social residents for advertising communication in the new era.

2. Methods

2.1 Advertising business model

Compared with traditional media advertising, mobile Internet advertising has the following characteristics: First, personalization. Mobile Internet advertising should regard the mobile terminal as the final presentation carrier, and present a strong personal tendency when communicating with the outside world and obtaining information. Second, interactivity. The audience groups of mobile Internet advertising can realize effective interaction through mobile terminals and advertising

delivery strategies, and have strong communication between each other, which can realize the development goal of advertising marketing faster; Finally, real-time. Mobile Internet terminal users can access at any time, advertising push is more direct and effective. According to the analysis of the mobile Internet advertising value chain shown in Figure 1 below, as the beginning of the whole value chain, advertisers can release advertising information for products after paying a certain fee. Advertising agencies are responsible for the design, planning, production and delivery of advertisements and other basic tasks. After defining the mobile media channels, advertising agencies should establish a good cooperative relationship with the operators and choose the appropriate advertising channels, delivery strategies, user groups and so on. The content provider shall provide the advertising agency with advertising creativity and advertising content; Operators should make use of mobile Internet advertising system technology platform and use natural channels to advertise to end users; Mobile Internet channel providers should provide channels and carriers for advertising. Mobile terminal users belong to the audience group of advertising, and the group behavior directly affects the effect of advertising communication. Technology providers are the providers and maintainers of mobile Internet advertising and can provide effective technical support for operators.[6-8]
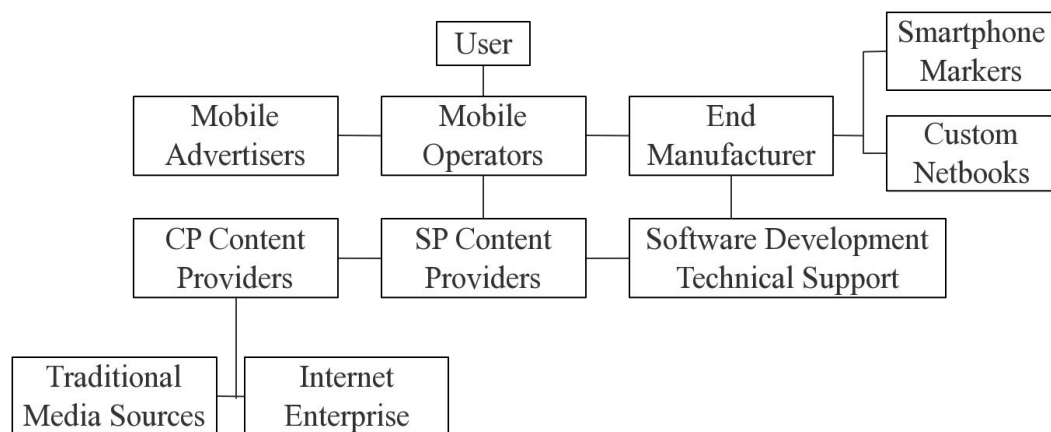

Figure 1. Structure diagram of mobile Internet advertising value chain

According to various advertising categories proposed in the current market, mobile Internet advertising has a variety of pricing modes. For example, mobile WEB advertising can be divided into two pricing modes: one refers to the price that advertisers need to pay for every thousand displays of advertising content, which is called CPM; The other is the price an AD pays per click, called a CPC. From the perspective of another carrier of the advertising value chain, enterprises should focus on the following contents as shown in Table 1:

Table 1 Profit carrier analysis of advertising value volume

Carrier of interest	Focus	
	Drag ads	Push advertising
Advertiser/advertising agency	Timely and precise advertising	Timely and precise advertising
The carrier	Attract high traffic channels	Avoid complaints from end users
Channel operators	Attract high cpm advertising agency placement	No
Mobile terminal users	Consume content, search and consult	Timely access to personalized advertising consultation

2.2 System Design

The advertising communication information system with mobile Internet as the core occupies a central position in the entire advertising value chain. The specific structure is shown in Figure 2 below:[9-11]
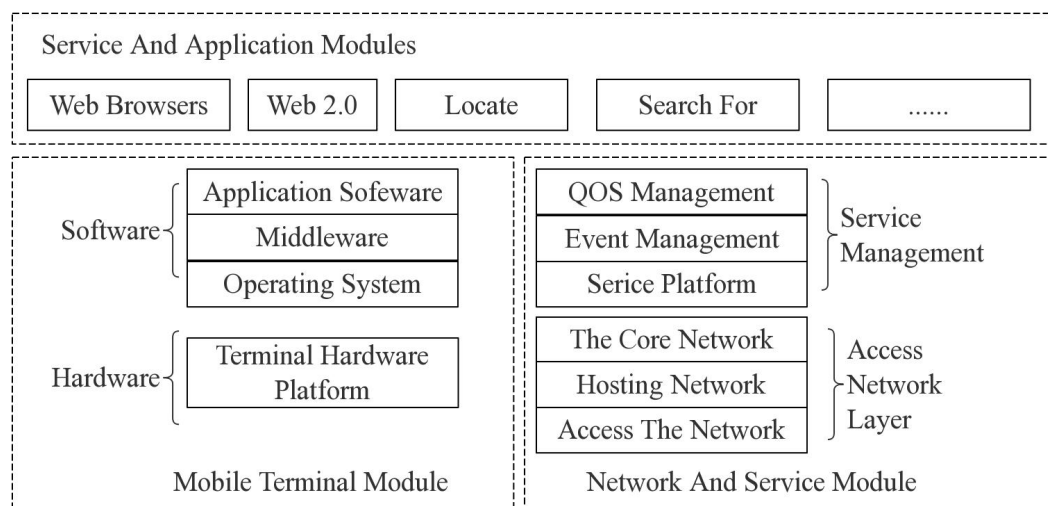

Figure 2 System architecture diagram

The logical structure of the overall system design is shown in Figure 3 below:
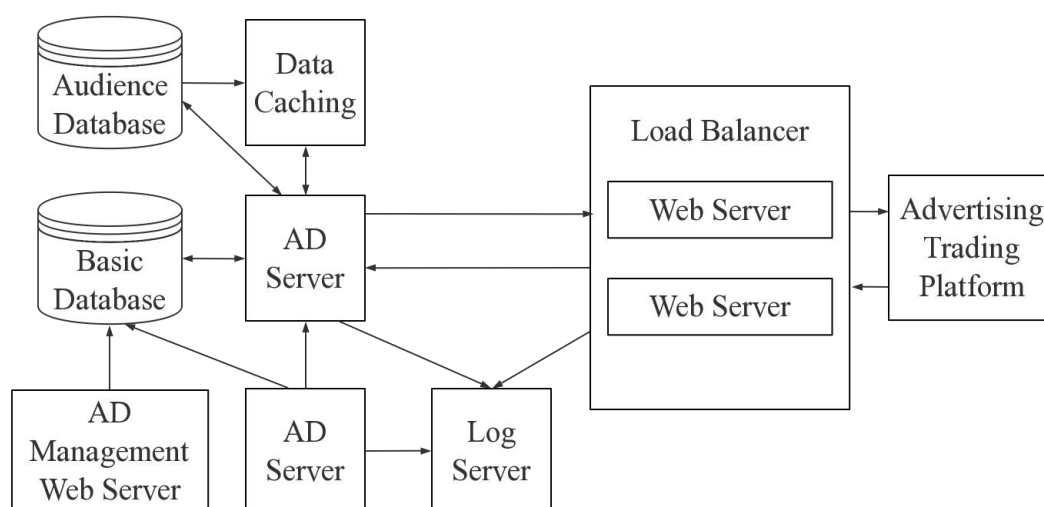

Figure 3 System logical structure diagram

Based on the above analysis, it can be seen that the overall system design needs to set up multiple servers such as advertising, advertising management and log, and use Web servers to build an advertising trading platform to effectively store information of audience groups, so as to provide the basis for effective advertising. The overall system design is mainly divided into the following levels: First, the access layer. This level design includes two capabilities, on the one hand refers to the SMS capability access, can use SMPP protocol and the operator's SMS center interconnect, on the other hand refers to the MMS capability access, can use the protocol and the operator's MMS center interconnect; Second, the business layer. User license management is a functional module for users to register advertising services and update personal information. Advertising strategy management device Advertising agency provides advertising management, advertising delivery and other functions. Channel manager is to provide advertising site management service for channel operators, which will generate embedded code snippets according to site properties. The end user database mainly stores the information of the end user; Finally, the presentation layer. This level

can use a set of drag-and-drop advertising interfaces encapsulated by Webservice to facilitate channel providers to obtain portal sites and mobile applications, and effectively invoke them in strict accordance with operational requirements.[12-15]

3. Result analysis

This paper takes drag advertisement delivery process as an example to explore the application effect of mobile Internet oriented advertising communication information system. Terminal users register for advertising services according to the process shown in Figure 4 below. The portal website will ask the users whether to accept personalized advertising services and obtain feedback points provided by the operators. After choosing to accept, the users will enter the registration process, and the most common thing is to enter their mobile phone number and verification code. Upon completion of registration, the system will provide the user with a successful message.
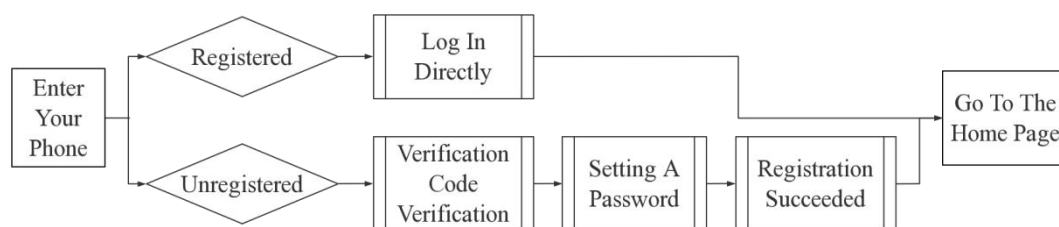

Figure 4 Flowchart of the end user registration

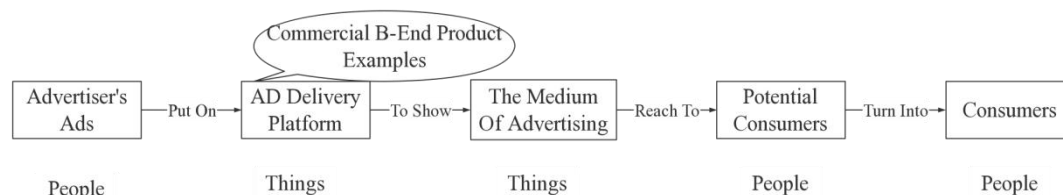The delivery process of drag ads is shown in Figure 5 below:

Figure 5. Flow chart of advertisement delivery

Based on the above analysis, it can be seen that the end user can browse the operator's network portal, and the code snippet embedded in the network portal will send requests to the mobile Internet advertising system and transmit various information of the user. The advertising drag engine will pass the message to the target user positioning engine, conduct query and analysis in strict accordance with the user information, and finally show the personalized advertisement to the end user, and the relevant database will generate the advertising record, to provide effective basis for the subsequent research management. Therefore, in the face of increasingly fierce competition in the market environment, all kinds of enterprises, based on the technical development needs of mobile Internet, strengthen the application research of advertising communication information system, change the traditional advertising mode, pay more attention to provide network users with high-quality service system, give full play to the advantages of mobile Internet technology, and truly meet the needs of different types of users.

Conclusion

In summary, according to the technical characteristics of the mobile Internet, this paper deeply discusses the business model of Internet advertising operation in the new era, defines the structure and main functions of the advertising communication information system oriented to the mobile Internet, and provides technical support for optimizing the experience of end users in the new era. Therefore, while increasing the research on mobile Internet technology, we should continue to optimize the application technologies and main functions of advertising communication information

system according to the effects of advertising communication and service, so as to improve the level of Chinese information service.

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