# 420-D05-SU

# Programming in a graphical environment

## Objective

In this practical work you will write a WPF application for managing contacts.

You will have to develop every aspect of this application. It will have to contain several features that are described below.

## Description

Your contact management application will be a basic data storage and access application. A user must be able to create new contacts, edit existing contacts, and delete contacts.

The data will be stored in one or several text files whose structure you will need to determine.

Your application must consist of the following four layers:

1. **Model** layer: contains the basic entities of the application (Contact, etc.)
2. **View** layer: contains the graphical interface (WPF)
3. **DAL** (**D**ata **A**ccess **L**ayer): allows users to manipulate the data contained in the file(s)
4. **BLL** (**B**usiness **L**ogic **L**ayer): allows the following operations to be performed:
   * + Add a new contact
     + Edit an existing contact
     + Delete a contact
     + Display all contacts
     + Search for a contact using certain criteria
     + Multi-criteria contact sort
5. Add the following features (optional):
   * 1. Login
     2. Add other data (addresses, messages, favorites, activities, etc.)
     3. Manage roles (user, administrator, etc.)
     4. …

## Instructions

You must create a solution composed of several projects (one project per software layer).

* One project (of type Class Library) for the **Model** layer
* One project (of type Class Library) for the **Data Access** layer (**DAL**)
* One project (of type Class Library) for the **Business Logic** layer (**BLL**)
* One project (of type WPF-Application) for the **View** layer