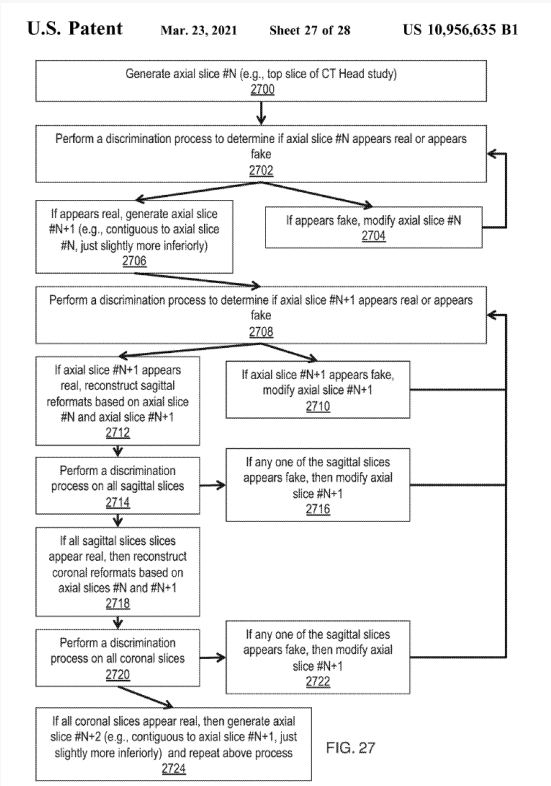
A 29th Major Improvement to the Integrated Visual Augmentation System

Enhancing the conduct of battle through leveraging generative artificial intelligence (AI)



Enhancing the conduct of battle through leveraging generative artificial intelligence (AI)

ORLANDO, FL, USA, September 29, 2023 /EINPresswire.com/ -- According to Bloomberg, generative AI is reported to be worth $1.3 trillion by 2032. WOW! What's this all about? Should the Army get on board? Can it do anything to help the Soldier? The answer is yes, yes. Fortunately, TPMI patent US 10,956,635 provides a structure for implementing generative AI technology manifesting as virtual enemy threats inserted into the One World Terrain. Such generative AI threats can increase the combat effectiveness of a unit equipped with TPMI's technology. A system with generative AI threats has the potential to yield a set of completely unexpected scenarios. By responding to such scenarios, the US Army can be more equipped to face actual enemy threats. Let me explain.

Last week, in the 28th Major Improvement it was stated "First, the unit S3 would need to download that portion of One World Terrain (OWT) relevant to his/ her selected area for the training exercise or combat action. The S3 could then don his/ her IVAS and carefully inspect the area noting the tangible items such as the general topography, trees, rocks, roads, lake, river, cars, buildings, etc. US 10,878,639 enables segmentation of the tangible structures and, subsequently, be assigned material type properties." This will significantly improve the OWT. This week's major improvement deals with dynamic situations created through generative AI threats. These AI processes would be integrated into IVAS and available for commander, staff and Soldiers. Example training scenarios follow.

Scenario #1: TPMI's generative AI has equipped the simulated enemy with a new long range artillery system. The AI checklist implemented from TPMI's '635 patent could say: first check the range fan of this type of artillery and put the range fan on the virtual sand table. What units are

at risk? What actions should they take? If the decision is to move the unit, what locations/areas from previous terrain studies are acceptable and out of range the newly arrived enemy artillery? What location would be the best and what route to get there? If the enemy has been employing UAVs, then air defense units should be part of the formation. These types of actions can be thought through and implemented with TPMI's generative AI beforehand. Tactics, techniques, and procedures (TTPs) can be prepared and rehearsed. Performance would be second nature in combat.

Scenario #2: TPMI's generative AI has implemented a hasty simulated enemy attack. The AI checklist implemented from TPMI's '635 patent could say: what and where is the objective, what units are available? What is the best route? Given the enemy practices 'defense in depth', where are the forward positions and compositions? Are covered routes available? What fires are available and timing? All of this can be laid out on the virtual sand table discussed in previous TPMI articles. Warning order could be visualized by the leaders on their individual IVASs and their roles and responsibilities would be clearly understood.

Scenario #3: TPMI's generative AI has implemented another hasty simulated enemy attack. The platoon leader wants to leverage the various capabilities outlined in TPMI's advanced sand table concept. A platoon leader can lay out these relative capabilities out on the virtual sand table so that the whole platoon could visualize the situation and rehearse the attack. He could lay out the relative weapons range fans and would realize that our force had better sensors than the hypothetical threat. This would enable a range band where he could engage the threat effectively but the threat could not return effective fire. The tactics to leverage this advantage could be rehearsed. This platoon now has the potential to 'fight outnumbered and win'!

Integrating TPMI's '635 with TPMI's '639, '035, '133, '071 and '435 patented technologies into the IVAS, which were featured several recent articles discussing major improvements to the IVAS, would significantly enhance the US Army's capabilities. This is an important step towards enabling Army personnel to have the ability to interact with the OWT in training exercises and combat situations. TPMI aims to work with PEO Soldier and PEO STRI to integrate these novel technologies into the IVAS.

About the author: Dr. Robert Douglas is one of the few known retired Infantrymen who have 80+ USPTO awarded patents. This article discusses only a small subset of the vast array of technologies in the above patents. This was the 29th patent discussed in this series of articles that is relevant toward improving the military/ IVAS goggles. Although only one concept is selected from each patent for the associated article, in fact, each patent includes many relevant concepts. More to come on Artificial Intelligence (AI), Augmented Reality (AR), Mixed Reality (MR), and Virtual Reality (VR).

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