

# CSIT 5100 (Spring 2020) Assignment 2

## UML Modeling of Object-Oriented Programs

Instructor: Prof. Shing-Chi Cheung

*Department of Computer Science and Engineering  
The Hong Kong University of Science and Technology*

*Due Dates: Stage 1 submission (23:50, April 18, 2020); Stage 2 submission (23:50, May 2, 2020)*

### 1. Objective and Requirement

In this assignment, you are going to practice the use of *Unified Modeling Language (UML)* to document the requirements and design of the *MCM* calendar system. You may use [UML Designer for Eclipse](#) or [Visual Paradigm \(Community Edition\)](#) or any appropriate drawing tools to draw UML diagrams. All the diagrams should be contained in your assignment report.

### 2. Assignment Report

In the programming assignment, you have carefully read the source code and document for *MCM*. So in this assignment, your report is expected to include:

- (1) An executive overview of the *MCM* system explaining its (1) objectives, (2) main functionality, and (3) design issues. The overview should not be too long, one page is enough.
- (2) An activity diagram describing the business process (or workflow) of *MCM* system.
- (3) Major actors of the system. You should clearly put down the actor names, their responsibilities and needs. We do not expect more than 5 major actors.
- (4) A use case diagram relating the actors and the major use cases in which they participate. We do not expect more than 7 major use cases.
- (5) Proper description of each major use case which captures important interaction between actors and the *MCM* system.
- (6) A class diagram of the system design. Note that you need not enumerate all classes in the *MCM* client implementation. The diagram should only contain classes, which play important roles in the major use cases. For each class, please identify key attributes and operations, and include them in the class diagram. You may divide the class diagrams into multiple ones if appropriate. We do not expect the class diagrams contain a total number of more than 30 classes.
- (7) Sequence diagrams explaining how the instances of classes in your class diagram interact to realize each major scenario as described by the major use cases. We do not expect more than 10 sequence diagrams.

### 3. Submission Requirements

- **Stage 1.** In this stage, you are required to submit a report including items (1) – (5) mentioned in Section 2.
- **Stage 2.** In this stage, you will continue to enrich your report. Note that you may further improve the previously submitted UML diagrams and text descriptions. After completion, please submit a report including **ALL** items (1) – (7).

Your submitted assignment report should be in MS Word (docx) format with name in the form “*yourname\_studentId\_assignment2\_stageNo.docx*”. Submission should be made before deadline. ***Late submissions will not be accepted.***

### 4. Marking Scheme

You should make both UML diagrams and text descriptions concise and precise if you want to get a high score. The following is the detailed marking scheme

- An executive overview (10%)
- An activity diagram with meaningful label descriptions (20%)
- A use case diagram including actor descriptions and major use case descriptions (20%)
- A class diagram describing realization of major use cases and design issues (20%)
- Sequence diagrams showing how objects/classes interoperate to realize major use cases (20%)
- Successful submission in stage 1 satisfying the requirement by deadline (10%)
- You are encouraged to point out the limitations in the *MCM* design, and provide your interesting thoughts (10% top-up bonus<sup>1</sup>).

Please make sure that your submission conforms to all the above submission requirements. Otherwise, you may lose marks (up to 10%).

---

<sup>1</sup> The top-up bonus can be used to top up the marks lost in the original assignment 2. After top-up, the maximum marks of assignment 2 is still 100%. For example, the original marks got in assignment 2 (excluding the bonus part) is 92%, and the bonus part is 9%. The adjusted mark of assignment 2 is (92+9 but truncated to 100%) 100%.