

Plan Future Graph (PFG)

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Summary:

Planning is critical to the operational and tactical capability for the military. Artificial Intelligence (AI) is poised to play a significant part in supporting the warfighter in the development and selection of plans. The AI capability supports reduction in the planning process which is labor intensive, serial in nature and time consuming. The pace and scale forecast for future planning requires rapid understanding, shaping as well as maintenance of the plan space within a short critical time. Such an AI based planning system will always be intertwined in a workflow process with planning personnel, and thus a requirement for a human interface which allows planning personnel to quickly view, understand and dive into elements of the multitude of plausible plans that are generated by the AI. This is the basis of the Plan Future Graph (PFG) concept which seeks to advance the collaboration between the planner and AI supported planning processes. Furthermore, prototypes of such an interface can be prototyped well in advance of any AI based planning capability becoming mature. This visual and interactive mechanism (PFG) displays the results of AI planning processes and presents it to the planner in a modern and well-designed user interface. It provides the means to view all plausible outcomes of the planning process including the priority selections by the AI. The PFG provides a template to what will be required and fed back into the development process of the AI planner. A model of the PFG and user display and interactive elements are proposed as a means for explainable AI for the planning warfighter. The collective PFG interface assists the human planner in decisions at an accelerated pace and scale to select an optimum plan or to assist the AI in re-planning with new or additional criteria.