

Domain: Functional Aspect: Interaction and Collaboration

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sequenceDiagram
    participant Admin as «SAF_LogicalRole»  
: Administrator
    participant Operator as «SAF_LogicalRole»  
: Operator
    participant Maintainer as «SAF_LogicalRole»  
: Maintainer
    participant FFDS as «SAF_LogicalRole»  
FFDS : FFDS
    participant FireDept as «SAF_LogicalRole»  
: Fire Department System

    Admin->>Operator: 1: Sig StartTheSystem|  
HI Area of Interest|
    activate Operator
    Operator->>FFDS: 2: 
    activate FFDS
    alt [confirmed fire]
        FFDS->>FireDept: 3: Fire alert|  
SI Fire Alert report|
        activate FireDept
        FireDept-->>FFDS: 
        deactivate FireDept
        FFDS->>Operator: 4: Request Fire Propagation Forecast(AreaOfInterest)|
        activate Operator
        Operator->>FFDS: 5: Start Fire Propagation Modeling(AreaOfInterest)|  
HI Area of Interest|
        activate FFDS
        FFDS->>Operator: 6: 
        deactivate FFDS
    else [danger of fire]
        FFDS->>Operator: 7: Fire warning|  
HI Fire Danger report|
        activate Operator
        Operator->>FFDS: 
        deactivate Operator
    else [else]
        FFDS->>Operator: 8: Sig StopTheSystem|  
HI Area of Interest|
        activate Operator
        Operator->>FFDS: 9: 
        deactivate Operator
    end
    FFDS->>FFDS: 
    deactivate FFDS
    note right of FireDept: «problem»  
Darf und soll die Feuerwehr die Area  
of Interest mitbestimmen?
  
```

The System Context Interaction Viewpoint describes system external behavior based on the exchange between SOI and Context Element(s) Usage within a specific Context. It depicts the flow/sequence of interaction(s) between the logical System, the Context Element(s) and the Exchanged Data Item(s) needed to accomplish a given System Function.

The System Context Interaction Viewpoint supports "Prepare for Requirement Definition" activity included in "System Requirements Definition Process" activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2015 [§ 4.3] and contributes to the identification of expected interactions with systems external to the SOI. Note:

- Customer

- [Safety Expert](#)
- [Security Expert](#)
- [System Architect](#)
- [User](#)

Concern

- What is the necessary response time for an interface or a service?
- How is the system being used or utilized and interacting with other external systems to satisfy user needs?
- What are the items exchanged at the boundary of the system with external entities?
- What is the sequence of interactions among the system and context elements
- How does the system or a system element interact with the test environment?
- What additional information the system or a system element needs to generate to enable testing?

Presentation

The System Context Interaction Viewpoint is modeled as a sequence diagram. It describes the flow of control between SOI and Context Element(s). This diagram represents the sending and receiving of messages between the interacting entities called lifelines, where time is represented along the vertical axis. The elements on the lifelines are part properties of a System Context.

Profile Model Reference

- Interaction [UML_Standard_Profile]
- Lifeline [UML_Standard_Profile]
- Message [UML_Standard_Profile]
- Property [UML_Standard_Profile]
- [SAF_SFV04a_View](#)

Input from other Viewpoints

Required Viewpoints

- [System Context Definition Viewpoint](#)

Recommended Viewpoints

- [Operational Context Definition Viewpoint](#)