TU Delft Delft University of Technology

FACULTY OF TECHNOLOGY, POLICY AND MANAGEMENT
ENGINEERING SYSTEM AND SERVICES SECTION
ICT TRACK

TB141 – ICT System Engineering and Rapid Prototyping Formative Assignment - Requirements Engineering

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Learning Objectives

- Recognize the software requirements from a textual description
- Classify the requirements into functional, non-function and domain requirements
- Compare the different levels of clarity in the requirements

Disclaimer

All characters and other entities appearing in this work are fictitious. Any resemblance to real persons or other real-life entities is purely coincidental.

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 - Recap

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 the association, 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.

Requirements specification

The proposed inventory management application is a local computer program used to keep track of the second-hand clothes received by the association.

The application should allow to register the arrival of new clothes, classify the clothes according to their properties and level of wear, visualize the clothes stock in the warehouse of the local branch of the association, prepare and track the shipping of the clothes to the central warehouse.

The classification of the clothes size should be done according to the standard ISO 8559-1:2017 Size designation of clothes — Part 1: Anthropometric definitions for body measurement and an export of the full

content of the warehouse should be allowed at any moment in time, in order to comply with the audit requirements set by the Dutch law. The export format should be compatible with the following operating systems: Linux (Ubuntu, Debian and Arch at least), Windows (starting from XP version) and Mac OS (starting from 10.0).

Only one among the aforementioned activity must be active at a time and the switching time between two activities should be shorter than 3 seconds.

The registration of new clothes starts by a manual sorting by the operator. The operator can choose to discard the clothes in case they are excessively worn-out or unhygienic. If the clothes are kept, the registration starts by loading a photo of clothes at hand. After processing the photos, the system provides an identification code for the considered object, in the form of a QR code (according to the standard ISO/IEC 18004:2006).

After the registration step, the operator should be able to enter all the details concerning the clothes, including at least: size, color and level of wear. The system should support the possibility of auto-completing the insertion with the most frequent items as well as to be able to select the most-used categories from a drop-down menu. The operator needs to be able to save a partial registration for later completion. In case of a sudden error during this step, the system also need to be able to perform a temporary save on a persistent device (such as a hard drive), and to restore the content at the following restart of the application. Besides that, the visual representation of the registration on the screen have to be accessible by visually impaired people (for instance by allowing high contrast mode or adapting the text size).

The visualization of the local warehouse stock is done through a dashboard. The dashboard should contain the current occupation percentage of the warehouse, as well as a set of plots summarizing the distribution of the clothes by color, size and level of wear respectively. The visualization should respect the same accessibility constraints as before, in addition to a support of colorblind-friendly color palettes.

The shipping to the central warehouse is made through an additional window. In this window, the operator is able to filter the content of the warehouse through simple filters. On one hand, through a text box, the operator can search for a specific term inside the warehouse. On the other hand, he/she can apply some filters on the features of the clothes (color, size or state of wear) to reduce the number of visible items. Once the desired item is found, it can be added through the current shipping list, either via drag-and-drop, or via a dedicated button.

When the shipping list is completed, the approval by the director of the local branch is required in order to finalize the shipping to the central warehouse, taking place once per week.

Assignment

We ask you to analyze the proposed text and extract the application requirements for the problem. Once the requirements have been determined you will proceed to their classification according to the taxonomy presented during the class.

Make sure to include in your solution:

- A table for each category of requirements, summarizing the classification of the different requirements and the motivation behind their choices.
- For 3 requirements of your choice, define at least two additional questions you would ask to get a more precise definition of the requirements

Contact person

The contact person for the assignment is Laura Smit (`L.A.Smit-1@student.tudelft.nl`).

Self-evaluation grading rubric - 10 pts

Criterion	0 pts	1 pts	2 pts
Recognize the software requirements from a textual description	Missing/wrong details in characterization	Partial identification of the steps	Complete identification of the steps
Recognize the characteristics of the most used software development processes	Missing/wrong details in characterization	Partial characterization	Detailed and structured characterization
Recognize strengths and weakness of the different software development processes	Missing/wrong strength/weaknesses analysis	Partial strength-/weaknesses analysis	Detailed and structured strength-/weaknesses analysis
Identify the constraints related to a practical implementation of the software development processes	Missing analysis of the constraints	Partial analysis of the constraints	Detailed identification of the constraints
Identify the impact of a change in requirements on the software development process	Missing analysis of the impact	Partial analysis of the impact	Detailed analysis of the impact

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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