

# Architecture of Complex Systems

## *TA Project Evaluation: Touring Motorcycle*

### WEEK 3: SYSTEM ARCHITECTURE

#### Step 2A: Solution Neutral Functions

*Does the submission provide possible hierarchy of functions from solution neutral to solution specific?*

**Points: 2**

A hierarchy of processes is provided but only to two levels. Additionally, the walking operand is out of place and not clear what it is referring to.

#### Step 2B: Forms

*Does the submission illustrate a choice of forms for several of the possible processes? Is the result a potential concept, i.e. a feasible function-form pair?*

**Points: 3**

A number of possible forms were shown for each of the potential process choice. An improvement would be to include the motorcycle in the system boundary. There is also a syntax error with using the filled circle which means handled by an agent as opposed to an unfilled circle indicating handling by an instrument. However, these errors do not interfere with showing the feasible function-form pair objective.

#### Step 3A: Architectural Decisions

*Does the submission develop a set of key architectural decisions which are connected and sensitive to key stakeholder metrics with rationales and alternatives as per the project template?*

**Points: 3**

More than five architectural decisions were provided and were sensitive to key stakeholder metrics. Each decision also contained sufficient rationales and possible options. While some of the architectural decisions had only one option, it nevertheless sufficiently identifies the alternatives for those decisions.

### **Step 3B: Architectural Decisions**

*Does the submission classify your architectural decisions as per the criteria defined in the project template?*

#### **Points: 3**

More than five architectural decisions were considered and placed in different quadrants to show their couplings and sensitivities. The author decided that the multifunction display is highly coupled and sensitive which is an interesting but may be debatable. However that does not affect the score here per the rubric criteria.

### **Step 3C: Architectural Decisions**

*Does the submission complete the write-up on architectural decisions? Does the submission mention whether the decisions touch the architecture or are architectural decisions?*

#### **Points: 3**

The write-up included rationale and details for all the architectural decisions. It also attempts to explain why the fuel tank size and anti-lock braking system are considered loosely coupled. Overall, the write-up shows a good thought process was in place.