

A 24th Major Improvement to the Integrated Visual Augmentation System

The sand table of the future: using tools to interact with virtual objects!

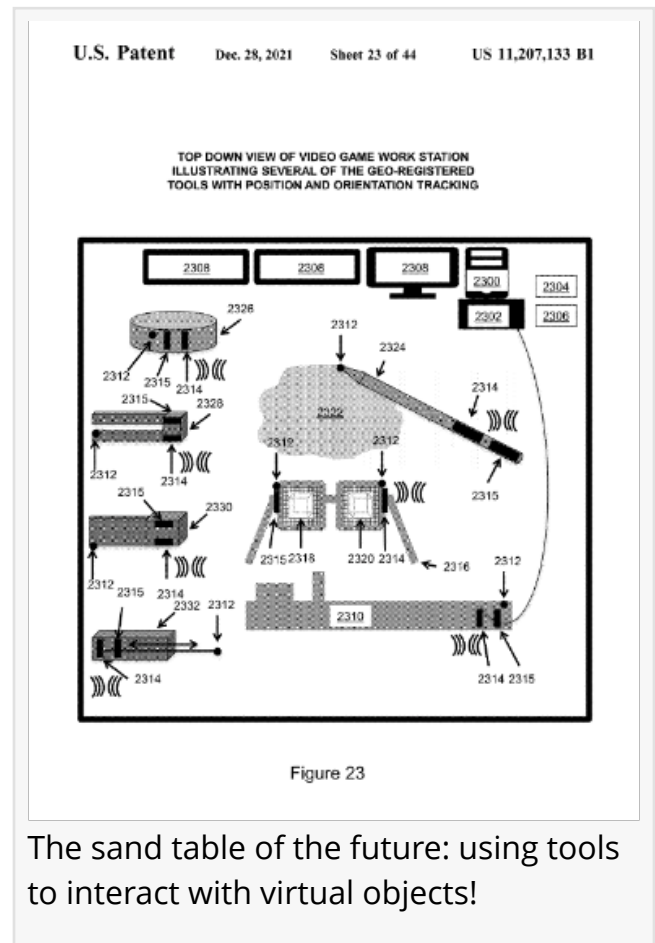
USA, August 25, 2023 /EINPresswire.com/ -- For centuries, sand tables have enabled armies to visually think through battle plans and answer important tactical questions. Such questions include: Where do we think the enemy will be positioned? And, where should we position our artillery to achieve an advantageous position to maximize lethality?

Currently, the Integrated Visual Augmentation System ([IVAS](#)) enables the Soldier to interact with holograms using hand gestures, such as finger tap maneuvers. A limitation of the hand gesture is the ability to precisely pinpoint a specific spot on a hologram.

Consider a photo of a basketball stadium where the people appear small. A person could point their finger to a particular person in the stands and say, "that guy". The observer would respond "Which guy? I can't tell who you are pointing to."

Consider a Colonel pointing to something in an image from downrange and the Lieutenant responding "Your finger is too fat. What are you pointing at?" It would not be a good day for the LT.

In US 11,207,133, [TPMI](#) has developed a revolutionary way to interact with holograms, which is through using tools. The '133 patent provides technology to register a virtual tool to a tangible tool. A change in the tangible tool's position causes a change in the virtual tool's position. Similarly, a change in the tangible tool's orientation causes a change in the virtual tool's orientation. In essence, the user is now enabled to hold in his physical hand a virtual tool and can move it to precisely interact with virtual objects far more accurately than via finger tap



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maneuvers.

For the Colonel pointing to a spot in an image or mapping out force movements on the sand table, he will have in accordance with the '133 patent a tangible tool to enable precision interactions. His observers can follow the lines that he has traced, using his tangible pointer tool into the virtual terrain, to designate specified routes where the company commander should lead his company. He can trace a particular path to designate where and how to perform a flanking maneuver. The Colonel will grow to love his tool.

In the war planning room, all of the observers would be able to see with their upgraded IVAS systems the Colonel's precise mark up on a virtual sand table created from the One World Terrain (OWT). Using TPMI's technology, as the Colonel marks out areas on the virtual sand table, Soldiers in the field can see corresponding mark up in their IVAS displays in real time to improve understanding of their mission objectives. Similarly, the troops in the field can markup spots of concern (e.g., locations of suspected IEDs) at particular GPS coordinates and the Colonel would be able to see the marked up spots in the war planning room.

Integrating TPMI's '133 patented technology is an essential next step towards enabling Army personnel the ability to interact with the OWT. TPMI aims to work with [PEO Soldier](#) and PEO STRI to integrate this novel technology into the IVAS.

About the author: Dr. Robert Douglas is one of the few known retired Infantrymen who have 80+ USPTO awarded patents. This was the 24th patent discussed in this series of articles that is relevant toward improving the military/ IVAS. More to come.

Dr. Robert Douglas

TPMI

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