Processing Updated Imagery for Use in Dismounted Mission Planning on NETT Warrior

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Author Note: Cadets Fogh, Gramling, Hansen, and Mason are working on this project as a capstone with the Department of Systems Engineering (DSE) at the United States Military Academy (USMA). They are all first class cadets (seniors) at the Academy. Cadet Fogh is an Operations Research major, Cadet Hansen is a Systems Engineering major, and Cadets Gramling and Mason are Systems Management majors. Mr. Chennault and MAJ Bew are the project advisors.

Abstract: Small unit leaders need real time images to aid in planning missions and making decisions. Currently, this ability partially exists through the use of short range Unmanned Aerial Vehicles (UAV) like Raven and Shadow, which provide unprocessed imagery. There is a limited capability to gather imagery for a large area, process it into a useable format, and deliver the product to the small unit leader. Android-based platforms like Nett Warrior currently use older, primarily satellite, imagery to depict the battle space. We are creating a process that takes up to date satellite and UAV imagery in a format that is available as an offline map and use the Nett Warrior platform to deliver this imagery to small unit leaders. This enhanced imagery will allow leaders to plan missions in a more effective manner due to the updated imagery and the benefits mobile maps provide.

Keywords: Nett Warrior, Route Planning, Android, Map Tiles, GeoTIFFs, UAV, Mission Planning