Exoskeletons

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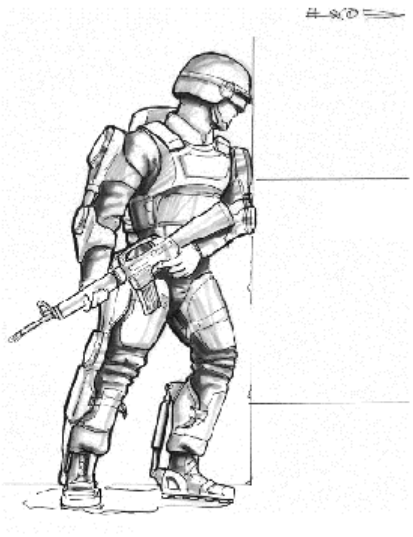
Tim Swaby
Biomedical Engineering, Department of Computer and Electrical Engineering
University of Rhode Island
Kingston, RI 02881

Exoskeletons are the new interest in military advancement. Basically, an exoskeleton is a wearable machine that gives a human enhanced abilities. Imagine the increased effectiveness of a soldier that can run twice as fast, or carry ten times their body weight, this is the future.

The U.S. Defense Advanced Research Projects Agency (DARPA) is investing $50 million dollars in the research for an exoskeleton suit for ground troops. In 2000, DARPA requested proposals for human performance augmentation systems, and will soon be signing contracts to begin developing exoskeletons. Testing of this new technology is at least a decade away, and it will be much longer before soldiers are wearing these body amplification systems for battle.

Details of these systems are vague, as they are still in early development, but there are certain goals DARPA has set to follow. Increase strength: soldiers will be able to carry more weapons and supplies. By increasing strength, soldiers will also be able to remove large obstacles from their path while marching. It will also enable them to wear heavier body armor and other ballistic protection. Increase speed: an average human walks 4 to 6 mph, but soldiers are often expected to carry up to 150 pounds of supplies in their backpacks. The speed of the unit has not been determined, but a significant increase is expected. Leap great heights and distances - the machine should give soldiers the ability to leap over obstacles that would ordinarily slow troops.

The system will act as body armor as well. A global positioning system (GPS) will be included. Soldiers could use this technology to obtain information about the terrain they are crossing and how to navigate their way to specific locations. DARPA is also developing computerized fabrics that could be used with the exoskeletons to monitor heart and breathing rates.



The challenges the project must undertake include how to power it, the biomechanics, the control, and finding appropriate materials to construct it with. Designers will have to give the machine the ability to move smoothly, so that it's not too awkward for the wearer