CS 3305-01 Web Programming 2

Instructor: Professor Jim Casale

Name: Ryohei Hayashi

Learning Journal 8

**Overview of the Week**

This week, I learned about the importance of performance in internet systems and compared Real User Monitoring with Synthetic Transaction Monitoring. Understanding these techniques enables us to anticipate issues that may arise during system usage and respond to them immediately. Additionally, by listing common performance issues in internet systems, I gained foundational knowledge that aids in identifying and solving these challenges.

**Personal Reflections**

Through this week’s study, I reaffirmed the importance of performance monitoring in internet systems. I was particularly impressed by how Real User Monitoring allows us to directly observe the system conditions that users experience. Synthetic Transaction Monitoring, using simulations for monitoring, was also intriguing, and I realized the effectiveness of combining both approaches. This week deepened my understanding of how the techniques learned can be applied in actual operations.

**Topics Studied in Depth**

I gained a deeper understanding of the characteristics and applications of both Real User Monitoring and Synthetic Transaction Monitoring. Real User Monitoring enables the detection of issues in real-time as users actively engage with the system. On the other hand, Synthetic Transaction Monitoring identifies potential issues from a preventive perspective by simulating specific scenarios. This learning helped me recognize the importance of taking a multifaceted approach to performance monitoring.

**Course-Wide Reflections**

Throughout this course, I systematically learned both foundational and advanced knowledge of internet systems and web programming. In the initial weeks, the focus on Web 2.0 technology, particularly through comparisons with Web 1.0, helped me understand the evolution of the internet and its features. This renewed my understanding of the interactivity and user engagement essential to modern web applications. The subsequent study of PHP programming provided a strong foundation in server-side programming, and writing actual code allowed me to grasp the structure of interactive web pages and backend processes.

In the midsection of the course, I covered e-commerce application development, Joomla implementation, and CMS development in practice. These lessons demonstrated how web management could be made more efficient and functionality expanded. Developing Joomla modules, in particular, helped me understand the flexibility of open-source CMS and how PHP plugins can be customized for functionality. I found this knowledge valuable for CMS selection and functional extensions in real-world web development.

In the latter part of the course, I studied specific techniques for improving internet system performance. By comparing Real User Monitoring and Synthetic Transaction Monitoring and identifying common performance issues that impact server performance, I acquired the basics of efficient server management and issue resolution. These skills are essential for practical web management aimed at enhancing performance and optimizing the user experience, and I am confident they will be highly applicable in my future career.

Furthermore, the balanced approach to learning both theory and practical application in this course has equipped me with comprehensive skills in web development. By understanding the course topics holistically, from foundational skills to actual web service construction and performance management, I feel I have established a solid foundation for future challenges and further growth. This broad perspective has helped me develop the flexibility to adapt to diverse projects in the future.

Word Count: 515