

# Assignment 5 - Initial Design

with sequence and class diagrams

**Deadline: Friday May 24th 23:59**

## Introduction

In this assignment you will use sequence diagrams and the domain class diagram to make an initial software design (software / solution / realisation view).

***You will work in pairs (you may form new pairs), and use a pair modeling approach.***

## Assignment

Make an initial software design, based on the domain model from the food ordering system.

Assumptions:

- the system uses a GUI element that is called **Screen** (= a class)
- the system stores the user's personal information in a class **Profile**

The design model consists of:

- 1 class diagram that presents the internal structure of the system that had to be build
- 4 Sequence diagrams that present the interaction between objects that are instances of the classes in the class diagram. The 4 use cases should at least consist of
  - order food
  - pay bill

Recommended steps:

1. Analyse the updated domain model (it was updated during assignment 3 and 4)
2. Choose 2 additional use cases (next to 'order food' and 'pay bill')
3. Extend the class diagram with the Screen ad Profile classes
4. Indicate the responsibilities of the classes within the class diagram and improve the diagram when no **single responsibility** is found
5. Make a sequence diagram that expresses the internal object interaction of the system for **one of the use cases**.
6. Update the system with the methods and attributes that were found
7. Repeat 5 and 6 for the remaining use cases.

# Deliverables

You should hand-in a report that consists of:

- 1 class diagram that represents the internal software structure
  - Attributes are used, types are present
  - operations/methods are used, arguments and types are present
  - relationships are named
  - Richness of UML is used where expected (inheritance, association, aggregation, composition)
- 4 sequence diagrams
  - Objects are instances of the classes from the class diagram
  - methods and arguments are consistent with the class diagram

The diagrams should be consistent related to:

- Each other
- The case 'food ordering system'

In general:

- Your report should be neat and well structured.
- The UML syntax should be correct
- The UML diagrams should be consistent in style [1]

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# References

1. Ambler, Scott W. *The Elements of UML (TM) 2.0 Style*. Cambridge University Press, 2005.