PROBLEM TITLE
Syncing Sight and Sound

CHALLENGE
USASOC Operational Detachments-A need improved automation of sensory information processing in order to increase the speed of their Observe, Orient, Decide, Act loop.

BACKGROUND
The Unites States Special Operations Command (USASOC) Operational Detachments-A (ODAs) are small, twelve-person teams working in sensitive environments. Their team includes an operational leader, organizational leader, and several specialized roles in order to effectively be able to break up into two smaller six-person units. However, their current ability to address obstacles, such as armed resistance and improvised explosive devices (IEDs), is limited to their human sensory and decision-making ability – commonly referred to as the Observe, Orient, Decide, Act (OODA) loop. USASOC ODAs have a significant interest in developing automated sensory capabilities to improve their OODA loop cycle.

Currently, ODAs use two computerized systems to provide augmented audio and visual information: SKYWHISPERS for audio, and IVY for visual. These two systems are most used to augment the ODA's ability to perform overwatch operations, where the team is forced to observe a particular environment for long periods of time in aerial scenarios (i.e. unmanned aerial systems, etc.). They limit the amount of manual observation necessary, and help operators classify identified objects. However, the automated sensory systems are currently limited to these aerial tasks, rather than on the ground, and provide an overflow of data that operators must sift through to evaluate. Enabling ODA's usage of these systems in ground-based scenarios with improved filtering of relevant data would greatly improve their tactical ability to respond to emerging threats.

OPERATIONAL CONSTRAINTS
- Must not further complicate the job of operators
- Subject Matter Expert responsible for SKYWHISPERS and IVY algorithms will be available for student contact

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