On the Five Keys to Achieving Good User Experience in UI Design: Postprint

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Abstract

As smartphones have become indispensable in people's daily lives, UI design—User Interface design—has emerged in the global software industry. This high-tech design sector is both fashionable and practical. Achieving excellent user experience in mobile UI characteristics and interface visual design is of paramount importance, determining the success or failure of APP products. This paper presents an investigation and discussion on how UI design can better enhance user experience from philosophical, aesthetic, and psychological perspectives.

Full Text

Five Keys to Achieving Excellent User Experience in UI Design

Abstract

As smartphones have become essential to daily life, UI (User Interface) design has emerged as a critical discipline in the global software industry. This high-tech design field is both fashionable and practical. In mobile UI design, achieving excellent user experience through interface visual design is paramount, determining the success or failure of APP products. This paper explores how UI design can enhance user experience from philosophical, aesthetic, and psychological perspectives.

Keywords: APP design; UI design; mobile client; customer experience

Introduction

With the rapid development of technology and the popularity of smartphones and tablets, third-party applications have proliferated exponentially, filling virtually every smartphone. These smartphone-based applications are known as APPs (short for applications). UI, short for User Interface, refers to the holistic

design of software's human-computer interaction, operational logic, and visual aesthetics, primarily for mobile clients such as smartphones and tablets. UI design encompasses graphic design, interaction design, and user testing. Graphic design, traditionally called "visual design," focuses on enhancing the visual appeal of software to improve user experience. Interaction design primarily involves designing software operation flows, tree structures, and interaction standards. User testing and research mainly measure the rationality of UI design through target user questionnaires.

Excellent UI design must not only align with mobile UI characteristics but also achieve effective communication and usability. Therefore, UI designers must consider both the visual aesthetics that match target users' preferences, personalities, and tastes, and ensure that operations remain comfortable, simple, and free, fully reflecting the software's positioning and characteristics. This combination of aesthetic visual experience and convenient functionality constitutes what we call "excellent user experience." A successful APP design is an artistic creation built upon practicality and scientific principles, where achieving excellent user experience in UI design is crucial, determining the product's success or failure. The following sections explore five keys to enhancing user experience in smartphone UI design.

1. The Principle of Practicality

The principle of practicality requires UI design to be studied from a humanities perspective, with designers intervening in product development from the user's standpoint. This principle demands thorough market research and user studies to improve product usability, making products accessible to the masses and ensuring system designs are more easily liked and remembered. Through usability engineering research, designers can uncover users' latent needs, providing alternative approaches for technological innovation. In essence, for UI designers, this means creating what the public needs.

Currently, companies like Tencent have made user experience their core competitive advantage. WeChat, for instance, adheres to the principle of "everything based on user value," developing its features and interaction design around people's social needs and psychological characteristics while continuously collecting user feedback and rapidly updating the platform. This practicality principle can be reframed as whether the design can solve three key problems: whether the UI design aligns with target users' thinking patterns; whether target users can conveniently and freely control their browsing behavior; and whether target users can easily solve their intended problems.

The recently popular "Ele.me" platform also emerged to satisfy the public's need for convenient daily meals. Its interface design is remarkably clear and simple, making it easy to operate. For example, since food must remain fresh and arrive quickly, requiring nearby ordering, location positioning becomes the most critical element and is therefore placed first in the interface hierarchy.

Additionally, various promotional activities such as “Flash Sales,” “Breakfast Reservations,” and “New Store Specials” are prominently displayed on the first screen, making them immediately visible.

2. The Principle of Time Limitation

Operating under the principle that all users are busy, interface design must prioritize saving time and facilitating easy viewing. After functional planning, UI design should focus on subtraction—the simpler the interface, the more prominent the key elements. Interface simplicity enables users to easily understand and use the product, quickly addressing their practical needs.

Many APPs currently feature multiple startup pages, such as software instructions or update notes, requiring users to swipe through before accessing the application. Users who wish to skip must tap an icon like “Skip.” However, when users open an APP, they are often urgently seeking to solve a problem and may feel annoyed or helpless about these startup pages. Regardless of whether these pages are instructional, update notifications, or merely for ambiance, they consume users’ time and represent poor design, particularly for business professionals for whom “time is money.” Such designs that add unnecessary time costs create very negative user experiences.

Therefore, a counterintuitive design approach is recommended: replace “Skip” icons with “View New Features” or “Instructions,” while designing the main page for direct access. These auxiliary instructional pages can be designed to auto-scroll at normal human reading speed, with users able to pause by tapping the screen if needed.

For shopping APPs, product description pages should similarly adopt auto-scrolling design rather than forcing users to constantly swipe with their fingers.

3. The Principle of Function Over Flashiness

Many contemporary UI designs incorporate various cool dynamic effects, but designers must first consider the purpose of these effects: are they for showing off? To demonstrate designer skill? Or to facilitate users? The answer is clear: every design detail must center on excellent user experience. Interfaces should use language that reflects users themselves, not designers’ language. Whether through moving icons, swipe gestures, or GIF effects, the design must be easy and enjoyable to use.

Following the principle of “function over flashiness, highlighting key points,” dynamic effects in APP interfaces should be designed from nothing to something, from small to large, ensuring that key functions are prominent while maintaining a clean, limited interface. This can reference Apple computer’s floating interface design, where moving the cursor pops up selection interfaces, or enlarging icons for programs about to be used—rather than a chaotic juggling act of jumping buttons.

Additionally, information and elements in application design should follow the principle of "better to lack than to clutter," as mobile client interfaces are limited and must reject all useless information and attention-distracting content. The visual guidance and organization approach of "mind maps" can serve as a reference, with the theme in the center and surrounding key points—this diagrammatic method aligns with how eyes and brains capture information, proving convenient and effective.

4. The Principle of Aligning with User Group Characteristics

UI design must align color and graphic design with user group characteristics. Different colors create different psychological suggestions for users, making color a critical element in APP interface design, including considerations of color temperature and emotional associations. For example, stock investors generally dislike excessive green and prefer red. Therefore, UI design for stock investment APPs should ideally be "all red."

Color choices should also consider seasonal and holiday atmospheres. Winter interfaces might use warm tones, while summer interfaces could use cool tones. Special holidays can feature unique colors and decorations, similar to how Baidu's search bar has a changing face while remaining fundamentally consistent.

Graphic selection is equally important in UI design, closely related to profession, age, and gender. For profession: financial APPs should incorporate visual imagery related to money and wealth in their interfaces, backgrounds, or icons. For age: APPS targeting Generation Z should consider their age and psychological needs, potentially using anime or cartoon interfaces with dynamic, lively visual designs that match their preferences.

Design thinking should align with target users' perspectives. Users always understand and use products in their own ways, so when designing a UI, designers should reference the living and working environments of target users, analyze various factors and characteristics in these specific contexts, and then apply these insights to UI design using modern multimedia techniques. Throughout this process, designers must compare connections and distinctions between the real and virtual worlds to find optimal presentation methods and design familiar interfaces and applications.

Consistency is also crucial within the same APP product—every excellent interface shares this characteristic. Interface structure must be clear and consistent, and style must align with product content.

5. The Principle of Sustainable Environmental Design

Examining recent APP products reveals that some disappear quickly while others grow increasingly influential. For example, ride-hailing apps like Didi have become more successful, with UI designs increasingly aligned with public us-

age habits and diverse transportation needs. A notable social phenomenon has emerged: many people no longer view owning a private car as essential, as various platforms offering special cars, express rides, carpools, and taxis completely solve transportation difficulties while reducing pollution from emissions. Remarkably, these apps can even help elderly relatives or friends who are not tech-savvy to book rides from afar.

Similarly, bike-sharing apps like "Mobike" have emerged with the concept of "promoting green travel," particularly convenient in metropolises like Shanghai. However, due to the extreme convenience, serious problems with indiscriminate parking have arisen. Bicycles are often seen haphazardly parked at subway entrances, bus stops, or residential entrances, disrupting visual order and sometimes obstructing pedestrian traffic. It is recommended that interface design incorporate prompts for civilized parking, deposit penalties, or similar supervisory measures to remind the public to use vehicles responsibly and protect urban order. Otherwise, "convenience" may eventually evolve into "carelessness," leading to user complaints and jeopardizing the APP's prospects.

In conclusion, in the user-centric era of APP applications, efficiency and user satisfaction represent the embodiment of human-centered design. UI design must consider multiple dimensions—philosophical, aesthetic, psychological, and social—to enable users to conveniently and willingly reuse the product, simply and effectively solving real-life problems, eventually becoming an indispensable part of life with a sustainable development mechanism. This constitutes successful UI design with good user experience and sustainable social value.

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Note: Figure translations are in progress. See original paper for figures.