

## A Decomposition of UAV-Related Situation Awareness

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Refreshments at 2:30, Talk from 3:00-4:00

In this talk, I will present a fine-grained decomposition of situation awareness (SA) as it pertains to the use of unmanned aerial vehicles (UAVs), and uses this decomposition to understand the types of SA attained by operators of the Desert Hawk UAV. Since UAVs are airborne robots, we adapt a definition previously developed for human-robot awareness after learning about the SA needs of operators through observations and interviews. We describe the applicability of UAV-related SA for people in three roles: UAV operators, air traffic controllers, and pilots of manned aircraft in the vicinity of UAVs. Using our decomposition, UAV interaction designers can specify SA needs and analysts can evaluate a UAV interface's SA support with greater precision and specificity than can be attained using other SA definitions.

**Bio:** Nathan Rackliffe is a 2004 graduate of Brigham Young University, with a BS in Computer Science, and is currently in the masters program at Brigham Young University. He is working in the Human-Centered Machine Intelligence Laboratory of Professor Michael A. Goodrich researching novel human-robot interaction techniques. Since January 2005, Nathan has also been an employee of The MITRE Corporation working on implementing improved interfaces for uninhabited air vehicles (UAVs) with UML alumna Dr. Jill L. Drury. His research interests are in human-robot interaction, uninhabited air vehicles, and geographic information systems.