

**Concordia University --- Department of Computer Science
COMP 354 --- Software Engineering I
Fall 2005**

Homework Assignment #1

Instructions

- This is an individual assignment.
- Grading value is indicated with each question.

1. [10 points] Create a use case diagram based on the following problem specification concerning an elevator controller system:

Each elevator has a set of floor buttons, one for each floor. Any person inside the elevator can press the floor buttons. The buttons illuminate when pressed and cause the elevator to visit the corresponding floor. The illumination is cancelled when the corresponding floor is visited by the elevator. An emergency button can also be pressed, in which case a technician will be called automatically to fix the elevator. The technician can use a key to activate or deactivate the elevator, which deactivates all floor buttons. The basement, because of security reasons, is accessible only by the security officer by using a key that unlocks the basement floor button. All the elevators are controlled by a central/external unit at the reception desk.

2. [20 points] Explain clearly using a scenario how two mobile phones are establishing a connection [5 points]. Include two alternate scenarios for exceptional situations that are likely to happen [5 points]. Use a sequence diagram to describe the main scenario, and one of the alternate scenarios [10 points].

3. [15 points] Explain what is your exact role in your team project, and explain how you will depend on the work of others, or how others will depend on your work. [5 points] Explain the tools and techniques you plan to use in this role. [10 points]

4. [5 points] What software development model could you use in your team project? Explain your answer by giving details about how you would do it.