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## **Early Synthetic Prototyping in the Army Acquisition Process**

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**Abstract:** Within the military acquisition process, there is disconnect between technology being created and the soldier who uses it. All too often, the Army acquires equipment that in theory meets all requirements to solve some capability gap; however, the equipment may not work well for the soldier, or may lack the primary necessities required to complete the mission. Early Synthetic Prototyping (ESP) is an Army Capabilities Integration Center (ARCIC) project which attempts to bridge this gap between the soldier and Army acquisitions in order to create more effective solutions for future capability gaps. This is accomplished by crowdsourcing solutions using simulation in a video game environment. Crowdsourcing allows for a much greater number of contributors outside of the handful of developers who would normally generate ideas for solutions. While there are multiple on-going research projects which pertain to various aspects of ESP, this research utilizes systems engineering methods to design concepts for three key aspects of the system: authoring (the tools users have to illustrate prototypes and scenarios) , online community (mechanism for keeping users engaged and interconnected), and game play (how users experience the game). Ultimately, ESP will not be merely a videogame, but a landscape for soldiers, leaders, and developers alike to interact in one community, promoting communication, innovation, and personal investment in the future of the Army.

*Keywords:* Early Synthetic Prototyping (ESP), Simulation, Acquisition, Crowdsourcing.