Integrated Information Technology Department

Module 12 – Future Technologies Assignment Due: December 3rd

Career in Software Development - Future Technologies

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ITEC 101: Thriving in the Tech Age

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November 29, 2023

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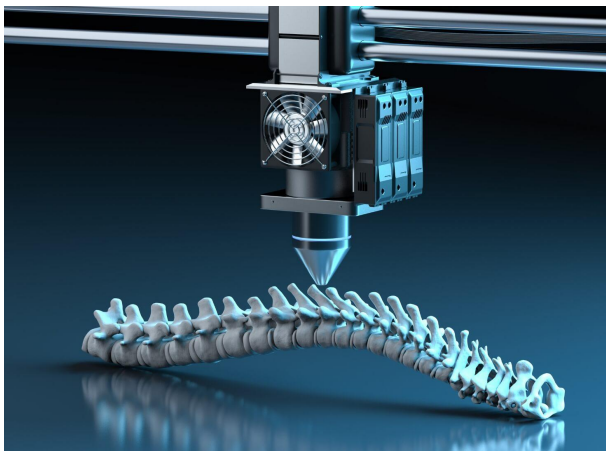
(1) Disruptive technology refers to innovations that significantly alter an existing industry. These technologies often replace established products, or processes, leading to a fundamental shift in the way businesses operate. Disruptive technologies typically offer improved performance, lower costs, and greater accessibility, challenging the ways of the existing industry.

An example of a disruptive technology is 3D printing. 3D printing allows for big advances in very diverse areas: electronic engineering, automotive, architecture, and medicine. This technology represents a big change in the development of products and in its manufacturing process, as it allows us to quickly test an idea, continuously produce, and reduce costs in the construction of prototypes.

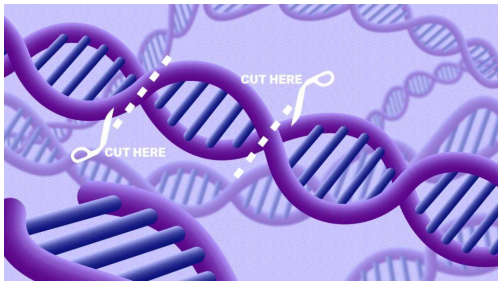


Converging technology refers to the integration and collaboration of different technologies to create new solutions or products. This integration often leads to innovations that go beyond the capabilities of each technology on its own.

An example of this would be a smartphone because of various technologies such as mobile communication, computing power, touchscreens, cameras, sensors, and internet connectivity

within the phone. These technologies have converged to create a multifunctional device that serves as a communication tool, computer, camera, navigation device, and more.

Emerging technology refers to innovations or advancements in various fields that are in the early stages of development and have the potential to significantly impact industries, society, and daily life. Biotechnology like CRISPR-Cas9 is an emerging technology in biotechnology that enables precise modification of genes. It allows scientists to edit DNA sequences with unprecedented accuracy. Allowing the potential to treat genetic disorders, develop genetically modified organisms, and advance medical research.



(2) Augmented Reality (AR) and Virtual Reality (VR), are technologies that can significantly impact the software engineering industry, influencing how software is developed, tested, and experienced. Virtual and Mixed Reality are crucial in game development, creating realistic and

immersive gaming experiences. Software engineers working in the gaming industry will need to adapt to the unique challenges and opportunities presented by VR and MR technologies. Learning how to seamlessly integrate virtual elements with the real world in AR applications will also be important.

(3) Virtual Reality (VR) and Augmented Reality (AR) have the potential to significantly impact software engineering jobs in various ways. It will create new opportunities and challenges for professionals who work with User Interfaces (UI) and User Experience (UX) Design. The design of interfaces in 3D space requires a different skill set. Software engineers involved in UI/UX design will need to adapt to creating immersive and intuitive interfaces that consider spatial interactions in VR and the blending of digital and physical elements in AR. There will likely be an increased demand for UI/UX designers and developers with specialized skills in creating these immersive interfaces. Designing for 3D environments and understanding the unique challenges of VR/AR experiences will be essential.