# Building a Geosocial Semantic Web for Military Stabilization and Reconstruction Operations

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The United States and its Allied Forces have had tremendous success in combat operations. This includes combat in Germany, Japan and more recently in Iraq and Afghanistan. However not all of our stabilization and reconstruction operations (SARO) have been as successful. Recently several studies have been carried out on SARO by National Defense University as well as for the Army Science and Technology. One of the major conclusions is that we need to plan for SARO while we are planning for combat. That is, we cannot start planning for SARO after the enemy regime has fallen. In addition, the studies have shown that security, power and jobs are key ingredients for success during SARO. For example, it is essential that security be maintained. Furthermore, it is important to give powerful positions to those from the fallen regime provided they are trustworthy. It is critical that investments are made to stimulate the local economies. The studies have also analyzed the various technologies that are needed for successfully carrying out SARO which includes sensors, robotics and information management. In our research we are focusing on the information management component for SARO. As stated in the work by the Naval Postgraduate School, we need to determine the social, political and economic relationships between the local communities as well as determine who the important people are. This work has also identified the 5Ws (Who, When, What, Where and Why) and the (H).

To address the key technical challenges for SARO, our goal is to utilize the extensive research we have carried out at the University of Texas at Dallas in geospatial information management, social networking and knowledge discovery and develop novel technologies for SARO. In particular, we have defined a Life cycle for SARO and subsequently developing a Temporal Geosocial Service Oriented Architecture System (TGS-SOA) that utilizes Temporal Geosocial Semantic Web (TGS-SW) technologies for managing this lifecycle. We are developing techniques for representing temporal geosocial information and relationships, integrating such information and relationships, querying such information and relationship and finally reasoning about such information and relationships so that the commander can answer questions related to the 5Ws and H.

The presentation will discuss the challenges of SARO and our solutions to SARO that integrates semantic web, social networking, knowledge discovery, geospatial and security and privacy technologies. We will discuss our approach to developing a geosocial semantic web for SARO. Our project has tremendous applications not only in SARO but for many other applications including in emergency response and public health.

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