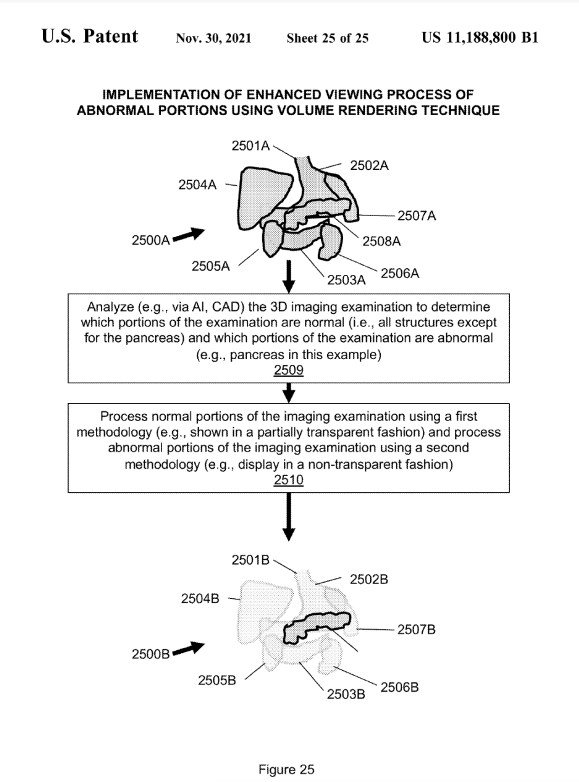
A 20th Major Improvement to the Integrated Visual Augmentation System

Using Artificial Intelligence to prevent information overload



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USA, August 10, 2023 /EINPresswire.com/ -- Militaries across the globe are collecting more and more imaging data. A good example of this is the National Geospatial-Intelligence Agency (NGA), which has deployed LIDAR in aircraft to map Afghanistan's entire 647,500 square kilometers. Air Force Lieutenant General John Koziol, director of the Defense Department's Intelligence, Surveillance and Reconnaissance (ISR) Task Force, stated that the technology has coverage down to inch-level fidelity!

Another example was discussed in TPMI's article published on 21 July 2023 wherein, in accordance with US Patent 11,341,731, a pseudo-GPS system can be emplaced by drones on the outside of an uncharted building and the IVAS system can be upgraded with TPMI's technology to perform tracking of a Soldier's precise position within the building. Additionally, per US Patent 10,973,485, a large number of objects (some of which could be hazards) within the building can be converted to virtual objects and plotted on a 3D building map to improve situational awareness and increase survivability via hazard avoidance.

Consider a scenario while the Soldier is walking through a room in the building and there is a large amount of clutter on the tables, shelves, couch, and floor. Sensor systems on board an upgraded IVAS (e.g., per US 11,006,100) could rapidly image the room yielding a vast amount of imagery of the clutter. If this massive data is not properly presented to the Soldier, it could hinder the Soldier rather than help the Soldier because the Soldier would experience "information overload" due to too much "virtual reality clutter".

Fortunately, TPMI has developed technology to present vast amounts of data in a way that is

meaningful and useful to the Soldier. In US Patent 11,188,800, TPMI has invented technology that improves the presentation of vast datasets to the Soldier. The '800 patent uses an artificial intelligence algorithm to classify portions of the imagery as normal and other portions of the imagery as abnormal and performs novel and unique image processing techniques to the abnormal portions, which cause it to stand out to the Soldier. Those portions of the imagery classified as abnormal can be presented in a subdued fashion.

Using this strategy, long before the Soldier in the room is able to visually search it for threats or other objects of interest, the '800 patented AI system will have analyzed the sensor data of the scene to detect the abnormal portions (e.g., a weapon), and generated imagery to optimally display these abnormal portions while minimizing "virtual reality clutter". This will enable the Soldier to rapidly identify key targets/ threatening objects amidst the tangible clutter in the scene.

TPMI has carefully crafted a set of technological advancements, which if integrated into the IVAS will maximize efficiency, lethality and survivability of the squad. The words "Visual Augmentation" in the Integrated Visual Augmentation System (IVAS) are at the heart of TPMI's patented technology. TPMI aims to work with PEO Soldier to integrate this novel technology into the IVAS.

About the author: Dr. Robert Douglas is a West Point graduate who: fought as an Infantryman in Vietnam with US units and a Vietnam recon company; worked in a combat development agency; studied nuclear war in the Joint Chiefs of Staff; patrolled in the desert for the UN in the Middle East with Russian war planners; and developed a system to assist Air Force space exercises. After leaving the service he spent over three decades in the defense industry rising from manager to vice president working programs ranging from sensors and missiles for Air Force aircraft to rubbing shoulders with Army scientists; to Army helicopters and combat vehicles as well as rapid target acquisition (RTA), night vision goggles and weapon sights.

Dr. Robert Douglas
TPMI
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