Novel Interactions for Amputees

Amputation is a significant health issue affecting service members and veterans. Explosions or blasts by rocket-propelled grenades, improvised explosive devices (IEDs), and land mines expose military personnel in combat zones to an increased risk of sustaining a blast-related trauma such as the loss of one or multiple limbs. Centers such as Center for the Intrepid and National Intrepid Center of Excellence (NICoE), Walter Reed National Military Medical Center (WRNMMC) and Department of Veterans Affairs (VA) provide state of the art, intense clinic based programs, however an opportunity exists to improve clinic and home based practice and supervision by developing a computer based tele-rehabilitation program that capitalizes on existing computer based 3D real-time motion tracking technology.

This research builds upon a number of existing USC ICT technologies by modifying and improving a game-based tool for rehabilitation of service members with amputation and integrating ICT virtual human technologies to build a novel interaction tool to educate and reduce stigmas associated with amputation.

MedVR Team: Belinda Lange, Sebastian Koenig, Chien-Yen (Kevin) Chang, Kevin Feeley and Eric Forbell