Chapter 15
Interface Between the Brain and Computer to Improve the E-Commerce User Security Experience

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ABSTRACT

Using brain-computer interface (BCI) technology for online shopping offers a state-of-the-art way to address the issue of enhancing user experience by creating more personalized and user-friendly shopping environments. This study explores how brain-computer interfaces (BCIs) can improve e-commerce platforms by better

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understanding customer preferences, emotional responses, and decision-making tendencies through the collection of real-time neural data. Brain-computer interfaces, or BCIs, use brain activity analysis to provide personalized recommendations, streamline navigation, and improve product displays—all of which contribute to a more enjoyable and rewarding shopping experience. This research examines the effects of BCI-enhanced e-commerce systems on user involvement, contentment, and purchase decisions. An extensive assessment of BCIs' effectiveness in improving the overall shopping experience is conducted through experimental analysis and customer feedback. The results show that adding BCIs to e-commerce systems can significantly boost user engagement and make.

INTRODUCTION

Adding cutting-edge technologies to e-commerce platforms is now a must for businesses looking to enhance the stoner experience. This is because consumer behaviour is being influenced by digital interactions in the modern day. The brain-computer interface (BCI) is an example of a similarly revolutionary invention that has the potential to completely change how consumers interact with online retailers. (Adomavicius, G., & Tuzhilin, A., 2005) describes Brain-computer interfaces, or BCIs, allow drug users (Pandey, D. et al., 2020) to engage with technology in ways that were previously considered to be impossible by enabling direct interaction between the brain and the outside world (YItayew, M. et al., 2020). This new sector of the economy promises to provide a more personalized and intuitive stoner experience, in addition to streamlining the purchasing process (Abdullahi, M. et al., 2024).

There has never been a more urgent need for creative ways to raise the degree of engagement and enjoyment among stoners, as e-commerce continues to grow at an exponential rate due to the rise in internet users and the spread of mobile bias (Gupta, R. et al., 2023). Conventional user interfaces may limit drug users' capacity to fully engage in the purchasing process because they rely on input from a keyboard, mouse, or touchscreen for calculation (Sharma, M. et al., 2022). Brain-computer interfaces (BCIs), on the other hand, use neurological impulses to enable direct interactions that are grounded on research. (He, J. et al., 2020) could make a wider range of medications more readily available and reduce the chance of disunion. Rapid advancements in the disciplines of neuroscience and technology have created new avenues for the application of brain-computer interfaces (BCIs) in e-commerce and other domains (Rai, P. K. et al., 2024). Through the application of these technical innovations, companies may design the ideal shopping experience, tailored to the preferences and cognitive abilities of each client (Verma, N. et al., 2020). Imagine a screenplay (Maheshwari, R. U. et al., 2024b) where a stoner could investigate