Home Exercise #5 Software Quality

Intended learning outcome
After having passed this exercise the student can relate software metrics and quality factors, and demonstrate a basic understanding of the staged CMMI maturity model.

Problem description
Suppose you are the manager of a company developing mobile apps for iPhone and Android phones. Your market niche is personal health management, for instance, nutrition advice, step counter, training schedule, etc. From the nature of your business you have derived a quality vision for your present and coming products: Your software must be attractive to get selected by the users in the first place. The software must be easy to work with, but at the same time support long-time usage, including migration to new versions of the platforms and new types of devices, such as iPad, Samsung Galaxy, etc. The correctness and reliability are important since it is about the health of the users, but it is not as life-critical as software in hospital care. You have succeeded in creating an innovative climate amongst your employees, pricing is not a problem. However, since you are growing both in number employees and customer base, you wish to be clearer on quality.

Task
The text above is more like a vision which is hard to evaluate. Your first task is to formulate four concrete and quantitative SMART goals for the product quality of your company. By quantitative we mean that there shall be a single number in the goal text, which can be changed depending on ambition level. For instance, if your goal is to attract 1000 customers year one, you can increase the ambition level by striving for 2000 customers year two.

You shall also give detailed descriptions of what you will measure and how you calculate the numbers that can be compared to your goals. Relate each of the goals to one or more Software Quality Factors that we talked about in the course.

Don’t forget to motivate your choices so that it is clear that there is a connection between the goals and the vision. You may make more assumptions about your products as long as they are clearly written down.

Second, you need a mature organization. Select the three most relevant CMMI process areas that you should start working with. Clearly motivate the choice of each of the areas.

You may make more assumptions of features of the system and the company than those given in the Problem description, but in that case you shall explain your assumptions in the solution.

Report
Written, motivated solutions on 1-2 A4 pages. Motivations shall be linked to properties of the particular system. General statements such as “It is always good to plan in advance” will not do. Then

1 Forgotten what SMART means? Specific, Measurable, Agreed upon, Realistic, Timely
it is better to write “Since you have a long time frame, and many external risks depending on the hardware development, it is good to spend much time in planning of different decision points.”

**Pass criteria**
Understandable motivations.