**Game-Changing Technologies in Computer Science and ePortfolio Update**

**Part One: Game-Changing Technologies**

**Technology 1: Cloud Computing**

Cloud computing is a transformative technology that allows data and applications to be stored and accessed remotely over the internet. It reduces the need for physical infrastructure and enables scalable, flexible, and on-demand computing resources. Providers like AWS, Microsoft Azure, and Google Cloud have revolutionized the way businesses and developers manage workloads, host services, and deploy software.

Cloud computing has significantly impacted the field of computer science by shifting how applications are architected and maintained. Developers now focus more on microservices, serverless architecture, and DevOps practices. For my career, understanding cloud platforms opens opportunities to work in backend development, DevOps engineering, or system design.

This technology has had a wide-reaching impact on communities and the world by enabling remote work, online education, accessible storage, and global collaboration. It reduces costs for startups and fosters innovation by making powerful computing resources available to individuals and small teams.

**Technology 2: Augmented Reality (AR)**

Augmented Reality blends the physical and digital worlds, allowing users to see digital objects in the context of their real environment. AR is used in gaming, navigation, medical imaging, education, and industrial design. Tools like Apple’s ARKit and Microsoft’s HoloLens have made AR development more accessible.

AR is pushing the boundaries of user interface design and real-time processing in computer science. For someone interested in interactive media and user-centric applications, AR offers a way to build immersive experiences that go beyond traditional screens. I’m especially interested in how AR can be used in education and communication tools.

AR impacts human interaction by providing new ways to visualize information, collaborate remotely, and engage with the world. It has the potential to make learning more engaging, assist professionals with contextual data in real-time, and offer inclusive technologies for people with disabilities.

**How These Technologies Relate to My Goals and Course Outcomes**

Both cloud computing and AR align with my professional aspirations. They build on my knowledge from courses like CS-320, CS-330, and CS-465. Cloud computing complements what I learned in full-stack development, while AR offers a potential path forward in user experience design and real-time systems.

So far, I’ve met several course outcomes, including the ability to design software using secure and scalable practices, integrate back-end and front-end components, and work with databases and testing practices. I'm continuing to deepen my skills in data structures and algorithms through practice and reflection.

**Part Two: Status Checkpoints for All Categories**

| **Checkpoint** | **Software Design and Engineering** | **Algorithms and Data Structures** | **Databases** |
| --- | --- | --- | --- |
| Name of Artifact Used | CS-320 Appointment Service | CS-330 2D Graphics Project | CS-465 Full-Stack Trip Application |
| Status of Initial Enhancement | Refactored services, added unit tests, reduced folder depth | Attempted to integrate OpenGL libraries and configure project to recognize external dependencies | Enhancement planned—considering indexing and aggregation |
| Submission Status | Submitted to school portal | Submitted to school portal | Submitted to school portal |
| Status of Final Enhancement | Working on finishing touches, considering appointment generator | Still finalizing—general feedback is appreciated | Still planning schema updates and query optimizations |
| Uploaded to ePortfolio | Not yet—still preparing upload | Not yet—will upload once final pass is done | Not yet |
| Status of Finalized ePortfolio | Still in development | Still in development | Still in development |