System Requirement Traceability Viewpoint

Domain	Aspect	Maturity
Functional	Mapping & Crossreference	released

Example

#	Id	Name	△ Applied Stereotype	Text	Requirement Refining System Function	Source
1		Fire Detection				
2	SYS-REQ-002	Forest Fire Detection	SAF_SystemFunctionalRequirement [Class]	The FFDS system shall allow a forest fire detection acquiring data collected by terrestrial-based and aerial-based systems.	Request sensor data (context FFDS Context)	SDS
3	SYS-REQ-002.1	Smoke and Fire Detection	SAF_SystemFunctionalRequirement [Class]	The FFDS system shall allow querying and analysis of the provided sensor data using a smoke and fire detection algorithm.		SDS
4	SYS-REQ-002.2	Smoke and Fire Alert	SAF_SystemFunctionalRequirement [Class]	When a forest fire is detected the FFDS system shall be able to warn interacting agents, FFDS operator and Fire Department, about the danger.		SDS
5	SYS-REQ-001	24/7 Forest Fire Recognition	SAF_SystemFunctionalRequirement [Class]	The FFDS system shall allow a forest fire recognition day & night.		SDS
6		Fire Monitoring				
7	SYS-REQ-003	Forest Fire Evolution Monitoring	SAF_SystemFunctionalRequirement [Class]	In the event of a forest fire the FFDS system shall allow a specific area of interest observation interacting with aerial-based systems.	Analyze FF data (context FFDS Context)	SDS
8		Fire Prediction				
9	SYS-REQ-004	Forest Fire Spread Prediction	SAF_SystemFunctionalRequirement [Class]	In the event of a forest fire the FFDS system shall allow a fire spread prediction using empirical and physical fire spread models.	Analyze FF data (context FFDS Context)	SDS
10		Fire Assessment				
11	SYS-REQ-005	Forest Fire Damage Assessment	SAF_SystemFunctionalRequirement [Class]	For evaluating the impacts of forest fire in landscape and biodiversity the FFDS system shall allow the determination of burned and fire affected areas using digital image processing of pre- and post-fire images.		SDS

Purpose

The System Requirement Traceability Viewpoint specifies for every System Requirement the traceability to functional domain level

- System Story
- System Context Definition
- System Context Exchange
- System Process
- System Context Interaction

Applicability

The System Requirement Traceability Viewpoint supports the "System Requirements Definition Process" activities of the INCOSE SYSTEMS ENGINEERING HANDBOOK 2015 [§4.3] and contributes to the System Requirements Traceability. The System Requirement Traceability Viewpoint contributes to System Requirements Verification and Traceability Matrix (RVTM).

Stakeholder

- Project Manager

Concern

- What is the rationale for this system requirement?
- Which Stakeholder Requirements are addressed by System Requirements?
- Which system interface is addressed by a system requirement?

Presentation

A System Requirement Dependency Matrix featuring relationships from every SOI System Requirements to modeling elements such as

- System Story
- System Context Definition
- System Context Exchange
- System Functional Scenario
- System Context Interaction Referring to a Stakeholder Requirement the dependency relation is <<satisfy>>, otherwise <<trace>>.

Profile Model Reference

- SAF_SFV08a_View
- SAF_SystemFunctionalRequirement
- SAF_SystemFunctionalRequirementConstraint
- SAF_SystemFunctionalRequirementRefinement
- SAF_SystemNonFunctionalRequirement
- SAF_SystemRequirement
- SAF_SystemRequirementDerivation
- SAF_SystemRequirementDerivation
- SAF_SystemRequirementRefinement
- SAF_SystemRequirementRefinement

Input from other Viewpoints

Required Viewpoints

- Stakeholder Requirement Viewpoint
- System Requirement Viewpoint

Recommended Viewpoints

- System Use Case Viewpoint
- System Context Exchange Viewpoint
- System Capability Viewpoint
- System Process Viewpoint
- System State Viewpoint
- System Context Interaction Viewpoint
- System Functional Refinement Viewpoint