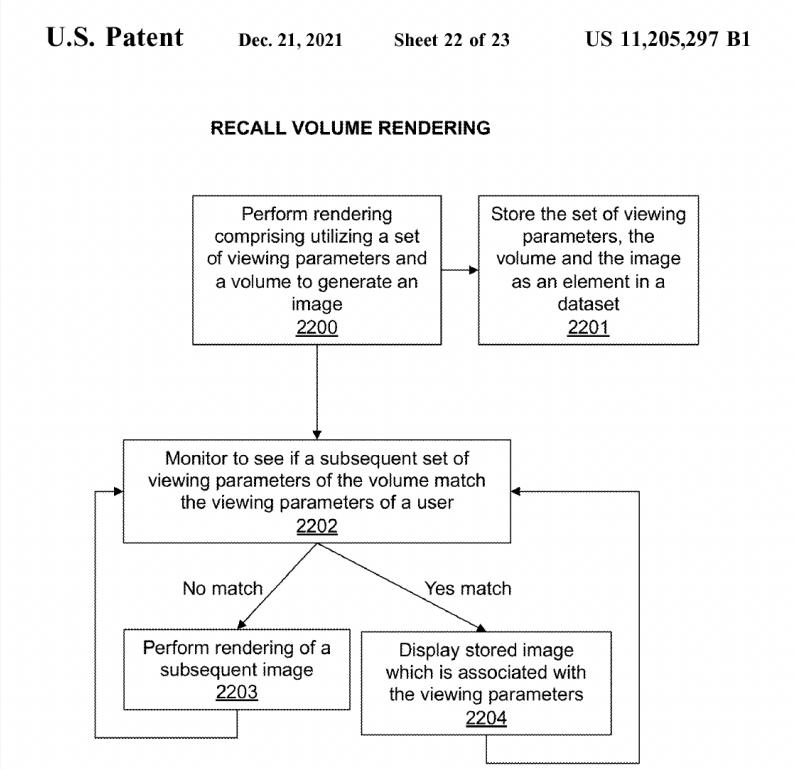
A Twelfth Major Improvement to the Integrated Visual Augmentation System

Using an Artificial Intelligence to predict a Soldier's behavior

USA, July 28, 2023 /EINPresswire.com/ -- “If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle.” Sun Tzu, The Art of War.

The Integrated Visual Augmentation System (IVAS) Statement of Objectives states that there is a "need for improved training and simulation tools to provide the warfighter with the ability to train and rehearse using the same equipment utilized in actual operations."



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TPMI, in its efforts to improve the IVAS, has developed technology in US Patent 11,205,297, which will be a major step forward in Sun Tzu's "know yourself". The '297 patented technology develops an extremely valuable dataset to be used in conjunction with an Artificial Intelligence (AI) algorithm to predict a Soldier's behavior in battle.

Rather than just storing the presented images into a dataset, the '297 incorporates a Soldier's viewing parameters into the novel patented dataset. The '297 patented dataset includes time-stamped, recorded data comprising: Soldier's head position; Soldier's rate of change of head position; Soldier's head orientation; Soldier's rate of change of head orientation; and, other novel features. An AI analysis of time-stamped data of presented virtual imagery with the precise Soldier viewing parameters will reveal insight as to how the Soldier reacted to a particular presented scenario. In addition, this data can be analyzed by the squad leaders and Soldiers

instructed on how to improve performance. Over time, the Soldier will become more and more skilled.

During each and every one of the training exercises ("25 bloodless battles"), TPMI's patented dataset will be storing behavior data on every Soldier in every squad, such as data from red forces vs blue forces in training scenarios. Using this strategy, the training data would become immense with thousands of Soldier reactions per bloodless battle and thousands of bloodless battle fought. The AI algorithm could analyze data in TPMI's patented dataset to begin to learn how a Soldier reacts to certain stimuli thereby achieving "know thyself".

Supplementing the training data with data from an actual war can enhance TPMI's '297 patented dataset even further. Such enhanced data can be used to predict an enemy's response. How will the enemy react to fire? When is he going to shoot next? Where and when will he move?

If there is ever to be a way to predict an enemy's response, this would be the holy grail for warfare. Since a Soldier's visual analysis of the scene is a key driver in decision making, the '297 dataset could prove to be the most valuable dataset for predicting the Soldier's behavior in battle.

TPMI has a breathtaking platform of technology which, if integrated into an upgraded IVAS, would result in a superior system. 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.

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