





Use Case Simplification Purpose and Benefit

The <u>Use Case Simplification Initiative</u> manages a tool-based <u>Repository</u> of reusable components, from existing use cases; where, the components can be used in the construction of new-or-revised use-case:

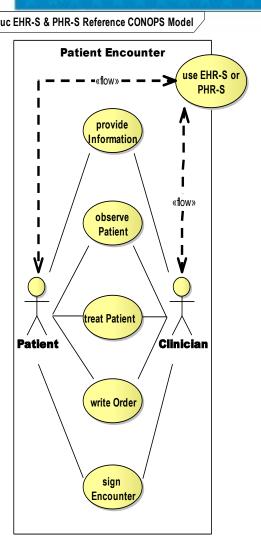
- The <u>Use Case Repository</u> components include Requirements, Actors and Entities, Roles, Scenarios, Events, Activities and Actions, which can be composed into Workflows of Actors with Roles, activities and Information Exchanges (Record-Entries, Documents, Messages, Services).
- Use-Case <u>Events</u> and <u>Activities</u> are defined by <u>pre-conditions</u> (e.g., Activity-Triggers), <u>invariant conditions</u> (e.g., Processes with Actors, Roles, Constraints, Activities and Actions) and <u>post-conditions</u> (e.g., produced Resources, constraints and next-steps)
- EHRS-FM system functions can be mapped to reusable Use-Case components, which can be composed into new workflows.



%S&I FRAMEWORK



Use Case Exchange Format Objective



- Standard, Non-Proprietary Exchange Format
 - Usable within NIST EHR suite-of-tools, such as Prometheus Use-Case Tool (UCT).
 - XMI or XML importable into UML Modelling Tools, such as Sparx Enterprise Architect (EA)
- The <u>Use Case Repository</u> components include Requirements, Actors and Entities, Roles, Scenarios, Events, Activities and Actions, which can be composed into Workflows of Actors, in Roles, performing activities and their Information Exchanges (Record-Entries, Documents, Messages, Services).
- Use-Case and Activity Model views and their layout

EHRS-FM EA tool within NIST's EHR Tooling Strategy

Use Cases

- healthcare use case development
- create requirements to guide the standards development



- implementation guide development
- ensure use case requirements are satisfied
- → create testable assertions criteria

Implementation

- → implementation
- application implements the standard

Test Cases

- specification of test cases
- → tests cases should test all requirements specified in the implementation guide

Test Case Authoring and Management Tool (TCAMT)

Test Data

- development of test messages
- messages support test cases
- valid and invalid

Implementation Guide Authoring and Management Tool (IGAMT)

Vendors

Case Message Maker bring and Tool

Test Material

- artifacts to support testing
- → XML message profiles
- vocabulary
- validation context files

IGAMT and TCAMT

Test Scripts

- processable test cases
- methods and tools to transform test cases into machines processable instructions

Test Case Authoring and Management Tool (TCAMT)

Test Execution

- execution of the test scripts
- → test engine interprets test scripts
- validate message against test material

Testing Infrastructure (Test Engine)

Results

- juror document or test report
- create inspection document
- provide validation test report

Testing Infrastructure (Validation) and TCAMT

Analysis

- automated or human analysis
- → test or certification managers determine pass/fail based on results

Testing Organizations

