**IS601 Course Reflection**

This course has been one of the most rewarding and challenging experiences at NJIT. It provided hands-on exposure to current industry tools and technologies, such as Docker, GitHub Actions, FastAPI, and coding design principles. Weekly assignments were well-structured, enabling a gradual skill build-up for both midterm and final projects.

Coming into this class with minimal python experience, I initially felt overwhelmed by the technologies and methodologies introduced. However, consistent practice and starting assignments early made the learning process more manageable. The projects were a highlight, progressing from basic functionalities to complex implementations, including multi-core processing and integration of tools like Faker and MinIO. Despite challenges like debugging and setting up workflows, I found the journey immensely rewarding.

One of the key takeaways from IS601 is the importance of perseverance and adaptability. Working on tasks like setting up MinIO in GitHub Actions or debugging command-line utilities pushed me out of my comfort zone. These challenges taught me to approach problems methodically and appreciate the learning process. The sense of accomplishment after successfully implementing and running a solution is unmatched.

Additionally, the collaborative elements of the course provided valuable insights into real-world development practices. From understanding team collaboration tools to addressing QA and SRE responsibilities, I gained a deeper appreciation for the multifaceted nature of software development. These experiences have strengthened both my technical skills and my ability to work effectively in team environments.

Final term Project:

The User Management System project [Project Link](https://github.com/MallikaKasi/IS601-Fall2024-FinalTerm_Project_user_management) has been a remarkable journey, providing a comprehensive, real-world coding experience that closely mirrors professional software development environments. As part of this project, I concentrated on enhancing user profile management by integrating the Profile Picture Upload feature using Minio. Additionally, I worked on improving system functionality by implementing robust validation mechanisms, handling edge cases, and ensuring seamless user interactions.

This project allowed me to deepen my understanding of backend development, database management, and the integration of third-party tools. I also honed my debugging and problem-solving skills while collaborating in a structured environment. By adhering to best coding practices and leveraging tools like pytest for testing, I ensured the reliability and scalability of the features. This experience highlights my learning process, technical contributions, and personal growth throughout the project. It has significantly enhanced my ability to deliver efficient and user-centric solutions. This feature aims to improve user engagement by integrating profile picture upload functionality using Minio, a distributed object storage system. It provides users with the ability to personalize their accounts while ensuring secure and efficient management of profile pictures.

This feature not only enhances user engagement by allowing profile personalization but also demonstrates the capability to integrate third-party systems like Minio effectively. By focusing on security, scalability, and user experience, it ensures a robust and user-centric implementation.

• Project Docker Hub : [DockerHub Repository](https://hub.docker.com/repository/docker/mallikakasi/is601_finalproject_user_management/general)

• GitHub Actions for automated workflows : [Successful Workflows](https://github.com/MallikaKasi/IS601-Fall2024-FinalTerm_Project_user_management/actions)

• GitHub Repository: [User Management Project](https://github.com/MallikaKasi/IS601-Fall2024-FinalTerm_Project_user_management)

**Fixed QA Issues:**

Fix the Docker File to allow build : [Issue 1 link](https://github.com/MallikaKasi/IS601-Fall2024-FinalTerm_Project_user_management/issues/5)

User ID is passed as None in the user verification email: [Issue 2 link](https://github.com/MallikaKasi/IS601-Fall2024-FinalTerm_Project_user_management/issues/7)

Enforce strong Password validation: [Issue 3 link](https://github.com/MallikaKasi/IS601-Fall2024-FinalTerm_Project_user_management/issues/9)

Fix the valid profile picture uploads: [Issue 4 link](https://github.com/MallikaKasi/IS601-Fall2024-FinalTerm_Project_user_management/issues/11)

Not able to update is professional user field [Issue 5 link](https://github.com/MallikaKasi/IS601-Fall2024-FinalTerm_Project_user_management/issues/13)

**Feature Implemented:**

Profile Picture Upload with Minio :[Feature Link](https://github.com/MallikaKasi/IS601-Fall2024-FinalTerm_Project_user_management/pull/16)

**Testing and Quality Assurance:**

Added 10+ test cases: [Link for 10+ test cases](https://github.com/MallikaKasi/IS601-Fall2024-FinalTerm_Project_user_management/commit/4dc9cd63132d886d22672df0685b8845c6b55d54)

By implementing these test cases, we can ensure a robust and user-friendly profile picture upload feature, while maintaining the security and reliability of the MinIO storage backend.

In conclusion, IS601 was not only a tough course but also an incredibly enriching one. It has expanded my technical and problem-solving skills, making it a truly unforgettable experience.

**Thank you, Professor Keith, for such an impactful semester.**