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CS499

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CS499 6-1 Journal: Emerging Technology and Artifact Update

Part One:

1. What is the identification and description of each technology?

    a. Choice 1: Virtual Assistants (Siri, Alexa, Bixby, Cortana, etc.)

        i. Virtual assistants are systems that use voice recognition and sometimes machine learning to perform various tasks. Some of these tasks are setting reminders, sending texts, and even controlling smart home devices. These assistants are available in everyday devices like smartphones, smart speakers such as Google Home, and even some cars.

    b. Generative AI chatbots such as ChatGPT

        i. Generative AI chatbots like ChatGPT are advanced AI models designed to imitate human-like conversations. They are capable of performing complex tasks such as content creation, code generation, and are often

used for problem solving. These models use machine learning and are trained on extremely large datasets.

2. What are the likely impacts on computer science or your career?

   a. In computer science, virtual assistants push a lot of advancement around voice recognition, natural language processing, and even cloud computing to a certain extent. For my career, learning to develop as well as integrate these assistants into applications could bring valuable opportunities, especially if I try to look for a career in a company that develops anything around IoT.

   b. Generative AI is a rapidly growing field in computer science. So much so that it is driving a lot of companies to focus on it as they seek to innovate and take advantage of its usefulness first. In my career, the uses of Generative AI chatbots might be useful for development when it comes to fast and simple code or scripts. However, as of right now, the code produced by ChatGPT is often bad, outdated, or just completely worthless due to not functioning, so only time will tell if it ends up being very useful in our lifetime.

3. How might the two technologies impact humans, communities, or the world?

   a. For virtual assistants, the biggest impact it has on the everyday person is the accessibility that comes with its use due to how hand-off the nature of virtual assistants are. Being able to control smart devices in your home or car through a virtual assistant is a sort of convenience that is hard to measure unless you get access to it yourself.

   b. The impacts AI chatbots can have on society as a whole have yet to be fully seen, but a recent perspective towards AI chatbots is how it diminishes certain menial

work that can be automated through its use, as well as generative AI in general

causing a commotion due to the ethics around it and how it might steal jobs.

However, just like mentioned before, it is not perfected yet, so there is most likely

still a long time before this truly becomes a more spoken about ethical topic.

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

a. **Completed:** ***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.***
   i. By converting my code over to Java as well as expanding the code to use inheritance, multiple methods for operations that use said inheritance, and input validation, I believe that I have demonstrated that I have achieved the goal.

b. **Completed:** ***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.***
   i. By applying hashmaps, I find that my code has improved overall in terms of versatility and looks a lot less amateur than before.

c. **Completed**: ***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.***

Part Two:

Status Checkpoints Table Update

Checkpoint	Software Design and Engineering	Algorithms and Data Structures	Databases
Name of Artifact Used	Final Project CS410 Reverse Software Engineering	Final Project CS410 Reverse Software Engineering	Final Project CS410 Reverse Software Engineering
Status of Initial Enhancement	Completed	Completed	Completed
Submission Status	Submitted	Submitted	Not yet submitted
Status of Final Enhancement	Completed, No help needed	Completed, No help needed	In progress, Code in progress,
Uploaded to ePortfolio	Uploaded Week 4	Uploaded Week 5	Not yet, Must be completed first
Status of Finalized ePortfolio	In progress	To be completed	To be completed