3.4 Quality Attributes

|  |  |  |
| --- | --- | --- |
| QA-09 | Modifiability | The System allows to add an new rule without additional development. |

|  |  |
| --- | --- |
| Scenario Title:  Modifiability | Scenario ID: QA-09 |
| Raw Quality Attribute  Description: | Rule Modifiability |
| Source of Stimulus: | User |
| Stimulus: | New rule |
| Environmental Condition | Runtime |
| System Element: | RuleManager |
| System Response: | Add/delete/update a rule |
| Significant Measures: | The System allows to add an new rule without additional development. |

#### QA-09: Add-rule modifiability

Table 23. Add rule modifiability

### Interfaces

Components talk each other through EventBus, and use JSON from UI to SA Node. Interfaces are fixed simple, and detailed information is described on document [IoTMS\_Interface\_001].

6.2.2.1.3. Modifiability

Because the work of people is almost always more expensive than work of computers, letting computers handle a change as much as possible will almost always reduce the cost of making that change. If we deisgn artifacts with built-in flexibility, then exercising that flexiblity is usually cheaper thand hand-coding a specific change. RuleManager takes Defer Binding tactics using user-defined rules. RuleManager accepts new rules from User, so new behavior is easily added. Below is a possible rule new actuator such as Air-conditioner is added. It may perform temporator control by adding below rules.

If somebody home and temperator is over 30 degree, turn on Air conditioner.

If somebody home and temperator is under 18 degree, turn off Air conditiner.

|  |  |
| --- | --- |
| **Conditions** | **Actions** |
| roomA@air==over30#AirConditioner (c1) | roomA@air=on#AirConditioner (a1) |
| roomA@presenceA==AtHome#Presence (c2) |  |

Table 31. New rule

#### 6.2.5.5. Related quality attributes

|  |  |  |
| --- | --- | --- |
| QA-09 | Modifiability | The System allows to add an new rule without additional development. |