Behavioral Logic Thinking of UI Design for Smartphone APP

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ABSTRACT
Faced with the especially severe economic situation in our country, various advanced technical means are rapidly popularized in the daily life or work of modern social groups, provides new opportunities for the development of various industries, and puts forward development requirements at higher-level for the improvement of subsequent work. The UI (UI) design for smartphone App needs centralized design of certain software regarding to man-machine interaction, operation logic, visual aesthetics of interface and so on. While ensuring the software operation is comfortable, simple and free, the core features and basic performance positioning of the software could be presented to the maximum extent. In order to ensure the integration of design work, the analysis on thinking mode for behavioral logic design is required to be strengthened, which shall strive to present a visual effect satisfied by users.

Keywords: *Smartphone App; UI (UI) Design; Behavioral Logic*

1. INTRODUCTION

Apps for smart phones tend to be integrated and will further focus on their platform-based development.and the UI is an important medium for information exchange between the system and the user. When designing the UI, the centralized summary of several design points is required to be strengthened through different aspects, so as to achieve the purpose that the user groups can operate the hardware in a short time efficiently to complete the two-way interaction.The analysis of logical thinking of interface design behaviors of App users of smart phones was strengthened to ensure that these interface designs can quickly meet the current development trend in the market, thus satisfying the needs of users at all levels.

Therefore, this paper mainly combines the working status of UI design for smartphone App, and discusses and studies its basic behavioral logic thinking in full range, whole process and areas.

2. BASIC OVERVIEW OF UI DESIGN FOR SMARTPHONE APP

2.1. Basic Flow of UI Design for Smartphone Apps

In order to ensure that the whole design work orderly, relevant staff is required to fully identify the organization and general working direction of the whole design work, thoroughly understand the basic demands of the user group through comprehensive investigation, summarize the information and data in report form of functional requirement, as well as conclude answers to different questions including “what do system users want the system to do? How to adapt to the normal work flow or daily activities of the user groups quickly? How to design visual style of interface attracting users?” Secondly, on the basis of the information collected in the early stage, a highly comprehensive, systematic and prospective information structure, is developed and, the conception of prototype design is strengthened.[3] The development of wireframe is based on paper prototype or carried out by the form of simple interactive screen, with proper removal of redundant visual elements and unnecessary content, as a result of which the interface design is highly focused on. Finally, professional evaluators are assigned to check the operation and

maintenance of the UI through various means of usability inspection, testing and maintenance. The user community is actively encouraged to express their ideas freely during the experience, which provides a perspective of the viewer to the acceptance of the design and helps to develop a successful smartphone app.

2.2. Requirements for UI Design for Smartphone Apps

Good UI design can help the user groups to complete the task at hand in the shortest time and greatly reduce unnecessary waste of time. In order to realize the fundamental design purpose, relevant staff must adhere to the work code applicable to the task, ensure accurate communication of different information contents and complete relevant tasks in high efficiency, high quality and high level. Secondly, the research on multiple involved links should be strengthened, so as to ensure that multiple dialogue steps can be accurately described and explained to the user groups based on quick understanding of and with reference to the actual requirements through the feedback of the system.[2] To meet the user characteristics and fundamental demands, the UI should be organized purposefully, directionally and pertinently, and relevant elements should be grouped and summarized, in order to ensure that the user can accurately distinguish the displayed information and not be disturbed by the redundant information, with the purpose to significantly increase the acceptance of the system from the user groups.[5] At last, individualized applicability design can not be ignored, through which the user group can modify the software to adapt the task demand. The system with operable, usable and adaptable user demand should be under establishment, which controls and deploys the balance between technical function and visual element, and keeps the consistency, unity and integrity of the interface.

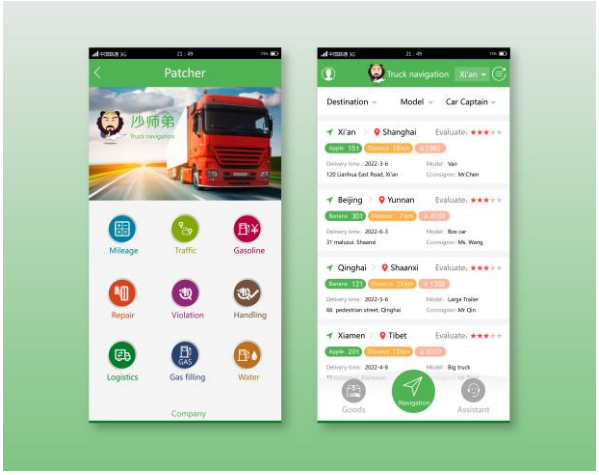

Figure 1 Caption content.Example of UI Design for Smartphone App

3. MAIN PROBLEMS IN UI DESIGN FOR SMARTPHONE APP

3.1. Information structure does not match user's inertia thinking and behavioral habits

With the impact of various advanced technologies and the popularization of information system, most designers generally adopt the method integrating many different data contents intensively, which is applied uniformly to the optimal combination of design and function of App UI.The designers neglect the facilitative effects on customers' experience taken by the collection and disassembly of information, and only take the product function as the focus of the whole design work. As consequences of which, the user groups are forced to spend too much time on sorting out the intricate data during information screening. Moreover the whole UI design of software cannot completely meet the basic demands of users, which has become a core element curbing the steady development of UI design. Taking the travel service software essential for social groups to travel out now for example, the most concerned problems of group travel in current society are information of scenic spot, travel route and price. However, limited by inertial design thinking, a small number of apps mistakenly stick three contents on top which are "Me", "Route" and "Customer Service" during designing. The frequently used button are set in hiding, and the hierarchy of design lacks clarity, conciseness and priority, resulting the core functions are unable to be high lightened and are at disadvantage in further expansion. As the results of which, frequent page switching and too many entries for user groups when browsing information severely reduce reading efficiency of the user. The user group is unsure to access to the module they want quickly. Unsmooth information view, disunified standard, and unclear hierarchy and classification, lead to not only an unsightly appearance of the software interface, but also wrong information misleading, as well as adverse affects on accurate judgment and information extraction made by the user groups.

3.2. Inconvenient interaction causes faulty operation by users

Interaction design, as an important part of the using process of the software interface, must work step by step. After completing the design for interaction flow on interface, the layout content needs to be optimized, so as to ensure the integrity of the interactive process. However, when making a comprehensive optimization for the interaction process on interface of a certain software, a small number of designers fail to eliminate the unnecessary ways of choosing with a vision for overall development, resulting in the user group operating and choosing repeatedly for many times,

which greatly increases the frequency of improper operation caused by missing information. The usage scenarios and characteristics of the target users and the basic requirements of the construction of App business are failed to be understood, as results of which the actual benefits and effects of App work is dramatically different from the expected goal in the earlier stage. For example, in the early version design of WeChat software used by people for daily communication, a series of selections are required for user groups to send pictures. They need to select the contact person, click the +number in the dialog box, select the photos or videos they want to sent in their photo albums. After the selection, they need to ensure the number of photos and select the original pictures for sending after confirmation. Different icons are difficult to find quickly, which seriously affects the normal use of the user group. In view of the continuous emergence of such phenomena, relevant designers are required to make clear of user requirements, summarize the key points and functions of the entire software through multiple sorting methods, always take the experience of the user group as the starting point and foothold of the whole design work, determine the hierarchical structure of different interfaces, by which the redundant steps and interference items could be greatly reduced in the way of interactive self-check table and the early complex operation process is able to be slowed down, so that the experience of App smartphone becomes smoother.

3.3. Visual metaphors do not give users operational guidance in a timely manner

As the name implies, visual metaphor is using the picture modeling language to make the objects in daily life concrete through special treatment by using scene, angle, light and shadow, color, composition and other different design methods, to ensure the visual elements have special significance, strengthen the design of visual metaphor in a scientific way and choose the visual elements in accordance with the optimization of software interface, thus the pressure of text reading is reduce to the maximum extent. However, many designers lack relevant operation instructions leading the user community to operate and fail to give play to the core advantages of visual metaphor design. For example, when using WeChat, users can use the function of “taking a shot” by clicking on avatar of each other continuously. At the same time, in group chat, looking for the symbol of @ separately is unnecessary. With a long press on the avatar, the contacts in the group chat, can be reminded individually.[6] However, relevant designers cannot convey effective information to the user groups through image or other design methods, which makes its core function difficult to be highlighted.

4. BEHAVIOR LOGIC OF UI DESIGN IN SMARTPHONE APP

4.1. Optimization of information architecture with user behavior logic as a priority

Strengthening the analysis and research of user behavior logic can help designers to directly understand many different optimized operation strategies under the current market background and, collect, acquire, analyze and summarize the online data, and analyze the data generated by the user groups after using the smartphone app by implementing the processing method, and formulate the highly refined, comprehensive and process-oriented design scheme by constructing the user behavior data analysis system.[1] By coordinating, planning, designing and arranging the information of a particular content, many different design contents is reasonably arranged by means of information architecture to ensure effective understanding of users. By means of filtering components, sorting options and searching guidance, more limited information is provided for the user group to avoid the complex overload of user cognition. In addition, relevant designers need to sort out the existing information content comprehensively, scientifically use the visual hierarchical structure, and combine different design contents into a modular structure, so that the user group can quickly capture the information segments needed by themselves. To focus on making information accessible, searchable and applicable, not only the construction information requires attention, but also appropriate emotional factors are needed, which can ensure to create a pleasant experience for the user community.

4.2. Simplify Task Interaction Flow Guided by User Behavioral Logic

The relevant designers must summarize the design process tasks and key issues at the different levels throughout the initial development stage. First of all, the basic goal of the whole smartphone App design should be explicit, and different user information should be integrated, by which means unified specification is established, the general design concept and preliminary scheme extension are put forward. Based on transformation and upgrading on the original working mode, the limitation of fixed-line thinking is broken through, and the interaction flow of interface in the form of wireframe is developed, so that contents and tasks are closely connected, and the specific operation steps of the user group are indicated in detail. Secondly, in terms of the abnormal situation of software, relevant measures must be worked out in advance. For the problems of network connection abnormality, client-side crash, out-of-limit exception and null result frequently occurred during the running of smartphone App, a unified maintenance standard system should be

established to ensure that the problem can be solved in the shortest time. At last, different functions are classified and summarized according to modules; different operation contents and steps are sorted out; the prototype of the whole design is constructed; the design idea is shown directly, and various kinds of tool information and data content are used ingeniously to optimize Smartphone App.

4.3. The logic Analysis of User Behavior and the Synchronous Development of Visual Design

In the visual design of UI, various basic visual elements can be flexibly combined. The interface effect with high systematization, integrity and integration can be formed through the centralized construction of graphics, ingenious collocation of colors, unification of material and style, and reasonable layout.[4] Several different design elements are covered, such as icons, buttons, switches, progress bars, search bars, list boxes, tab bars etc. through providing information and guidance with visual design, contributing to a preview interface with high aesthetic, practicality and reliability presented to customers, which increases the appeal of smartphone apps. As the most basic, core and key element of UI interface design, button is the core component of system communication. It can properly use visual symbol to deepen user's understanding, and makes the whole design of UI standardized, systematic and succinct.

5. CONCLUSION

At present, under the background of new economic development, the substantial role of strengthening the research and analysis of behavioral logic thinking of UI design for smartphone app is undoubted. As the main force of the optimization, the designers concerned must make clear their own responsibility, conduct thorough research on the potential design problems in the early work, and match the relevant strategies and governance schemes with the help of their own working experience and knowledge reserve, homogeneous competition of Apps was thoroughly broken, user interface design schemes suitable for the personalized psychological needs of the public were continuously expanded, and the modern App information dissemination was promoted to develop towards interaction, virtualization, and multimedia through the research in this paper. Besides, the integration of traditional technologies and emerging technologies was accelerated from the perspective of network monitoring and behavior logic.

so as to realize the beautification of the UI and significantly improve the performance of the smartphone app, thus providing an important derivative power for the all-round development of modern science and technology in our country.

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DISCLOSURE STATEMENT

The author declares no conflict of interest.

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