

Exam Project 1/SS13, *EXCEL-Writer*

Within the first project an EXCEL input file for the creation of an automatic AutoCAD drawing should be written from a C# console application. Information about that you'll find in our example of SS13 to create an EXCEL file using the EXCEL type library from the C# language.

Geometric System

The system which should be handled is a plane plate with some holes. So within the EXCEL file besides all the parameters to define the system's geometry the parameters to setup the drawing should be given too.

So we have the following type of geometric input parameters.

- Length parameters of the edges (i.e. side of a triangle, side of a quad, etc.).
- The plate's thickness.
- Hole description (diameter, edge distances)

and the following control parameter to set up the drawing within the second project

- Scaling factor to use for the dimensions within the 2d drawing.
- Line spacing, the distance of the dimension objects.
- View spacing, the distance of the views (top view, side view and front view).
- Type of drawing, i.e. either a 2d drawing in three views or a 3d volume drawing.

It's recommended to use parts of the code we have developed in the lecture. Please don't forget the error checking in the code. The code should be able to detect wrong input data and should also be able to handle special cases.

The Report

The report for this project should contain a section, which describes the theory of the problem. One section should describe the usage of the developed program (like a user's manual for the most stupid user) and one section should describe the code (like a programmer's guild), discussing the interfaces to the used functions and class members. Classes have to be discussed in terms of UML diagrams. Algorithms should be discussed in terms of flow charts.

And don't forget the layout, it should be nice and clear. Everything should be readable, so please don't copy bad pictures from the net.

... **and very important:**

- Only pdf files are accepted, so please don't submit word files or something like that!
- Both projects for **CAD** should be submitted in **one** archive file.
- Only *zip* or *rar* archive files are accepted with the following name convention
CAD-[Semester]-[your name]-[the version].[zip/rar]

How to get a Project

Every student will get her/his own plate geometry. So it's allowed to work together, but every student has to write her own report. So if you want to start with the project, please get familiar with the stuff, we have developed in our lecture and which is also available on the info.server. Then you should make an appointment with me, to get your very personal and special project.

Some Implementation Details

The application has to be written in C# language. The EXCEL file format is arbitrary and has to fit with the extension of the written file, i.e. **xls** for the old EXCEL format up to 2003 and **xlsx** for the new EXCEL format starting with version 2007.