EclipseCon 2008 Members Meeting OSEE Project Update

EclipseCon 2008
2008-03-17

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Ryan Brooks

V-Model / Systems Engineering

OSEE provides a tightly integrated environment that supports lean engineering. It is integrated around a simple, user-definable data model to eloquently provide bidirectional traceability across the full product life-cycle including: architecture and design, requirements management, implementation, verification, and validation.

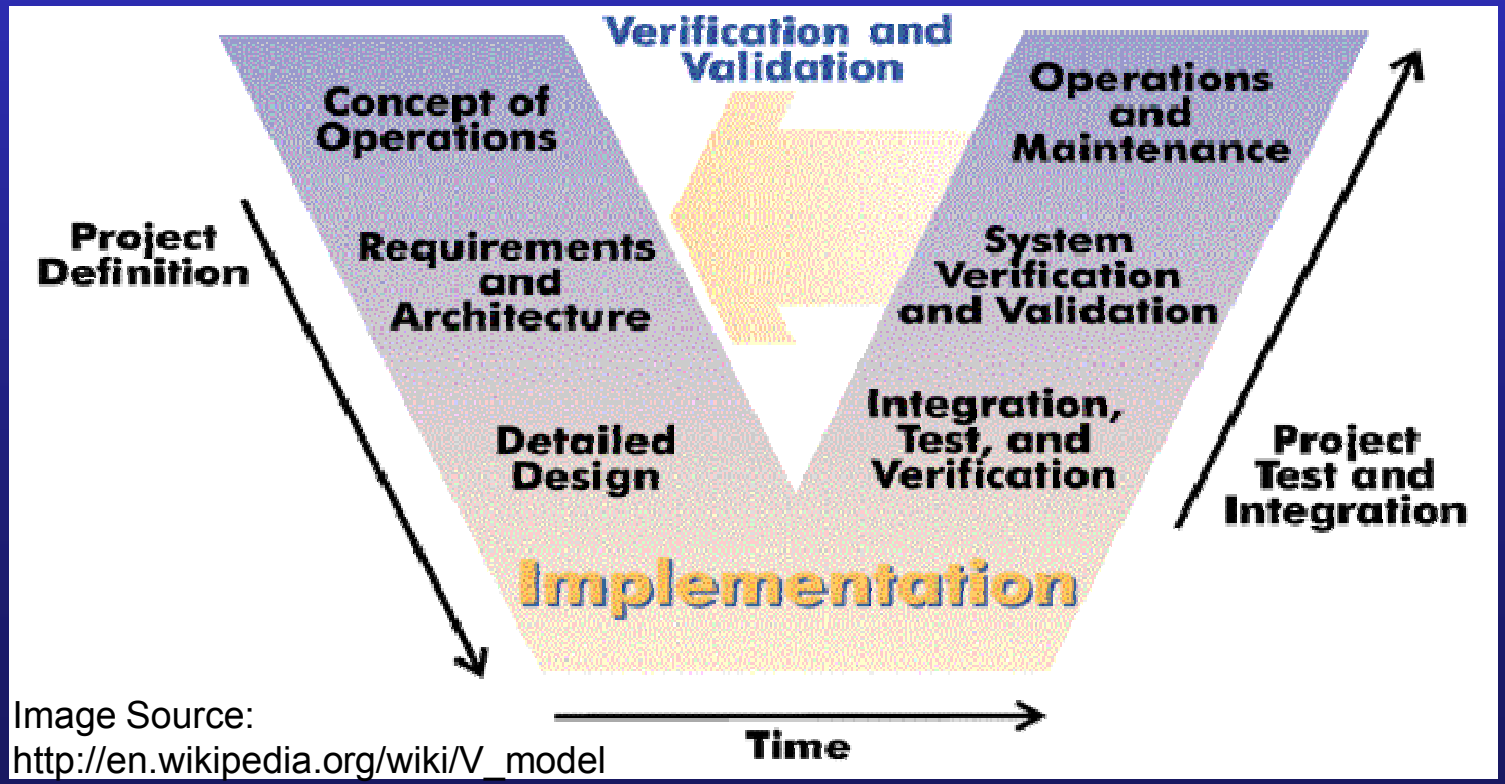


Image Source:
http://en.wikipedia.org/wiki/V_model

Key Project Activities and Timeline

- Boeing internal milestone: Test Environment first used for requirements verification in simulated environment – Nov 2004
- Delivered OSEE w/database to US Army – Nov 8, 2007
- Explored idea for Eclipse project – EclipseCon 2007
- Project proposal approved – July 10, 2007
- Incubation Phase (conforming) – Aug 10, 2007
- Initial source commit (140K LOC) – Dec 8, 2007
- Next major source commit: Test Environment for embedded software (45K LOC) – Summer 2008
- Upcoming first flight of next generation Apache Helicopter represents major maturity milestone for OSEE

ATS - SAW Even More Requirement (no-branch) Changes for Diagram View - Open System Engineering Environment

File Edit Navigate Search Project Run Window Help

ATS OSEE Artifa Branc

Default Hierarchy Root

- Document Templates
- SAW Product Decomposition
- System Requirements
  - Objective
  - References
  - Robot System Overview
  - Performance Requirements
  - Safety Requirements
  - Design Constraints
- Subsystem Requirements
  - Subsystem Requirements
    - Robot API
    - Video processing
    - Other device interfaces
    - Calibration and registration
    - Tool tracking
    - User Interface (Visualization)
    - Telesurgery application framework
    - Volume viewer
- Software Requirements
  - Robot API
    - Robot Interfaces
    - Interface Initialization
    - Robot collaboration
    - Read-only Robots
    - CISST fundamental data types
    - Functional Specification
    - Events
    - Virtual fixtures
- Hardware Requirements
- Verification Tests
  - Verification Test A
  - Verification Test B
  - Verification Test C
- Validation Tests
  - Validation Test 1
  - Validation Test 2
  - Validation Test 3
- Integration Tests
  - integration Test X
  - integration Test Y
  - integration Test Z

[SAW Requirements] - SAW Even More Requirement (no-branch) Changes for Diagram View

SAW Even More Requirement (no-branch) Changes for Diagram View

Current State: Implement Team: SAW Requirements Assignee(s): Joe Smith Originator: Joe Smith Action Id: CI
Action Actionable Items: SAW Requirements, SAW Test, SAW Code, SAW SW Design
Team Actionable Items: SAW Requirements

- Endorse - State Completed 03/15/2008 09:51 AM by Joe Smith
- Analyze - State Completed 03/15/2008 09:51 AM by Joe Smith
- Authorize - State Completed 03/15/2008 09:51 AM by Joe Smith
- Implement - Current State assigned to Joe Smith

Statistics
AtsAdmin
Total Percent: 0
Total Hours Spent: 0.60
Target Version: SAW_Bld_2
State Percent: 0
State Hours Spent: 0.00

"Implement" state assigned to Assignee(s): Joe Smith
Resolution Override:
Resolution:

Operation

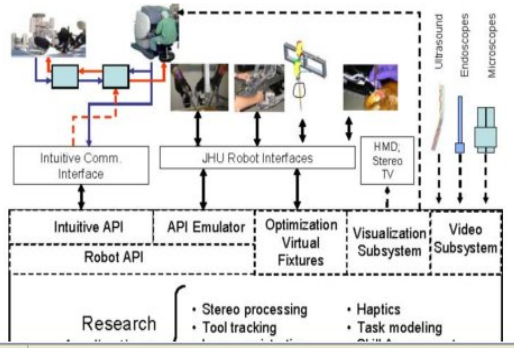
Workflow Tasks

Robot System Overview

Type: "System Requirement" Guid: AAABGLNZotsASsonPBXf7A HRID: EZOQU Art Id: 293

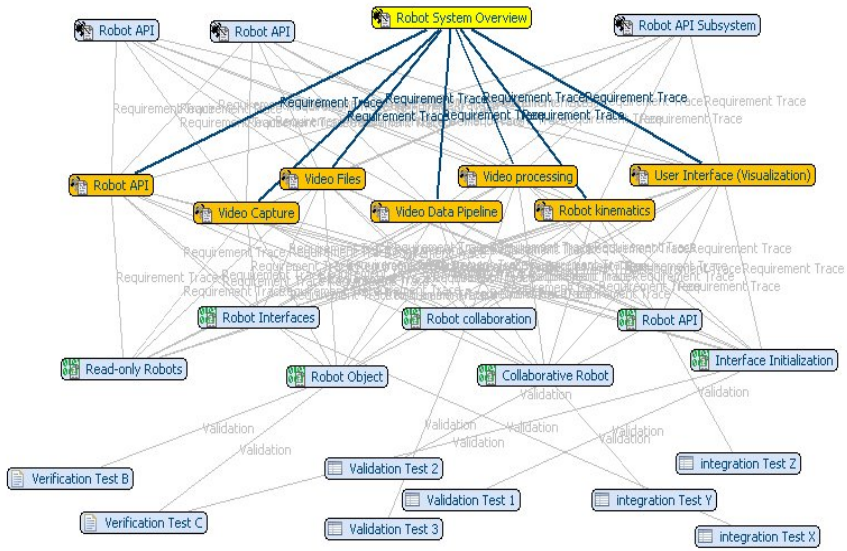
Robot System Overview

The goal is to create a unified assistive environment for surgery that integrates robotic devices; fused information environments combining preoperative images & models, intraoperative images & other sensors; surgical task modeling; and human-machine cooperative manipulation, as shown in Figure 1 (from Reference 2.1.1).



Preview Attributes Relations

Sky Walker (Robot System Overview)



Layout Artifact Typ

Level: 3

- Vertical
- Tree
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- Spring
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Link Naming:

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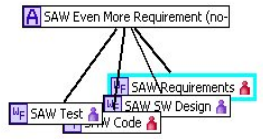
- Full_Link_Name
- Phrasing_A_to_B
- Phrasing_B_to_A
- Other_Side_Name

Action View



ATS World Quick Sear OSEE Admi Artifact Vi

My World - Joe Smith Admin - OSEE, osee - Joe Smith

Type	State	P	C	Assignees	T
Action	Implement	1		Kay Jones, J...	SA
Action	Implement	1		Jason Michae...	W
Action	Analyze	1		Kay Jones, J...	Bu
Action	Implement	1		Kay Jones, J...	SA
SAW Test Workflow	Implement	1		Kay Jones	SA
SAW Code Workflo	Implement	1		Joe Smith	SA
SAW SW Design W	Implement	1		Kay Jones	SA
SAW Requirements	Implement	1		Joe Smith	SA
Action	Implement	1		Kay Jones, J...	SA
Action	Implement	1		Jason Michae...	W

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SAW_Bld_2

OSEE Collaboration

- 7 talented committers
- 4 contributors
- Recruit and mentor new contributors and committers
- Work with interested parties including:
  - Arizona State University
  - Auburn University
  - Bosch
  - EADS
  - Lockheed Martin, Advanced Technology Laboratories
  - Rockwell Collins
  - General Motors
  - United States Army
- Integration with other Eclipse Projects