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Practical Exploration on Touch Screen Interactive Design in APP Advertising—Taking IKEAPlace APP as an Example

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Abstract: Touchscreen interactive technology, also known as natural user interface design, refers to the interaction between humans and machines through natural communication methods such as touch gestures on mobile devices, natural gestures, and interactive gestures. This technology is closer to everyday operations and does not require users to undergo extensive learning, while still providing a more enjoyable user experience. In the mobile internet era, touchscreen interaction design has become an important component of app advertising. This paper takes the IKEA Place app as the research subject, exploring the practical application of touchscreen interactive design in app advertisements. Through an analysis of the technical advantages of IKEA Place's touchscreen interaction design, the current market application, and the behavior of its target user group, this paper proposes optimization solutions and strategies for improving touchscreen interaction design.

Keywords: Touchscreen interaction design; app advertising; IKEAPlace; AR technology

Introduction

With the rapid development of mobile internet, app advertising has become one of the most important channels for enterprises to promote their products and services[1]. In app advertising, touchscreen interaction design plays a crucial role, directly influencing how users perceive and experience the ad content. Excellent touchscreen interaction design not only attracts users' attention but also enhances their understanding and acceptance of the ad content. This, in turn, promotes users' recognition and purchasing behavior toward the product or service.

1. Application Characteristics of AR Technology in Touchscreen Interaction

The IKEA Place app is a furniture shopping application based on augmented reality (AR) technology, which uses AR to seamlessly integrate virtual furniture models with real-world environments, providing users with an immersive furniture display experience[2]. In the touchscreen interaction design of IKEA Place, AR technology plays a crucial role. By using the camera on a smartphone or tablet, users can capture their real-world environment in real-time and freely manipulate virtual furniture models on the touchscreen, adjusting

parameters such as furniture placement, angle, and size. AR technology enables the virtual furniture models to achieve precise spatial alignment and light-shadow integration with the real-world environment, creating highly realistic visual effects that allow users to intuitively perceive how furniture would appear in their actual space[3].

Compared to traditional 2D images or 3D model displays, the application of AR technology in touchscreen interaction offers significant advantages. First, AR enables virtual furniture models to be integrated with the user's real environment in real-time, providing a more authentic, three-dimensional sense of space and interaction. Users can use their mobile device's camera to place virtual furniture in their own rooms and observe and adjust it from various angles. This immersive experience effectively stimulates user interest and engagement. Additionally, AR can intelligently recognize and adapt to different real environments, dynamically adjusting the display of virtual furniture based on factors such as room size, lighting, and color, ensuring better coordination and harmony with the real environment. This optimization of environmental adaptability further enhances the realism and credibility of the virtual furniture within the actual space.

2. Market Application Analysis of IKEA Place App Touchscreen Advertising

2.1 Current Status of App Touchscreen Advertising Deployment

In recent years, with the widespread adoption of mobile devices and the development of touchscreen interaction technology, app touchscreen advertising has become one of the preferred formats for advertisers[4]. Compared to traditional banner and interstitial ads, app touchscreen ads offer greater interactivity and immersion, providing users with more vivid and intuitive advertising experiences.

As a furniture shopping application, IKEA Place primarily targets its touchscreen advertisements at apps and mobile websites related to home decor, renovation, and design. By collaborating with these platforms, IKEA Place can accurately deliver its touchscreen ads to the target user demographic, thereby improving both the reach and conversion rates of its advertisements. For instance, within certain home design apps, IKEA Place can deploy immersive AR furniture ads, allowing users to directly experience how IKEA furniture would appear in real spaces while browsing for home inspiration. This contextual advertising approach effectively captures user interest and resonates with them, enhancing both the interactivity and memorability of the ads.

IKEA Place also actively embraces emerging advertising formats, such as in-feed ads and native ads. These formats allow touchscreen ads to be seamlessly integrated into the user's browsing experience, reducing the intrusive and disruptive nature of traditional ads. Through personalized recommendation algorithms and user behavior analysis, IKEA Place can push furniture touchscreen ads that align with the interests and needs of its target users, thereby increasing click-through and conversion rates. Furthermore, IKEA Place has partnered with social media platforms to expand the influence and reach of its touchscreen ads by leveraging the high traffic and sharing dynamics of these platforms. On social media, IKEA Place deploys AR filter ads, allowing users to experiment with different furniture combinations using AR filters and share their results with friends, which in turn stimulates broader interaction and dissemination.

2.2 Analysis of Target User Group Behavior

The target user group of the IKEA Place app mainly consists of two categories: the first includes users with furniture purchasing needs, such as those who may be renovating a new home, replacing old furniture, or simply interested in home design; the second category includes users who are interested in AR technology, such as tech enthusiasts and early adopters who are eager to explore novel interactive experiences and technologies[5].

For users with furniture purchasing needs, the touchscreen interaction design of IKEA Place can significantly enhance their shopping experience and boost their confidence in making decisions. Through AR technology and touchscreen operations, users can intuitively visualize how furniture will look in their actual space, assess compatibility in terms of size and style, and thus reduce the uncertainty of their purchase decisions. During their use of IKEA Place, these users typically exhibit certain behavioral characteristics. They often actively explore and experiment with different furniture products, frequently switching between and

comparing various furniture styles and placement options via touchscreen interactions to identify the best fit for their needs. They pay special attention to detailed information about the furniture, such as material, color, and size, using touchscreen gestures to zoom in and closely inspect specific features to evaluate the quality and craftsmanship of the furniture. Additionally, they may use the measurement and space planning tools provided by IKEA Place to accurately measure room dimensions and plan the layout and positioning of furniture, ensuring that the pieces will fit seamlessly into their living environment.

For AR technology enthusiasts, IKEA Place's unique touchscreen interaction and immersive experience fully satisfy their curiosity and desire to explore new technologies. Using touch gestures such as tapping, swiping, and pinching, users can interact with virtual furniture models in real-time, experiencing the magic of AR technology. These users often demonstrate a stronger willingness to engage and show more creativity when using IKEA Place. They enjoy experimenting with various touchscreen operations and gesture combinations, exploring the boundaries and possibilities of AR furniture displays. This group of users is also more focused on the app's technological innovations and interaction design breakthroughs, and they are willing to provide feedback and suggestions to help further develop AR technology in the furniture shopping space. Additionally, these users may become opinion leaders and promoters of IKEA Place, actively sharing and recommending the app through social networks and tech communities, attracting like-minded technology enthusiasts to join in and experience AR furniture shopping.

3. Optimizing Touch Interaction Design for the IKEA Place App

3.1 Interaction Design Improvements Based on User Behavior

To refine the precision of touch operations, IKEA Place App can further optimize the sensitivity and feedback of gestures, providing a smoother and more accurate control experience. By collecting and analyzing data on users' touch behavior, the app can identify individual users' habits and gesture characteristics. This enables dynamic adjustments to the response speed and scaling ratio of furniture models, reducing the occurrence of misoperations and the need for repetitive adjustments. Additionally, richer and more vivid touch feedback effects, such as tactile vibrations and audio cues, can be introduced to enhance users' operational awareness and immersion.

In terms of expanding furniture model diversity, IKEA Place App could consider integrating user-driven creative design elements to meet personalized demands. Beyond offering a wider range of furniture styles, materials, and color options, the app could allow customization of certain parameters and attributes within furniture models, enabling users to adjust and combine features creatively. The app could also provide DIY furniture tools and a material library to encourage users to unleash their creativity by designing and uploading original furniture pieces. A community of user-generated furniture designs could be cultivated, where top designs gain recognition and appreciation through voting and likes. This approach would inspire user enthusiasm and participation in content creation.

For social sharing and interaction, IKEA Place App can enhance and innovate incentive mechanisms to encourage users to share their furniture designs and usage experiences. Regular design competitions could be held, offering substantial rewards such as IKEA shopping vouchers and free home consultation services for outstanding designs. Leveraging the interactive and viral nature of social media platforms, the app could organize campaigns such as reward-based reposting and friend-invite challenges, thereby expanding the user base and influence of IKEA Place App.

3.2 Strategies for Enhancing Multi-Scenario Touch Interaction Experiences

Beyond the current approach of displaying individual furniture pieces, IKEA Place app could introduce contextualized home scenarios, such as bedrooms, living rooms, dining rooms, and other typical spaces, along with a variety of preset furniture arrangements. Users can select their preferred scene templates and make personalized adjustments and optimizations based on them. Contextualized home scenarios not only offer users a more realistic and immersive home experience but also inspire creativity and provide ideas, enhancing the appeal and presentation of furniture products.

Currently, IKEA Place app primarily targets mobile users, enabling AR interactions and furniture visualization via smartphones and tablets. In the future,

the touch interaction experience could be expanded to include additional device platforms, such as smart TVs and computers with larger screens. Developing cross-platform touch interaction applications would allow users to enjoy a consistent and seamless furniture shopping experience across different usage scenarios. Large-screen touch interactions, in particular, could offer a broader display area and more refined visual effects, significantly enhancing user immersion and confidence.

Conclusion

With the continued proliferation of touch-enabled devices and advancements in technology, touch interaction design is set to play an increasingly pivotal role in the app advertising domain. Advertisers and designers should stay abreast of technological trends and evolving user needs, continually exploring and innovating touch interaction design concepts and practices to provide users with more engaging, intuitive, and immersive advertising experiences. It is equally important to align touch interaction design with broader advertising strategies, integrating it seamlessly with brand identity, marketing objectives, and creative expression to maximize the effectiveness of app advertising campaigns.

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