

## Ubiquitous Technologies for Patient Tracking During Humanitarian Aid & Disaster Relief

### Perforce Software



**Principal Investigator:** Stephanie Turner

**Area of Interest:** Location, Tracking and Communication Technologies

### Capability Description:

Using ubiquitous technologies to help track patients during Humanitarian Aid & Disaster Relief missions will foster and enable an inclusive and collaborative environment between private industry NGOs and military resources. The experiments is to seamlessly integrate the iPhone, Android, raspberry pi & Perforce technologies to assist field medics during their collect and transfer of critical patient data during HA&DR missions. The experiment will use a combination of client/server and peer to peer technologies to move and deliver critical information over ad hoc cell mesh networks.

### Experiment Objective/Hypothesis:

Hypothesis is that inexpensive, standard and ubiquitous hardware and software technologies can be deployed and used to help alleviate some of the typical obstacles that get in the way of effective

collaboration during a chaotic experience. Software and hardware setup and training are examples of obstacles to collaboration.

### **Experiment Plan / Data Collection Plan:**

Simulate the experience of collecting data and tracking a patient through the different stages of moving the patient from the field to a stable hospital. Record medical data through simple voice activation, fingerprinting, images, video, external devices e.g. heart rate monitors and touchscreen menus. Transfer data through whatever connectivity is available (cell, wireless, usb drives).

### **Measures of Performance & Effectiveness:**

Measuring power, bandwidth and transfer rates will be critical. Measuring the durability of the technologies under stressed conditions (e.g. noise levels, rough terrain conditions).

### **What new capability does this represent?**

The experiment proposes to collaborate using common place and familiar technologies in a situation where military and NGO need to effectively work side by side.

### **What capability gap does this address?**

Capturing medical and biotech data on embedded devices and transferring the data using ad hoc mesh networks.