

This document describes the **team work assignment** for Telerik Academy students studying Object-Oriented Programming (OOP).

## Project Description

Design and implement **an object-oriented application** by choice. It **cannot** be a game but everything else - component library (windows, buttons, text boxes, menus, etc.), business application (e.g. car store, auction, movie rental, bug tracker, knowledge management system, e-library, text editor), or any other. You are absolutely **free to choose the topic of your work**.

## General Requirements

Please define and implement the following object-oriented assets in your project:

- At least **3 interfaces** (with one or more implementations)
- At least **10 classes** (implementing the application logic)
- At least **1 abstract class** (with inheritors)
- At least **1 exception class** (with usage in your code)
- At least **1 structure**
- At least **1 enumeration**
- At least **1 event** (with subscribers)
- At least **1 design pattern** (e.g. Composite, Singleton, Factory, Wrapper, Bridge, Command, Iterator, ...)

You might read about design patterns in [Wikipedia](#), [Sourcemaking](#), [DoFactory](#) and others.

## Additional Requirements

- Follow the **best practices for OO design**: use data encapsulation, use exception handling properly, use delegates and events like it is recommended in MSDN, use inheritance, abstraction and polymorphism properly, follow the principles of strong cohesion and loose coupling.
- Obligatory use **Subversion (SVN)** to keep your source code and for team collaboration (you might use <https://code.google.com/>). TFS or Git are **not** allowed. Use SVN.
- Provide a **class diagram** (to visualize all types).
- **User interface (UI)**. You need to provide graphical user interface (GUI) or web or mobile UI by your choice. You may use whatever technology you like **except UI in the console**.

## Optional Requirements

If you have a chance, time and a suitable situation, you might add some of the following to your project:

- **Static members** (fields, properties, constructor, etc.)
- **Constants, generic types, indexers, operators**
- **Lambda expressions** and **LINQ**
- Implementation of **IEnumerable<T>**, **ICloneable**, **ToString()** override
- **Namespaces** (if your classes are too much)

## Non-Required Work

- **Completely finished project** is not obligatory required. It will not be a big problem if your project is not completely finished or is not working greatly. This team work project is for educational purpose. Its main purpose is to experience **object-oriented modeling** and **OOP** in a real-world project and to get some experience in **team working** and team collaboration with SVN.

## Deliverables

Put the following in a **ZIP archive** and submit it (each team member submits the same file):

- The complete **source code**.
- Brief **documentation** of your project (2-3 pages). It should provide the following information (in brief):
  - Team name and list of team members
  - Project purpose – what problem do you solve?
  - Class diagram of your types
  - The URL of your SVN repository
  - Any other information (optionally)
- Optionally provide a **PowerPoint presentation** designed for the project defense.

## Public Project Defense

Each team will have to deliver a **public defense** of its work in front of the other students and trainers. You will have **only 5 minutes** for the following:

- **Demonstrate** the application (very shortly).
- Show the **class diagram** (just a glance).
- Show the **source code** in the **SVN** web-based source code browser.
- Show the **commits logs** to confirm that team members have contributed.
- Optionally you might prepare a PowerPoint presentation (3-4 slides).

Please be **strict in timing**! Be **well prepared** for presenting maximum of your work for minimum time. Bring your own laptop. Test it preliminarily with the multimedia projector. Open the project assets beforehand to save time. You have **5 minutes**, no more.

## Give Feedback about Your Teammates

You will be invited to **provide feedback** about all your teammates, their attitude to this project, their technical skills, their team working skills, their contribution to the project, etc. The feedback is an important part of the project evaluation so **take it seriously** and be honest.