Classified as UML Diagrams

- Deployment Diagrams: Shows the deployment of components and their communication.
- Communication Diagrams: Show the interactions between system and external actors.
- Activity Diagrams: Illustrate the flow of the logic in the software application.
- Behavior Diagrams: Capture the behavior of the system.
- Structure Diagrams: Show the structure of the system.
- Interaction Diagrams: Focus on the interaction between different parts of the system.
- Communication Diagrams: Depict the communication between components.
- Sequence Diagrams: Show the flow of messages between objects.
- Use Case Diagrams: Illustrate the processes and actions of the system.
- Composite Structure Diagrams: Show the composite structure of the system.
- Collaboration Diagrams: Depict the collaboration between objects.
- Object Diagrams: Show the objects and their attributes.

Potential Benefits

- The deployment diagram consists of six software UML diagrams developed to formalize relationships existing between software system.
- Input variables external to the system and Action 2 of Activity Diagram.
- One source action can connect to many target actions or many control nodes by an activity edge.
- One Use Case consists of one or many actions and many control nodes.
- Case Study: Helium Tank

Introduction to FPSA

- The use case contains 10 basic steps including mapping between different elements of UML diagrams, simulation, and development of complementarity rules and functional failure logic (FFL).
- Case Study: Helium Tank

Potential Benefits

- Space Shuttle’s Reaction
- Helium Tank Sub-System of Potential Benefits

Co-Authors: M. Rodríguez and C. Smidts

Case Study: Helium Tank

Impact on Simulink

Case Study: Helium Tank

Potential Benefits

Case Study: Helium Tank

Logging the behavior of complex systems

Case Study: Helium Tank

Faulty behavior of "PLC Interface" which shows...