**Individual Weekly Report – Week 12**

**Project: E-commerce Web Application TechPlaza**

**Role: DevOps Engineer**

**Completed Tasks:**

1. **State Diagrams Development**: I've successfully developed comprehensive state diagrams for the Techplaza application. These diagrams provide a detailed visualization of how an object transitions from one state to another based on specific events or conditions. These state diagrams will enable our team to better understand the various states of our system under different circumstances, ensuring that all potential states are accounted for in our application design.
2. **Data Flow Diagrams Creation**: I've finalized the creation of our Data Flow Diagrams (DFDs). These diagrams showcase how data moves within our system, depicting the inputs and outputs of each process and illustrating how they all interconnect. Through these DFDs, we can identify and resolve inefficiencies or redundancies in our data handling, ultimately streamlining our data processes.

**Ongoing/In-Progress Tasks:**

1. **Sequence Diagrams Development:** I am currently working on creating sequence diagrams for the Techplaza application. Sequence diagrams visualize object interactions in a given scenario of a specific use case. They depict the sequence of events that happen, illustrating how the objects interact over time, which is crucial for understanding system behavior and interactions.
2. **Interaction Diagrams Development**: Alongside sequence diagrams, I'm also working on interaction diagrams. These diagrams provide a high-level overview of how different parts of our system interact with each other, further aiding in our understanding of the system's functionality and aiding in the process of identifying potential areas of improvement.

**Issues/Challenges:**

1. **Issue 1**: Crafting comprehensive state diagrams can be challenging due to the complexities of accurately representing every potential state and transition within our system. I've been addressing this issue by performing a meticulous analysis of our system and seeking feedback from the development team to ensure accuracy.
2. **Issue 2:** Developing both sequence and interaction diagrams can be complex as they require an in-depth understanding of the application and its interactions. To address this, I've been collaborating closely with the entire team, seeking their inputs and conducting iterative reviews to ensure our diagrams accurately represent the system's behavior.