

Engenharia de Software - 2024/25

**Lab#5 - UML - Use Case Diagrams**

Use case diagrams are designed based on multiple sources of information such as user and system requirements. To design a use case diagram, you must keep in mind the following tasks:

- a) Identify actors
- b) Design the context model (is used to illustrate the operational context of a system (please see the lecture: System Modeling#1, slides 24-27)
- c) Design the high-level use case
- d) Design detailed use cases
- e) Use scenario(s) to illustrate detailed use cases

Please, apply these principles in the following exercises:

1. In a medical consultation management system, a patient in contact with a person responsible for the appointment, schedules an appointment. Eventually it can be cancelled due to the patient's unavailability. During the consultation the doctor may prescribe some medication for the patient. This information must be kept for future reference. Finally, the patient must pay the consultation to an employee of the doctor's office, where he will obtain a receipt.
2. Consider a system to recycle bottles, cans, crates, .... Since each item has different dimensions and prices, the system needs to identify what type of item that is handling. The system records the number of items and, if the customer requests a receipt, prints the number of items returned, their type and partial prices and the total that will then be paid to the customer. The system must produce a daily report which includes a list of returned items.

3. A client goes; with his pet, to a veterinary clinic where he makes an appointment with the secretary. If they are not registered, the secretary must register them. At each appointment, the client must report the pets' symptoms. The animal may have to go through several consultations, depending on the diagnosis. During the consultation, the vet can request exams to be delivered at the next consultation. Each query generates a pets' record. The secretary has the responsibility to all the data (related with customer, vet, and pet) up to date.
  
4. Based on your experience with a bank ATM, design use-case diagrams that models the data processing involved when: 1) a customer withdraws cash from the machine, and 2) a customer makes a payment on the machine.