Group7 - Dan Thai, Kasper Svane, Markus Munk, Philip Rønnest & Simon Karing
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Peer Review of Group 6 from Group 7

Description of the domain: (Poor)
The introduction is rather confusing to begin with, the reader has no idea what is described and is thrusted into reading about assumptions before the domain. The assumptions made surrounding the domain already scope the project rather quickly, and it would be nice to get an overview of the overarching domain to begin with, and then use the assumptions to scope the project. This structure would show an understanding of the domain as a whole and a certain ability to select and scope different factors to fulfill certain conditions, which would also build credibility for your assumptions as a whole.

Some of the assumptions are also made without much justification, such as the company being mid-sized. What are the benefits, and what are the drawbacks? How is a mid-sized company quantifiable? Being able to justify this assumption would have made a strong case for the rest of the system, as it would have scoped the project appropriately.

Furthermore, you begin with specifications surrounding the system instead of assumptions, **such as:**

> *"We also assume that the production line should concern itself with being able to recover unfinished products that may come from an emergency stop or an unexpected breakdown."*

How is the system supposed to accommodate this specification (assumption, or by design)? It is rather early to decide, especially since the domain description is still lacking. In general, the starting section does not describe the domain enough, if at all. The reader has to read most of the section in order to extrapolate the domain information from the text themselves.

Writing a quick introduction about the domain, and restructuring the section would provide a lot of benefits to the group and build a good foundation, in which the group can argue for their assumptions regarding the system.

Quality of use cases: (Poor/Sufficient)
#1 Introduction of a new bike model (Good)
Explains how the introduction of a new bike model is built. The description is very detailed showing a flow of the production line but it is not very clear what a test run is or how the different systems come into play.

#2 Emergency shutdown due to malfunctioning test bench (Poor)
Seems like the test bench only shuts down if the human is in proximity to the test bench? And this is more like a quality attribute, and a risk mitigation, more than a use case on how you want your system to work.

#3 Failure of one of the robotic arm (Poor)
Seems like a bit of an edge case, which is not very essential to your system.

And in the use case, you state on of many possible failure states “Not picking up the parts, it could”. Do you want to do the same in every failure state, of do you want to do the same for all possible outcomes? Again this seems more like a quality attribute or risk mitigation.

#4 Power outage interrupts the production line (Good)

Describe a scenario where the power goes out, and how the production line communicates with the supervisor system to get the tasks. Simple and straightforward, but again is not really a use case, but a quality attribute scenario.

Generel Feedback from Use Cases:

You use a lot of energy on describing quality attributes, rather than what you want the system to do. It is difficult to decode what this system actually does when it is running normally. Most of the use cases are descriptions of what happens when a specific part of the production line fails. Could be more concise and use cases should be use cases. A supervisor system is talked about a lot but a description of the system doesn’t exist.

But the table format gives the use case a good depth.

You are missing a primary use case of actually instructing the system to produce a bicycle instead of just a new bike model, and which bicycle it should produce etc. Since the system you are building is a bicycle production line it is critical that this is a use case. This would also allow you to better connect the system because right now you are focusing on less important use cases such as failures before functionality.

System structure supports use cases: (Poor)

There is little to no correlation between the use cases and the next section describing the system and subsystems. Also, there is little correlation between the written sections about the systems and the diagram. It would benefit the reader a lot if the subsystems were listed separately and had their own descriptions and documented responsibilities.

The system structure does not describe the relationships between the components. It is fine that you provide a hierarchical presentation of which primary system the subsystems belong to, but you should also include relations between the subsystems. How they interact, why they interact, and how their interaction supports the primary use case of the system.
The supervisor system is not described despite being referred to multiple times in the use case.

Enterprise resource system

In the Enterprise system you introduce ordering, you could have a use case about this, which is essential to your business.
Human resource planning system, we don't understand, what is. Is it HR, or scheduling of manpower?

Supply chain management system

None of the use cases makes any mention of materials or this system.

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Production management system
A use case, about the actual production of the bike, would be very essential to this system. Your usecase lacks support for this system.

Quality of Arguments: (Poor)
You start out with assumptions and the reader gets absolutely no introduction to the system or the domain.

The assumptions seem more based on your own opinions rather than making assumptions about how primary systems will interact with each other and which benefits/downsides the system could contain if built in the described fashion.

“We have made the assumption that it is a mid-sized company because the hardware seems expensive and because most smaller companies have no need for a 24/7 production line”

- we don't see how this makes sense

Moreover, it does not appear to be a large company as the production line appears small.

- how does it “appear”? is this an assumption? You should list the assumptions in sections where they are relevant for the reader - e.g. before the paragraph, where the assumption is mentioned.

Your idea about mentioning assumptions seems fine, but I don’t think you have to refer to the entire fictional aspect of the assignment as assumptions.

“…we further assume that the production line should be able to manipulate parts from metal and plastics to electronics, in a complex assembly and treatment process. In the process of this we assume that there is a need for many different technologies along the assembly line, which we assume would create a strong need for middleware. “

- a lot of this seems more relevant for requirements elicitation.
- ..but the observation that many different technologies require middleware is nice 🙂

We assume that the system needs to concern itself with the security and safety of human actors during production due to compliance.

- these are non-functional requirements and quality attributes, which you as developers should list as requirements. You can assume, yes, but it seems like this.