

Virtual Reality Innovation for Learning Human Skin Anatomy

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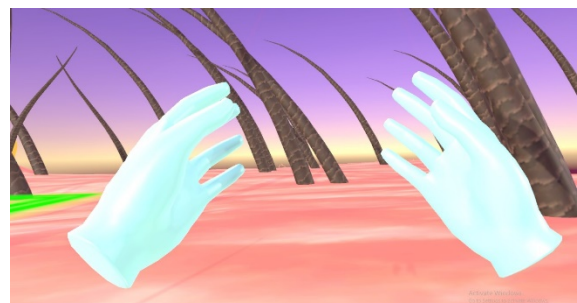
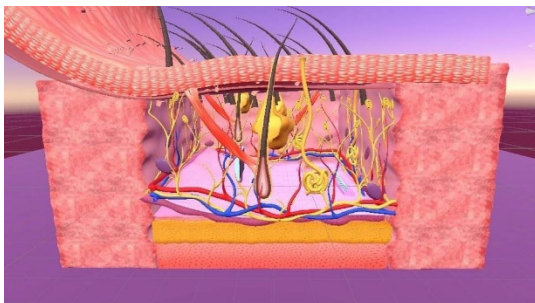
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Based on the limitations of traditional educational tools, such as textbooks, slides, and plastic anatomical models, have posed challenges for instructors and nursing students in their 2nd and 3rd years of study in comprehensively understanding the intricate components of human skin. These conventional methods fail to provide detailed visualization of microscopic skin structures, limit tactile interaction, and do not sufficiently support in-depth comprehension. The study explores immersive learning experience through virtual reality (VR) technology, addresses these challenges by enabling users to discover the layered components of the skin in a highly realistic and immersive 3D environment. Through the use of VR headsets, learners can virtually navigate within the skin, interact with its components by manipulating, enlarging, or closely examining them to gain a more precise understanding. The proposed tool provides auditory explanations and incorporates gamified learning activities to enhance engagement, foster skill development, and promote deeper comprehension in an enjoyable and interactive manner.

The technology of my invention is a Virtual Reality (VR) learning innovation designed to enhance the study of human skin anatomy for nursing students. Traditional learning tools, such as textbooks, slides, and plastic anatomical models, have limitations—they lack interaction, engagement, and immersive exploration, making it difficult for students to grasp the intricate microscopic structures of the skin.

This VR-based solution provides an immersive experience learning environment where students can navigate within a 3D-modeled skin structure, manipulate layers, enlarge microscopic components, and interact with elements in ways that traditional methods cannot offer. The realistic 3D modeling allows students to visualize and understand complex skin structures dynamically, enhancing both motivation and comprehension.

Additionally, the system incorporates gamified learning activities and auditory explanations to reinforce knowledge retention, making the learning process more engaging and effective. This innovation not only addresses the disadvantages of conventional learning materials but also prepares nursing students with a deeper, more interactive understanding of skin anatomy, ultimately improving their clinical skills and decision-making in patient care.



My vision for bringing this Virtual Reality (VR) learning innovation to the market is to revolutionize nursing education by providing an interactive, immersive, and engaging alternative to traditional learning tools. By partnering with nursing schools, medical institutions, and e-learning platforms, I aim to integrate this 3D-modeled VR anatomy tool into existing curricula, allowing nursing students to experience hands-on, immersive learning beyond textbooks and plastic models.

The technology will be accessible via VR headsets and interactive software, making it adaptable for both classroom and remote learning environments. Additionally, by leveraging gamified elements and AI-driven feedback, it will enhance motivation, comprehension, and knowledge retention.

Through collaboration with educational technology providers and healthcare organizations, I plan to scale this innovation globally, ensuring that future nurses receive high-quality, experiential learning, ultimately leading to better clinical skills and patient care.

