

# TB141 – ICT System Engineering and Rapid Prototyping Formative Assignment - Software and Hardware Architecture

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## Learning Objectives

- Recall the most common hardware architectures
- Indicate the most appropriate hardware architecture for a specific example case
- Recall the most common software architectures
- Indicate the most appropriate software architecture for a specific example case

## Introduction

IT-Formativo, a company specialized in software development, has recently accepted two new development projects. However, as all their consultants are overwhelmed with work, they requested some assistance from TUDelft, in order to determine the best development process for the problem at hand.

## Project Due

The second project (codename Due) is developed in collaboration with a small non-profit association collecting second-hand clothes. The association would like to develop a small application to keep track of the inventory of clothes that have been gifted to them and to have an easy way to visualize its stocks as well as to track the shipping of the clothes to the warehouse. The members of the non-profit are non-tech savvy volunteers, which have provided some specifications for the application during an introductory meeting. Ideally, they would like to have access as soon as possible to the application, but they will be willing to tolerate some delays in the development.

## Detailed description - Project Due

## Assignment

We ask you to analyze the considered situations and determine the most appropriate software and hardware for the problem at hand among those presented during the lectures.

Make sure to include in your solution:

- A table summarizing the hardware architectures presented during the lectures.
- A diagram describing the chosen hardware architecture among those presented in class along with a proposal of the corresponding components (at least CPU/HDD/RAM).

- A brief text (1-2 paragraphs) motivating why the chosen hardware architecture is the preferred one for the considered problem.
- A table summarizing the hardware architectures presented during the lectures.
- A diagram describing the chosen software architecture among those presented in class.
- A brief text (1-2 paragraphs) motivating why the chosen hardware architecture is the preferred one for the considered problem.

## Self-evaluation grading rubric - 10 pts

Criterion	0 pts	1 pts	2 pts
Recall the most common hardware architectures	Missing/wrong HW architecture	Partial description of the HW architectures	Complete description of the HW architectures
Indicate the most appropriate hardware architecture for a specific example case	Missing/wrong details in characterization	Partial characterization	Detailed and structured characterization
Recall the most common software architectures	Missing/wrong SW architecture	Partial description of the SW architectures	Complete description of the SW architectures
Indicate the most appropriate hardware architecture for a specific example case	Missing analysis of the constraints	Partial analysis of the constraints	Detailed identification of the constraints
Quality of the document	Lack of structure, text not spell-checked, hardly readable diagrams	Sufficient quality of the report, but still with major attention points	Clear structure, well-written text, clear diagrams

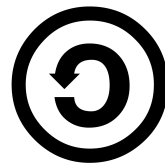
### Rules for the assignment delivery

*To be read carefully !*

1. The assignment must be developed in groups of 2 students.
2. The assignment must include **your name** and **student id**.
3. The assignment must be submitted in **Brightspace** as a **PDF report**.
4. You have to follow the:
  - Upload of a file `FamilyName1_StudentID1_FamilyName2_StudentID2.pdf` on the course Brightspace.
  - Date: **Wednesday 16 February 2022**
  - Time: **Before 23:59**

After these deadline the assignment will be considered as late and **will not be corrected**.
5. **Knock-off criteria:**
  - Missing names and id on the document/document name.
  - Document exceeding the number of requested pages.

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