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Situation Awareness and Dynamic Group Formation of Agents and Humans Using Jabber

Track 4, Track 5, Track 2

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Abstract: Developing a single summary function for situational awareness is challenging as it may in actuality be a hierarchy of many domain specific groups with cross-domain interests. Accelerating and amplifying the decision process with decision support software may be brittle due to the inability of the software to adapt to changes and opportunities, such as new target types. Chat software has proven a vital tool for warfighters to communicate their situation and to assist each other in a free-form manner. Dynamic formation of groups or chat rooms using semi-structured summary functions allows decision support software to better assist the warfighter, and may improve their effectiveness. Jabber is an open architecture and standard XML protocol for instant messaging that allows XML protocol extensions and dynamic chat room formation. We discuss a mechanism for developing and decomposing situation awareness summary or utility functions that serves as a single disambiguated, semantically-tagged expression summarizing a focal subject. We then discuss methods for using Jabber to create chat rooms involving these focal subject expressions and for using Jabber to advertise and to discover situations and to utilize the chat room in a white board fashion so humans and DSS can work more effectively together.