Universität des Saarlandes

Fakultät 6 – Fachrichtung 6.2 – Informatik

Prof. Dr. Jana Koehler

Architectural Thinking for Intelligent Systems, WS 2020/21

Assignment for Lecture A4

Understand Project Forces, Architectural Concerns and Decisions

We begin to understand the various forces that influence our project and the concerns that we need to address. We create an initial list of decisions, which have to be taken and understand how they relate to each other. We explore potential decision alternatives and take an educated guess of the expected outcome. Provide short answers to the following questions:

1) Who are the most relevant stakeholders?

2) What aspect of the system is of particular importance to which stakeholder?

3) Which constraints apply to the project?

4) Create an initial list of 3 functional requirements. Give intuitive names to these requirements and write a short description, but do not work them out in detail.

5) Create a glossary of the 5 most important business terms that you used when describing stakeholders, constraints, and requirements.

6) What qualities do you want your system to have? Describe 2 of these qualities from the perspective of the different users who will interact with the shopping robot.

7) Having a shopping robot product successfully deployed in the market, requires the offering enterprise to develop various business capabilities to support the system. Which are the 3 most relevant? Furthermore, the enterprise can learn via this product to improve its business capabilities. Which come to your mind and how will the product help the enterprise to get better wrt. 2 capabilities?

8) Consider the architectural decision of how the robot will move. Possible alternatives that come to mind are wheels and legs. Do you see other alternatives? Describe the architectural decision wrt. the robot moving hardware based on the template we

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discussed in the lecture according to ISO standard 42010 showing concern, alternatives, outcome and rationale. List the alternatives and give arguments for or against an alternative. Decide for one alternative and describe your rationale behind this decision.

9) Which 2 relevant risks does the decision outcome involve given your current understanding of the system?

10) Identify 2 forces behind the decision alternatives discussed in the previous task.

11) Refine your decision alternative about the moving mechanism into at least 3 further decisions that must be taken.

Submission

Instructions can be found in slide deck A1-BasicConcepts and on the course website.