**CS 499**

**MODULE 5-1**

1. What is the significance of each trend?

Two emerging trends I have chosen to discuss is Data analytics and UI/UX design. Data analytics is important because it helps us understand and make sense of large amounts of data, which allows businesses and organizations to make better decisions and improve their products or services. It also helps in areas like AI and machine learning, making systems smarter and more efficient. On the other hand, UI/UX design is significant because it focuses on creating websites and apps that are easy and enjoyable to use. It makes sure that users have good experience when interacting with technology, which is crucial for keeping users happy and engaged.

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

Data analytics will change computer science by helping create smarter systems that can make decisions based on data. It will improve things like AI, making computers better at predicting and solving problems. It will also help make software and systems more efficient by finding patterns and optimizing performance. UI/UX design will change computer science by making software and websites easier for people to use. It will push developers to focus more on how users experience technology, leading to better designs that are simple, helpful, and enjoyable. Together, these trends will make technology more powerful and user-friendly.

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

Data analytics will change the experience of consumers, workers, and citizens by making products and services more personalized and efficient. For consumers, it means better recommendations, like personalized shopping experiences or customized content. For workers, data analytics can streamline tasks, improve productivity, and provide insights that help make better decisions. For citizens, it can lead to smarter cities, with services like traffic management and public safety being improved through data-driven decisions.

UI/UX design will change experiences by making technology easier and more enjoyable to use. Consumers will have smoother and more intuitive interactions with apps, websites, and devices. Workers will benefit from more efficient tools and interfaces that help them complete tasks faster and with less frustration. Citizens will see better-designed public services and digital platforms, making it simpler to interact with government services, access information, and use technology in daily life.

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

With data analytics, as an aspiring project manager, I can use data to track project progress, measure performance, and identify potential risks early. By analyzing data, I can make informed decisions to improve project outcomes and allocate resources efficiently. I can also leverage data to forecast project timelines and predict any issues that may arise, helping to keep things on track.

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

The course outcome I’ve been able to achieve is understanding the concept of code review, enhancement, and writing the correct code.

**Status Checkpoints for All Categories**

|  |  |  |  |
| --- | --- | --- | --- |
| **Checkpoint** | **Software Design and Engineering** | **Algorithms and Data Structures** | **Databases** |
| **Name if Artifact Used** | The Crud Project CS340 | Contact Service.java | Animal Shelter Database |
| **Status of Initial Enhancement** | Started- The enhancement plan is to add the search option to the project that allow users to search and filter data based on multiple attributes. | Started- The enhancement plan is to implement more efficient data structures that will improve the speed and scalability of search operations | Started- The enhancement plan is to Implement a command-line interface (CLI) or graphical user interface (GUI) that allows users to interact with the shelter’s database easily. |
| **Submission Status** | Submitted | Submitted | Submitted |
| **Status of Final Enhancement** | Completed | Completed | Completed |
| **Uploaded to ePortfolio** | yes | yes | yes |
| **Status of Finalized ePortfolio** | Yes | Yes | Yes |

I am working on three main projects to improve my skills in software development. For the

Software Design and Engineering project, I have created a CRUD (Create, Read, Update, Delete)

project. This helps me learn the basics of managing data and building software applications. The

project is uploaded to my GitHub portfolio and helps me improve my design skills.

I am also working on two other projects in Algorithms and Data Structures, and Databases. For

Algorithms and Data Structures, I have built a Contact Service application in Java, which lets me

practice using algorithms to organize and manage data. For Databases, I have created an Animal

Shelter project in Python, which teaches me how to store and work with data in a database. All of

these projects, including the ones I am still working on, are available in my GitHub portfolio,

where I continue to improve them.