Assignment 1

Defining requirements

- Create a team consisting of five or six students.
- Within your team,
    - Choose your leader and assign one student to play the role of a customer.
        - The leader will keep track of your work, record your effort spent and the customer will state requirements.
- The customer states 2-3 requirements.
    - Make sure that these requirements are possible to implement.
- The customer defines the opportunity that is going to be addressed with the requirements.
- Make sure that your requirements are not too ambitious. You will have to implement them within the scope of this course.
- You as a team, discuss the requirements and try to document them, using four different formats:

Format 1:

- **Description of the requirement:** what
- **Rationale**: why
- **Reference**: detailed specification
- **Source**: who

Figure 1. Format 1: Traditional way of describing user requirements

Format 2:

As a [user role] I want to [goal] so I can [reason]

For example:

- As a **registered user** I want **to log in** so I can **access subscriber-only content**

Figure 2. Format 2: Agile way of describing user requirements (user stories)

- While describing the requirements, make sure that they are not in conflict with each other and that they are consistent.

Now, when you know the requirements, it is high time you made them more detailed. Further describe them by first using the use case template and then using a heavyweight documentation approach. The description of its fields are to be found in book chapter "**Templates for Communicating Information about Software Requirements and Software Problems**". Your task is to only use the items dealing with system documentation which are to be found in Section 4.2.

Format 3:

- Use Case ID
- Use Case Title
- Actors
- Flow of Events
- Alternative Events

- Pre-condition
- Post-condition
- Assumptions
- Priority

Figure 3. Format 3: One of the templates for describing use cases

Format 4:

General Requirement Description:
Requirement ID, Requirement Title, Requirement Description, Requirement Type, Internal/External Req., Rationale, Event/Use Case ID, Related to Requirement(s), Non-functional requirements, Constraints (Solution, Technical, Budget, Resource) Conflicting Requirements, Intended User, Specific user who stated the req., Customer Satisfaction, Customer Dissatisfaction, Reference documents

Requirements Evaluation Data
Business Value, Other value, Requirements Priority (Rank), Acceptance Criterion/Criteria, Fit Criterion

Other Description Data
System Data (System ID, Sub-System ID, Component ID), Adjacent/interfacing Systems ID, Environment, Assumptions

Requirements Reporting Data
Requirements Reporting Date, Originated by, Reported by, Requirements Owner

Requirements Management Data
Preliminary Implementation Plan, Preliminary outline of activities (Design, Implementation, Testing, other), Change Activities, Planned and Actual Activities(s) (*Activity Description, Activity Start Date, Activity End Date, Expected/Actual Result of Activity Take, Activity Conducted By, Activity Approved By, Effort Spent On Activity, Cost of Action)*

Requirements Management Progress Data
Requirement Management Status, Requirement Mngmt Status Date, Requirement Age, Requirement Changes

Requirements Completion Data
Actual Completion Date, Planned Completion Date, Relation To Tests, Released In, Requirements Completion Approved By, Signed Off Date, Signed Off By, Estimated Total Effort, Actual Total Effort, Estimated Total Cost, Actual Total Cost

Post Implementation Data
Analysis of the Requirements Implementation Process, Lessons learned

Figure 4. Format 4: Heavyweight way of describing requirements

- Compare you requirements with respect to the following:
  - Detail of information
  - Level of documentation effort
  - Difficulty to write the requirements
- Print out the Opportunity, Requirements and Requirement Item alpha cards (one set per group would be enough now)
- Print out The Kernel Quick User Guide or have it available online.

- Using the cards and the checklist go through the first state of the *Requirements*, Requirement Item, and Opportunity alphas and find out how its first checklist items have been fulfilled so far:
    - Whether the checklist item got fulfilled? (yes/no)
    - Motivation why or why not it got fulfilled.
    - **Please note that the cards represent the lifecycle of each alpha/subalpha. You are however at the beginning development. Therefore, you only fulfill the initial checklists items of the initial alpha states.**
  - Point out which of the checklist items in the Requirements alpha was difficult to understand. Document.
- Document the results of this assignment.
- Wait with the delivery till you have done all the assignments. All the five assignments will be merged into one file and then sent to Canvas and to mekm2@kth.se.
- Make sure that the names of all the participants are documented.