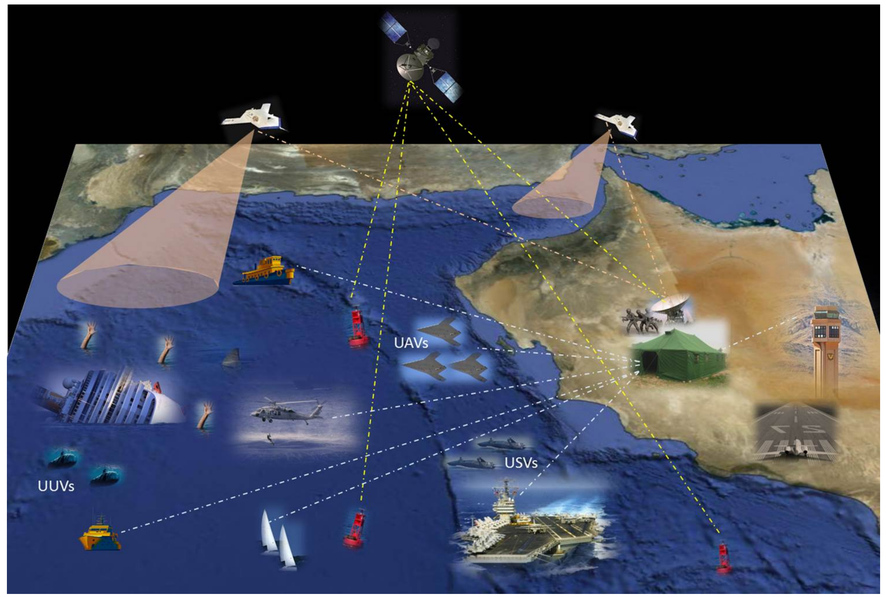
A Lab Manual for Systems Architecting and Analysis

Naval Postgraduate School



Search and Rescue CONOPs with Unmanned Systems

An educational lab manual with the following chapters and corresponding learning opportunities & architecture model assessment criteria was developed:

- Chapter 1: Framing the Problem (DRM I)
- Chapter 2: Defining the Operational Mission and Measures (DRM II)
- Chapter 3: Creating and Verifying Operational Activity Models
- Chapter 4: Creating Abstract Functional Views of the Architecture
- Chapter 5: Creating Physical Views of the Architecture
- Chapter 6: Creating Top Level Requirements
- Chapter 7: Generating and Selecting Solution Concepts
- Chapter 8: Characterizing Solution Functional Models
- Chapter 9: Selecting Solution Concepts with Model Simulation
- Chapter 10: Presenting Architecture Modeling Work to Stakeholders

- The lab manual created from this project provides students and educators with a means to increase their knowledge and skills in early lifecycle architecture design and assessment of robotics and unmanned systems.
- NPS Confluence users may access the lab manual here: https://wiki.nps.edu/display/MP/Lab+Manual
- Other members of the CRUSER community may contact Dr. Giammarco for access to this interactive content.

- The manual is themed with Search and Rescue (SAR) throughout all chapters and examples, providing a running case study that illustrates the application of well-proven architecting concepts to an example operational scenario.
- The approach in the lab manual can be
  - applied to any operational scenario of interest
  - used to assess performance and effectiveness of robotics and unmanned systems in an operational context
- NPS students have contributed their experience and expertise to the content in several of the chapters, making the lab manual a community product

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