

ID2207 -Modern Methods in Software Engineering

Homework 4

**Course Coordinator:
Mihhail Matskin**

September 2025

Question:

Based on the SEP business description that you have in Canvas, develop a system design and object design document which includes:

- **Subsystem decomposition structure (using class diagrams)**

Expected output in the document:

1. A class diagram showing the decomposition.

- **Mapping subsystems to processors and components (hardware/software mapping) using UML deployment diagrams.**

Expected output in the document:

1. UML deployment diagram
2. Brief description about the selected technologies and software components.

- **Persistent storage solution for the problem.**

Expected output in the document:

1. List of persistent objects
2. Brief description of the selected storage management strategy

- **Access control, global control flow, and boundary conditions.**

Expected output in the document:

(Access Control):

1. Access matrix
2. Brief description about security, authentication/authorization strategy, confidentiality of data, and network/infrastructure security.

(Global control flow):

1. Brief description of the selected control flow for the system

(Boundary conditions):

1. Boundary use cases

- **Applying design patterns to designing object model for the problem**

Expected output in the document:

1. Brief description about the selected design patterns and why/how you are going to use them

- **Writing contracts for noteworthy classes**

Expected output in the document:

1. contracts described in OCL

Deliverables

- ❑ A report in PDF format