NO PREP

The Future of Perception Technology

Includes: Student reading, case study, differentiated questions, teacher key

Name: Period: Date:

The Future of Perception Technology

Keywords: technology, perception, augmented reality, virtual reality, sensory augmentation

Focus

The potential applications of technology to enhance or alter perception, including augmented reality and virtual reality.

Introduction

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Introduction

Technology has redefined the way we interact with the world around us. From smartphones to computers, technology has become an integral part of our daily lives. In recent years, there has been a surge of interest in developing technology that can enhance or alter our perception. This includes augmented reality (AR) and virtual reality (VR), which have the potential to transform the way we experience the world.

Augmented Reality (AR)

Augmented reality (AR) overlays digital information on the real world. This can be achieved through devices such as smartphones, tablets, or special AR glasses. AR applications can provide users with additional information about their surroundings, such as directions, product reviews, or historical facts. One example of AR technology is Google Glass. This wearable device can display information directly in the user's field of vision, allowing them to access information without having to look at a screen. AR is also being used in various industries, including gaming, education, and healthcare. For example, surgeons can use AR to visualize patient anatomy and perform procedures with greater accuracy.

Virtual Reality (VR)

Virtual reality (VR) creates a fully immersive digital experience. Users wear a VR headset that blocks out their surroundings and replaces them with a computer-generated environment. VR can be used for a variety of purposes, including gaming,

training, and therapy. One example of VR technology is the Oculus Rift. This headset can create a realistic and immersive virtual world, allowing users to explore different environments and interact with virtual objects. VR is also being used in various industries, such as architecture, engineering, and tourism. For example, architects can use VR to visualize building designs before they are constructed.

Sensory Augmentation

In addition to AR and VR, there is also growing interest in sensory augmentation. This involves enhancing or modifying our natural senses using technology. For example, devices can be used to improve our hearing, vision, or even our sense of touch. One example of sensory augmentation is the cochlear implant, which is a medical device that can restore hearing to people with severe hearing loss. Another example is the bionic eye, which is being developed to restore vision to people with blindness.

Ethical Considerations

The development of perception technology raises important ethical considerations. For example, there are concerns about the potential for technology to manipulate our perception and influence our behavior. Additionally, there are concerns about the potential for technology to create social inequality, as access to these technologies may be limited to certain groups. It is important to consider the ethical implications of perception technology and to ensure that it is developed and used responsibly. By addressing these concerns, we can harness the potential of perception technology to enhance our lives and improve our understanding of the world.

Conclusion

Perception technology has the potential to revolutionize the way we interact with the world around us. From AR and VR to sensory augmentation, these technologies offer exciting possibilities for enhancing our perception and experiences. However, it is important to consider the ethical implications of these technologies and to ensure that they are developed and used responsibly. As perception technology continues to advance, it is likely to play an increasingly important role in our lives.

Primary Source Excerpt

Milgram, P., & Kishino, F. (1994). Taxonomy of mixed reality visual displays. IEICE Transactions on Information Systems, E77-D(12), 2321-2329. "Augmented reality is a type of mixed reality in which virtual objects are superimposed on the real world, allowing users to interact with both real and virtual objects simultaneously."

1. According to Milgram and Kishino, how does augmented reality differ from virtual reality?

2. How does Milgram and Kishino's definition of augmented reality relate to the concept of sensory augmentation?

Multiple Choice

1. Which of the following is not a type of perception technology?
    a) Virtual reality
    b) Sensory augmentation
    c) Sensory deprivation
    d) Augmented reality

2. The cochlear implant is an example of:
    a) Sensory augmentation
    b) Sensory deprivation
    c) Augmented reality
    d) Virtual reality

3. Ethical concerns about perception technology include:

a) The potential for manipulation

b) The potential for social inequality

c) Neither A nor B

d) Both A and B

Matching

Write the letter of the correct definition on the line next to each term.

Term	Definition
1. ___ Augmented reality	A) The use of technology to enhance or modify our natural senses.
2. ___ Virtual reality	B) The condition of being deprived of sensory stimulation.
3. ___ Sensory augmentation	C) The use of technology to create a fully immersive digital experience.
4. ___ Sensory deprivation	D) The overlay of digital information on the real world.

Fill-in-the-Blank

1. _____ involves the overlay of digital information on the real world.

2. The cochlear implant is an example of _____.

3. Ethical concerns about perception technology include the potential for _____.

Short Answer

Answer each question in 2-4 complete sentences.

1. How can augmented reality be used to enhance education?

2. Discuss the potential benefits and risks of sensory augmentation.

3. Explain the role of ethics in the development and use of perception technology.