5-1 Journal: Computer Science Trends and Artifact Update

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1. What is the significance of each trend?

For this week's journal about trends, the two I decided to choose are VR (Virtual Reality) and AR (Augmented Reality). VR allows one to be immersed in a simulated environment, with environments such as gaming, entertainment, or training applications. Where AR provides an overlay of digital content into the real world. The significance of each trend is the potential it has in various industries. According to Paul Matthews, "Virtual Reality and Augmented Reality are possibly two of the biggest trends in the entire tech world."

2. How will each trend change the field of computer science?

VR and AR are currently changing the field of computer science. Due to the technologies in these VR and AR systems, they will require ever changing advancements in computer graphics, artificial intelligence, computer vision, etc. The Education Magazine mentions computer science is on the rise. Particularly talking about AR, this change can be seen through the modifications, upgrades, bug improvements, and discoveries we see continuously within the tech industry. All of this is made possible due to the most talented computer science engineers. This is the primary reason why these professionals are always in such great demand (Education Magazine, 2023). While these two trends are beneficial, we are going to see a spike in the field of computer science. In the future I expect to see an increase in job demand working on AR and VR systems.

3. How will each trend change the experience of consumers, workers, or citizens?

VR and AR will have a significant change in the experience of consumers, workers, and citizens. On the consumer side, Meta offers a system called the Meta Quest. "Meta's Reality Labs division, which houses the Quest AR/VR headset and metaverse initiatives, generated revenue of $1.07 billion in Q4, up 32%." This shows the popularity of these consumer devices. These consumer devices provide many different experiences. Most popular is VR gaming where you can where these devices to play many

popular games. In terms of workers, there are many fields that have started to deploy VR and AR devices. The most popular in my opinion is the medical field. There are many different companies that use VR and AR to provide realistic simulations. For example, Dr. Augustus D. Mazzocca, chief of the division of sports medicine at Massachusetts General Hospital, medical director at Mass General Brigham Sports Medicine and faculty member at Harvard Medical School, uses a system called PrecisionOS to augment orthopedic education. Mass General's Department of Orthopedic Surgery also is beginning to use PrecisionOS to train medical students and residents in motor skills required for surgery (Horowitz, 2022).

4. How will each trend fit in with your career interests or aspirations?

I believe VR and AR will fit in with my career interests and aspirations. Having a strong interest in mobile development and waiting to learn about IOS mobile development this will work. Recently Apple launched a new VR headset called the Apple Vision Pro. This can directly correlate with IOS development because Vision Pro utilizes the IOS app store.

5. Which course outcomes have you achieved so far, and which ones remain?

The course outcomes I have currently achieved so far include:

- Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution while managing the trade-offs involved in design choices.
- Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals.

- Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources.

- Employ strategies for building collaborative environments that enable diverse audiences to support organizational decision-making in the field of computer science.

The course outcomes that remain include:

- Design, develop, and deliver professional-quality oral, written, and visual communications that are coherent, technically sound, and appropriately adapted to specific audiences and contexts.

Status Checkpoints for All Categories

Checkpoint	Software Design and Engineering	Algorithms and Data Structures	Databases
Name of Artifact Used	Artifact name: Inventory Management Android Mobile App Origin: CS 360 Mobile Architect and Programming	Artifact name: Inventory Management Android Mobile App Origin: CS 360 Mobile Architect and Programming	Artifact name: Inventory Management Android Mobile App Origin: CS 360 Mobile Architect and Programming
Status of Initial Enhancement	Enhancements completed	Enhancements completed	Enhancements completed
Submission Status	Submitted with feedback from the instructor	Submitted with feedback from the instructor	Submitted
Status of Final Enhancement	Feedback was applied, and the final polish was applied	Working on applying feedback. Will be ready to submit in Module 6.	Planned but not yet completed
Uploaded to ePortfolio	Completed with polished narrative and confirmed navigation on GitHub Pages site	Planned for Module 6.	Planned but not yet completed
Status of Finalized ePortfolio	Ready for review in Module Seven	Planned but not yet completed	Planned but not yet completed

References

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