ESOF 322 Homework #6 (35 pts)

- Hand in a <u>printout</u> of your work during class on **11/26**. Upload a copy on D2L.
- Clearly label every page with all names.
- **Staple the pages together**.

<u>Question 1</u>

In this question you will exercise your architectural skills. This is an **<u>open-ended</u>** question with potentially many solutions. Your answer will be graded according to the following criteria:

- The correct usage of UML syntax
- Necessary complexity to address the requested functional components
- Clear separation of concerns and modularity of the solution

Problem

Design and architect a system to represent an E-commerce solution. The E-commerce system represents a framework/platform that allows for business to business (B2B) and business to customer (B2C) communications. You may choose any domain for your E-commerce system.

Regardless of the commodities that your system facilitates, it should allow for a customer experience (B2C) that includes (among others):

- Web access for shopping (browsing, purchasing, searching, tracking, promotions, etc.)
- Authentication
- Social media access
- Dashboard experience
- Mobile access

Your system should also allow for B2B functionality that includes (among others):

- Banking (lending, credit, etc.)
- Fraud detection
- Customer lists tracking
- Marketing
- B2B transactions

Solution (provide a printout for each)

1. Design a high-level view of your architecture and provide a high-level diagram. This is a view of the system that is not done in UML, but rather is meant to represent a view for a layperson. Provide an English description of your E-commerce system (**5 pts**)
2. Construct a UML Component diagram of your solution (**10 pts**)
3. Choose one Component (from 2 above) and construct a detailed UML class diagram. The class diagram should make use of at least one design pattern (**10 pts**)
4. Create a Use Case UML diagram that exemplifies one (of potentially many) main use cases (**5 pts**)
5. Create a UML Sequence diagram to show the flow of messages from user to business or from business to business when performing a selected functionality (**5 pts**)