Week 5 Online-Class Laboratories –

This is a one-hour tutorial session (1 hour) comprises Discussion Question / Case Studies.

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**Discussion Questions**

Question 1: **Write a one-page paper that describes two companies (in addition to those mentioned in this book) that have been using VR. What are two advantages and two disadvantages of using VR? What is the main difference between a VR system and a human where they are used for therapy? What are two examples of companies that are using AR? For which purpose the AR systems are being used?**

Ans:

**Companies Implementing Virtual Reality Technology**

Virtual reality (VR) has expanded way beyond gaming and movies, with companies in all types of industries using it in creative ways. A couple of big companies doing interesting stuff with VR are Ford and Walmart.

Ford Motor Company uses VR when they're coming up with new car designs. Their engineers and designers put on VR headsets to see 3D models of vehicles, test out different features virtually, and get a feel for what it'd be like to drive the cars and doing this stuff in VR lets them try out more ideas faster and cheaper compared to building real physical prototypes

Walmart uses VR to train employees on things like customer service, dealing with busy times like Black Friday, and handling tense situations. The VR simulations let staff practice scenarios in a realistic but low-risk virtual environment so they can get hands-on experience without anything dangerous happening.

**Why VR Works :** It's Cost-Effective: Instead of investing in expensive physical tools or training spaces VR lets companies simulate scenarios virtually. For example, construction companies, car designers, and healthcare organizations can save money by opting for VR instead.

Immersive Learning and Training: VR creates highly immersive environments that can replicate real-world scenarios.

**Disadvantages of Using VR:** High Initial Costs: Implementation can be costly. Companies will need to invest in hardware for VR, software development, and content creation plus this makes it an impractical option for smaller organizations with limited budgets.

**Health Concerns:** Continual use of VR might result in health-related issues, for example, motion sickness or eye strain and disorientation. Some users might feel awkward with the virtual environment under long-time exposure, hence the limitation on the period for which VR is applied in such cases.

**VR in Therapy vs. Human Therapy:** The primary distinction between VR therapy and traditional human therapy lies in the level of human interaction and personalization involved. VR therapy provides standardized treatment settings and can recreate different scenarios, such as fear of heights or social anxiety, for exposure therapy. It lacks the emotional insight and flexibility that a human therapist offers. Human therapists can show empathy, modify their methods based on immediate feedback, and deliver emotional support—capabilities that VR systems cannot match

**Augmented Reality (AR) IKEA:** IKEA incorporates AR in its IKEA Place app, enabling customers to see how furniture would look in their homes before buying. This approach helps minimize returns and enhances customer satisfaction by providing a more informed shopping experience.

**Boeing:** Boeing employs AR to aid workers in assembling aircraft wiring systems. This has led to fewer mistakes, greater efficiency, and shorter assembly times in their manufacturing facilities.

**Purpose of AR Systems:** AR systems are designed to improve user interaction with the real world by superimposing digital information onto physical environments. Companies like IKEA leverage AR to enhance the shopping experience, while Boeing uses it to optimize manufacturing workflows. The capability of AR to deliver context-specific, real-time information enhances productivity and accuracy across various industries.