Online Shopping Store Project

Phase I

Develop a scenario for the three (3) identified quality factors. Explain how to test each quality factor for the client-server web application in the space provided. You may add pages if necessary.

Quality Factor: Time Behavior

1. **Source of Stimulus**: Customers
2. **Stimulus**: Customer queries for clothing selections or checkout on the web application
3. **Environment**: Client server web application during peak shopping hours
4. **Artifact**: Online shopping system
5. **Response**: System process the request and returns results or completes the checkouts
6. **Response Measure**: System respond in 20-30 seconds

How to Test Time Behavior

System needs to be tested with normal user load first to ensure response time is less than 30 seconds. Then using tools to simulate large load of users accessing the application and performing searches or checkouts and measure the response time to ensure it stays within the 20-30 second range.

Quality Factor: Confidentiality

1. **Source of Stimulus**: Unauthorized user or system
2. **Stimulus**: Attempt to access or modify customer data
3. **Environment**: Client-server web application with stored customer profiles
4. **Artifact**: Customer data storage and processing mechanisms
5. **Response**: System denies unauthorized access and maintains the integrity of stored data
6. **Response Measure**: No unauthorized access or data corruption incidents

How to Test Confidentiality

Use tools to simulate attacks on the application to test its vulnerability. The goal is to ensure unauthorized access is denied. Regularly check data in storage against a known good state or backup to ensure it hasn't been tampered with.

Quality Factor: Recoverability

1. **Source of Stimulus**: System failure or external event

2. **Stimulus**: System crashes or becomes unresponsive
3. **Environment**: Client-server web application during operation
4. **Artifact**: Online shopping system infrastructure
5. **Response**: System identifies the failure, initiates recovery processes, and becomes operational
6. **Response Measure**: System recovery time does not exceed 10 minutes

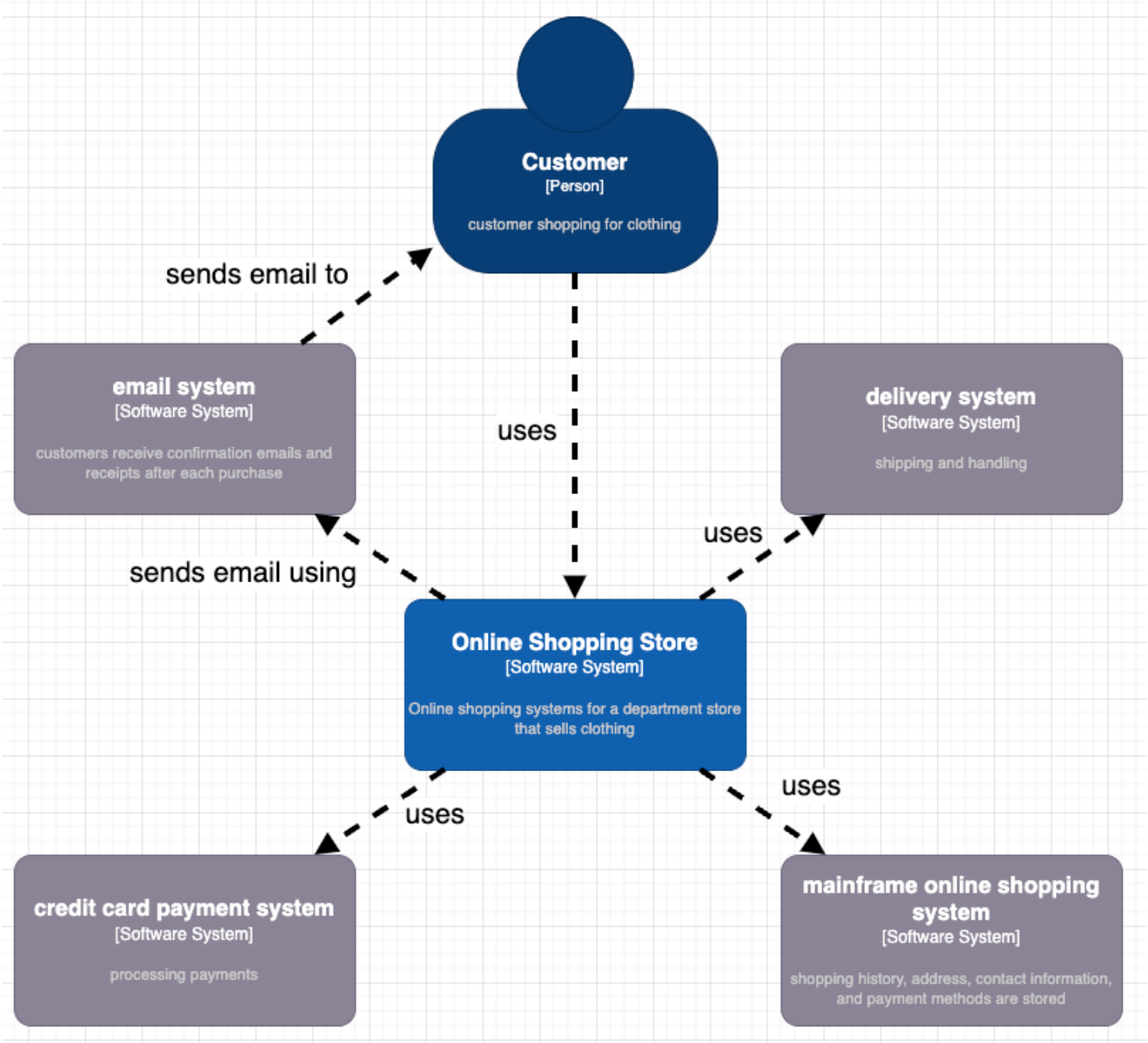
How to Test Recoverability

Ensure the system meets its performance goals under varying loads, especially during peak times, employ regular penetration tests and vulnerability assessments to identify and rectify potential security threats, and simulate various disaster scenarios, such as server failures or database corruptions, to ensure that the system can recover from backup quickly and efficiently.

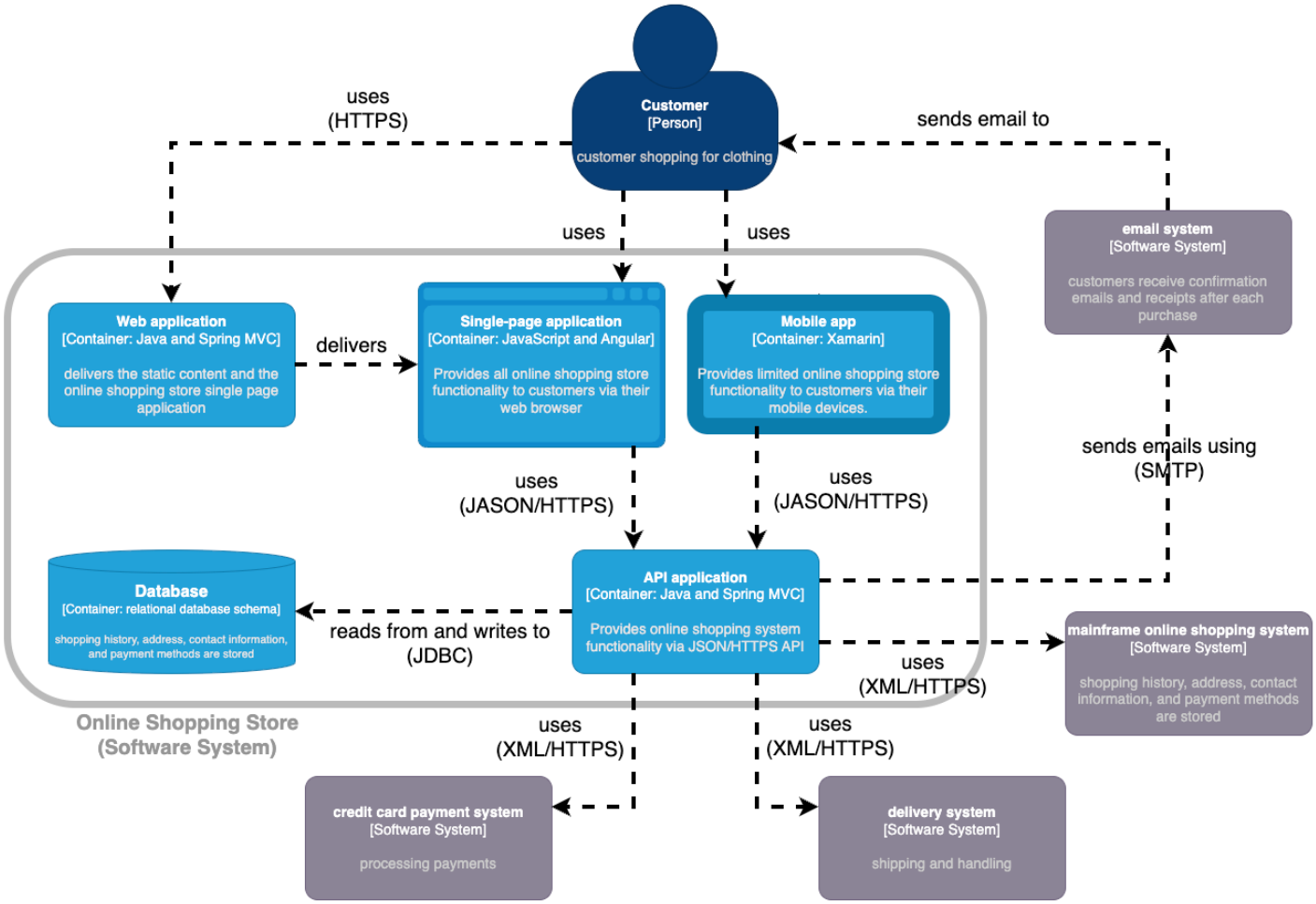
Phase II

Draw each diagram according to the online shopping store situation described in the project description. Take a clear screenshot of each diagram and paste them in the corresponding spaces. You may add pages if necessary.

System Diagram



Container Diagram



Deployment Diagram