WESTERN UNIVERSITY - CANADA
FACULTY OF ENGINEERING,
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING

SE 2203B – SOFTWARE DESIGN

Laboratory 5: Cameo System Modeler – Sequence Diagrams

Due Date: March 3, 2023

1 Goal

- This Lab is the third in a series to introduce you to Cameo System Modeler - MagicDraw (MD). This exercise assumes that you have worked through the previous exercises so in several places it rather briefly describes what to do.
- By the end of this lab work you will feel confident about using MD to draw UML Sequence diagrams.

2 Directed Work

2.1 Task 1: Create a sequence diagram

- Download the file named Exercise6.mdzip from the course website and save it in your working directory.
- Open this project file using MagicDraw.
- In the Browser tree, from the Data package shortcut menu (i.e., right click Data package), choose Create Diagram → Sequence Diagram.
- Name this diagram as ReportEmergency.

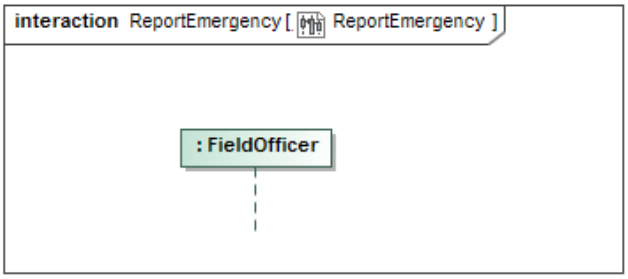

Figure 1

2.2 Task 2: Create lifelines

- Lifeline can be created by any of the following ways:
  1. Drag and drop the FieldOfficer actor from the Browser to the diagram pane (Note: you can also perform this action for multiple selection)
  2. Draw lifeline from the diagram toolbar:
     - In the sequence diagram toolbar, click the Lifeline button Lifeline .
     - Click on the diagram pane in order to draw a shape.
     - From the lifeline shortcut menu select Type drop down list and select lifeline type FieldOfficer
  3. Now should have your actor lifeline as shown in Figure 1.
- In the same way in the sequence diagram create lifelines for the ReportEmergencyStartupButton, ReportEmergencyControl, and ReportEmergencyForm. See Figure 2.

2.3 Task 3: Link messages

- Create FieldOfficer message to ReportEmergencyStartupButton:
  - Click the Message button Message and draw message from FieldOfficer to ReportEmergencyStartupButton.
  - Type in message name as press

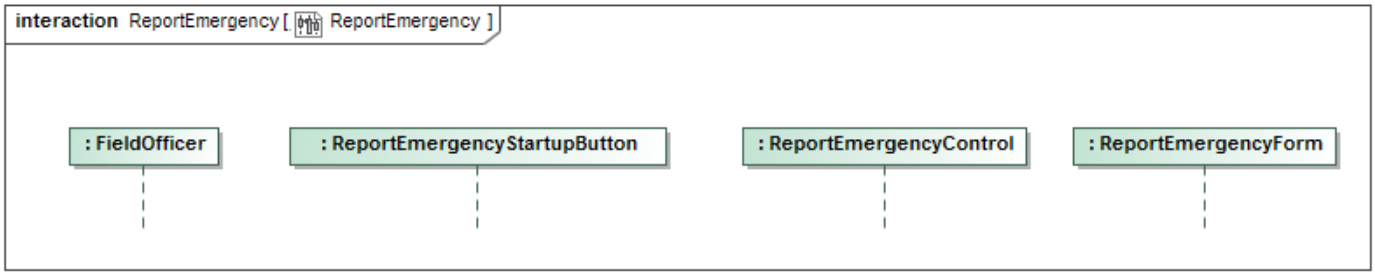

Figure 2

- ReportEmergencyStartupButton create a new instance of ReportEmergencyControl:
  - Click the Create Message button Create Message and draw message from ReportEmergencyStartupButton to ReportEmergencyControl.
  - Right Click the blank space above the line and then type <<Create>> in the Specification pop up window, then click Close. See Figure 3.

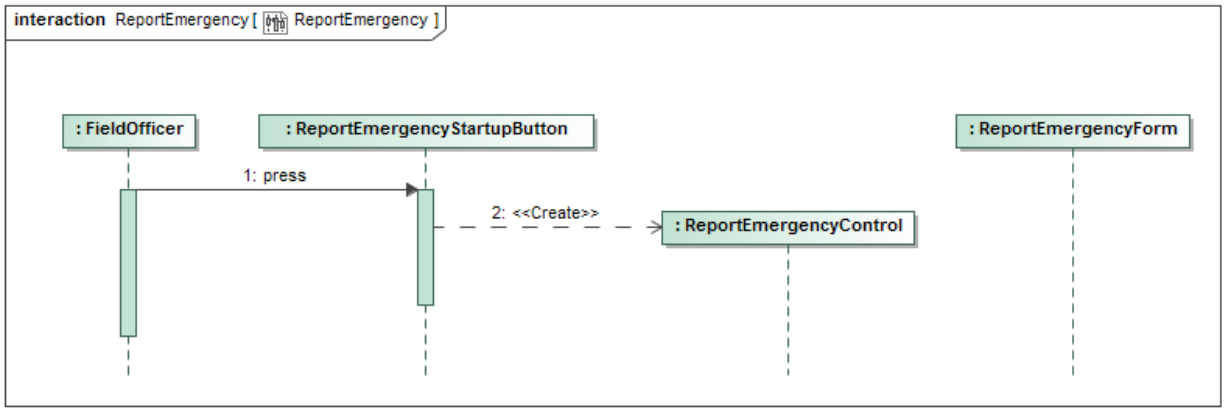

Figure 3

- Repeat the above step to create a new instance of ReportEmergencyForm.
- Create fillContents() call message from FieldOfficer to ReportEmergencyForm:
  - Click the Call Message button Call Message and draw message from FieldOfficer to ReportEmergencyForm.
  - Click the little circle above the message line 4: then enter the method name fillContents and click Close.
- Create Asynchronous submit() call message from FieldOfficer to ReportEmergencyForm:
  - Follow the same step above, then right click the line and select Asynchronous Call Message.
  - Reselect the submit() method. See Figure 4.

- Now you should feel familiar enough with MD sequence diagrams and be able to complete your diagram to have something similar to the diagram in Figure 4.

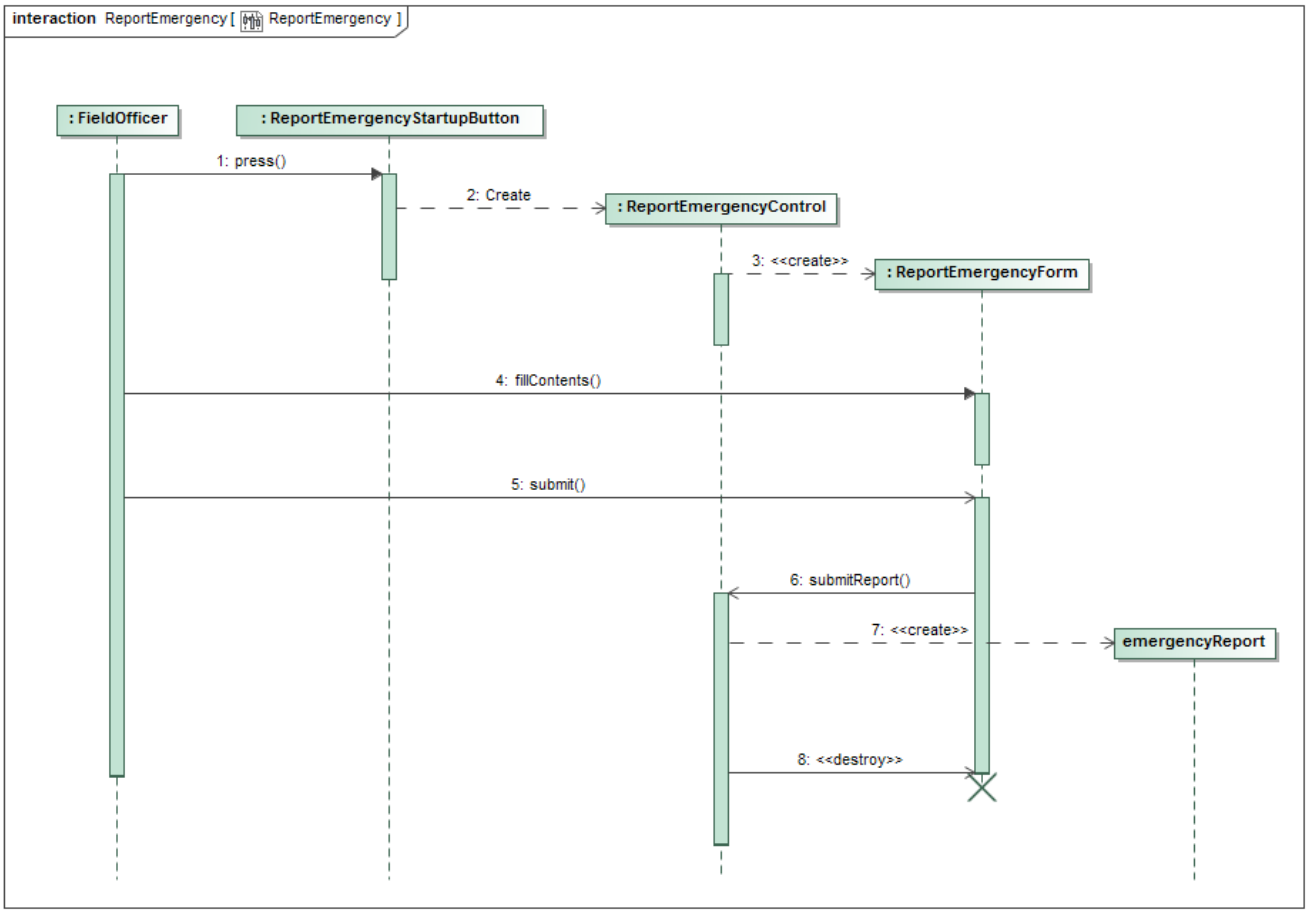

Figure 4

2.4 Task 4: Building one more Sequence diagram

- In this step, you need to use the same MD project (Exercise6) and build a sequence diagram exactly as it shown in Figure 5 and name it "UpdateBuyerProfile". (Note that you need also to build the involved actors and classes). Your sequence diagram should describe the following order of operations, note that, all operations call are synchronous call messages.

- The Prospective Buyer actor begins the sequence diagram by requesting the Personal Planner Profile object (PPP) to open his/her profile.
- The PPP requests the Personal Planner Controller object (PPC) to open the profile for maintenance.
- The PPC sends a message to the Buyer Record object asking it to find the planner record.
- The PPP then displays the planner record.
- The Prospective Buyer updates some information on the profile and asks the PPP to save the profile information.
- The PPP takes the new information and requests that the PPC to save the profile information.
- The PPC asks the Buyer Record to update the record with the latest information that the actor has provided.
- Save your working project with a new name as *yourUwoId*_Lab5.mdzip, using File→Save Project As…

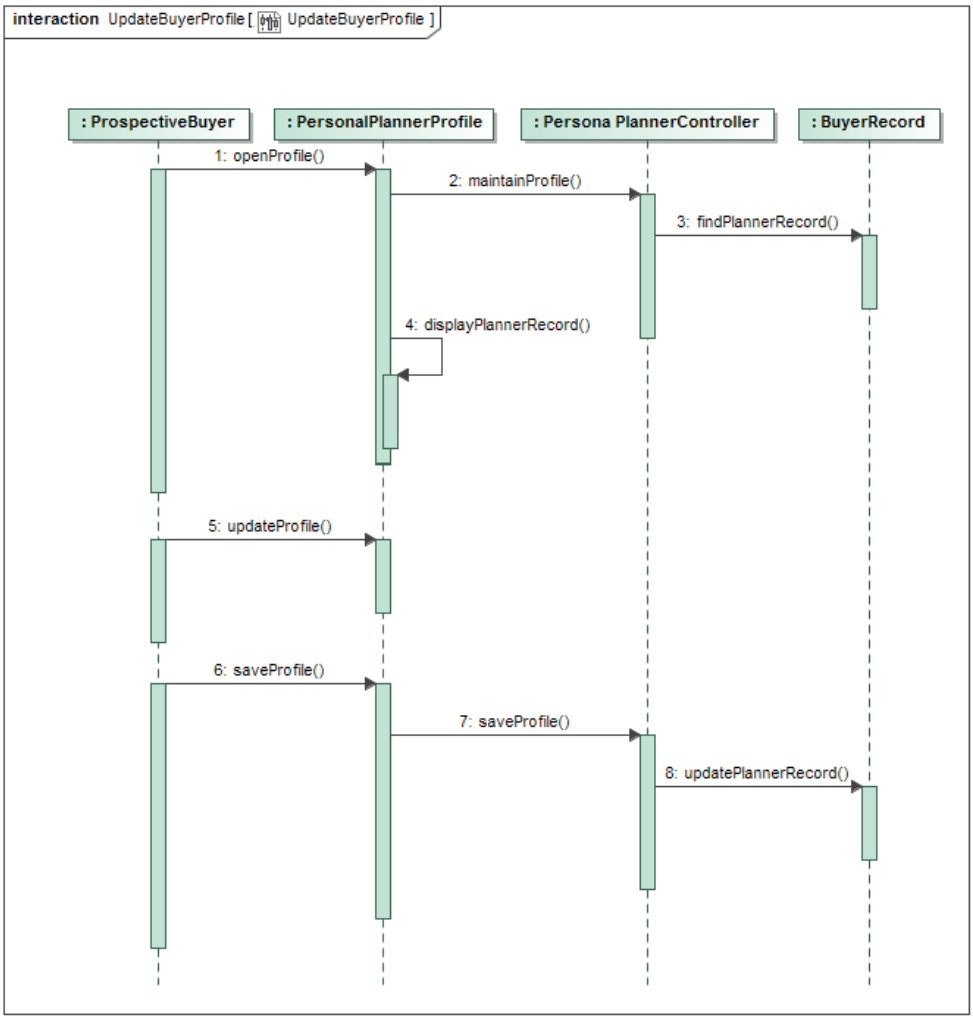

Figure 5

- **Notice:** If you are unable to get this exercise run successfully, you should talk to your TAs during their announced office hours (the lab hours).

3 Hand In

- Submit your project file *yourUwoId*_Lab5.mdzip through OWL by the due date mentioned above, to be graded out of 20.