



Soldier Warrior Technology

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MSR

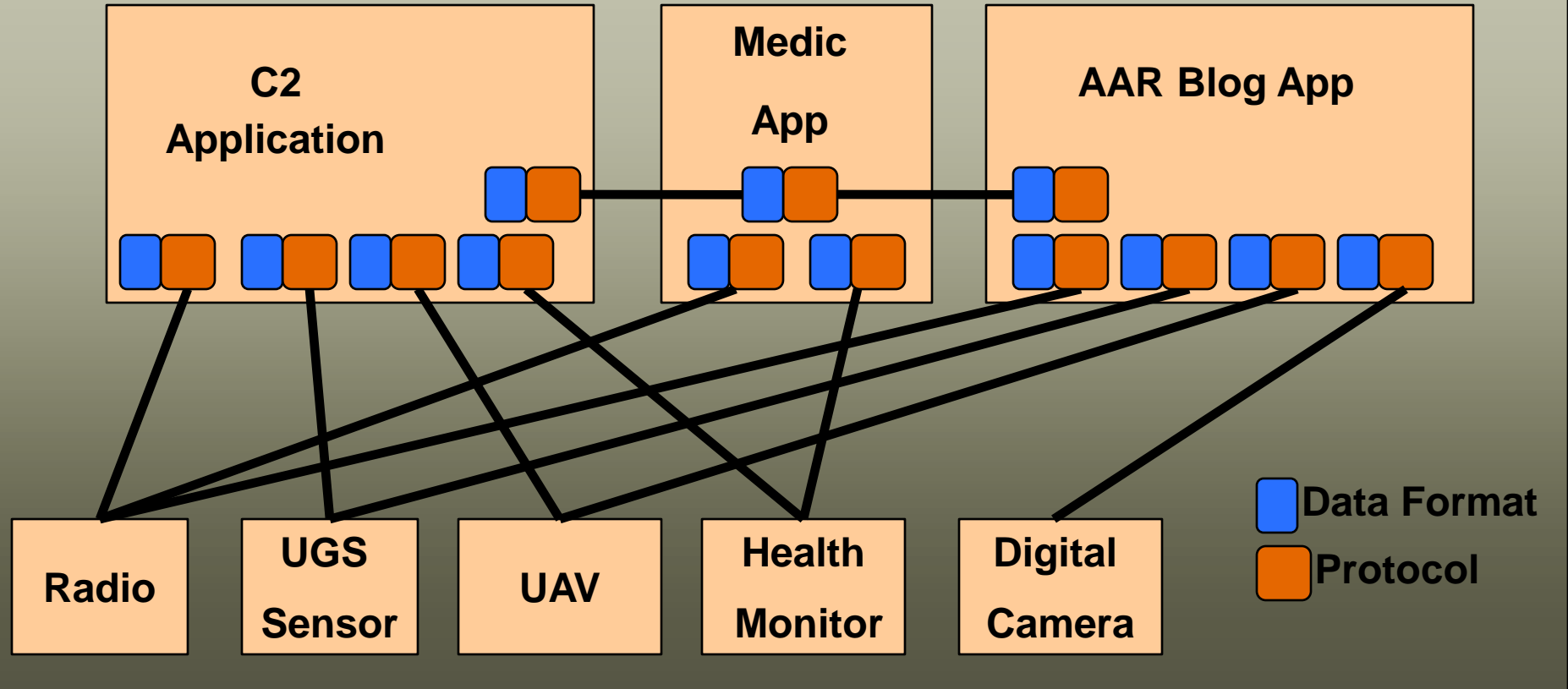
Problem



- **Current Soldier System developments have too many software interfaces**
 - Requires duplicate code be developed and maintained
 - Increases cost to integrate or upgrade components
 - Reduces response time to changing soldier needs
- **Commercial Web Service standards promise a solution to this problem**
 - Is the promise delivered?
 - What is the impact on processor usage? Power?
 - Based on tradeoffs, should this be a proposed solution for ARMY dismount soldier systems?

Background

Dismounted Soldier Ensemble



Too many interfaces

Objective

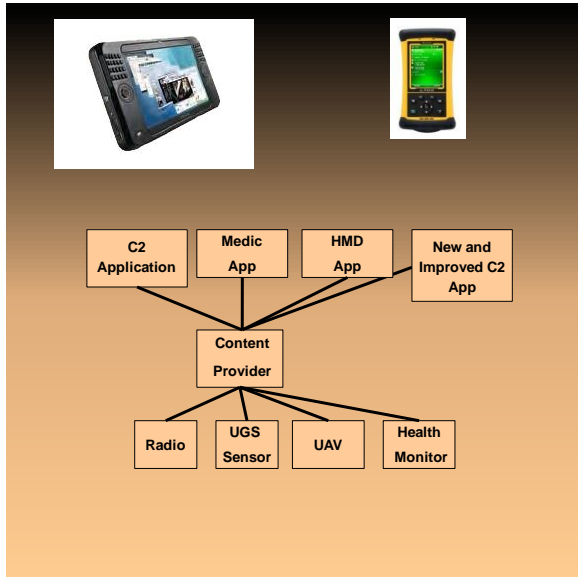
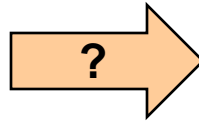
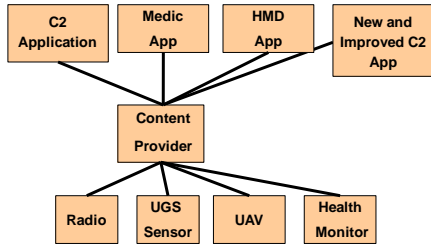


- **Determine if web service standards are a viable solution for wearable computers and Personal Area Networks for Soldier Systems**
- **Demonstrate if a web service based information dissemination framework provides an advantage over current practices**

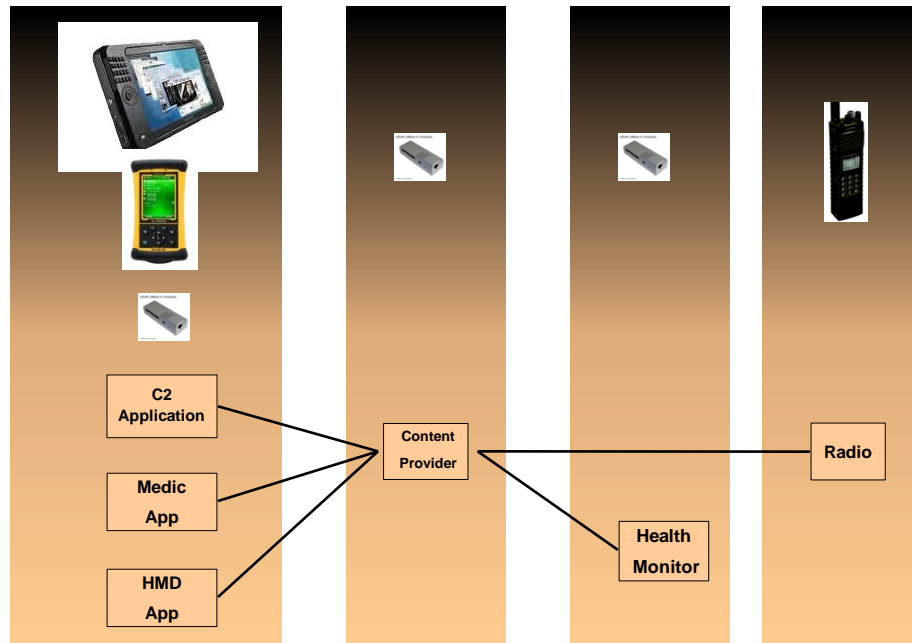
Activities

- **Develop a Soldier Information Exchange Application**
- **Develop a Web Based Map Application**
- **Develop a See-Through Head Mounted Display interface**
- **Develop supporting GPS and Network data services**
- **Integrate Software/Hardware into a prototype system providing basic SA information during mission execution**
- **Port code to PDA and embedded device**
- **Test performance on PDA and embedded device platform**
- **Analyze advantages/disadvantage of Soldier Information Exchange application over traditional information dissemination methods**

Highlight

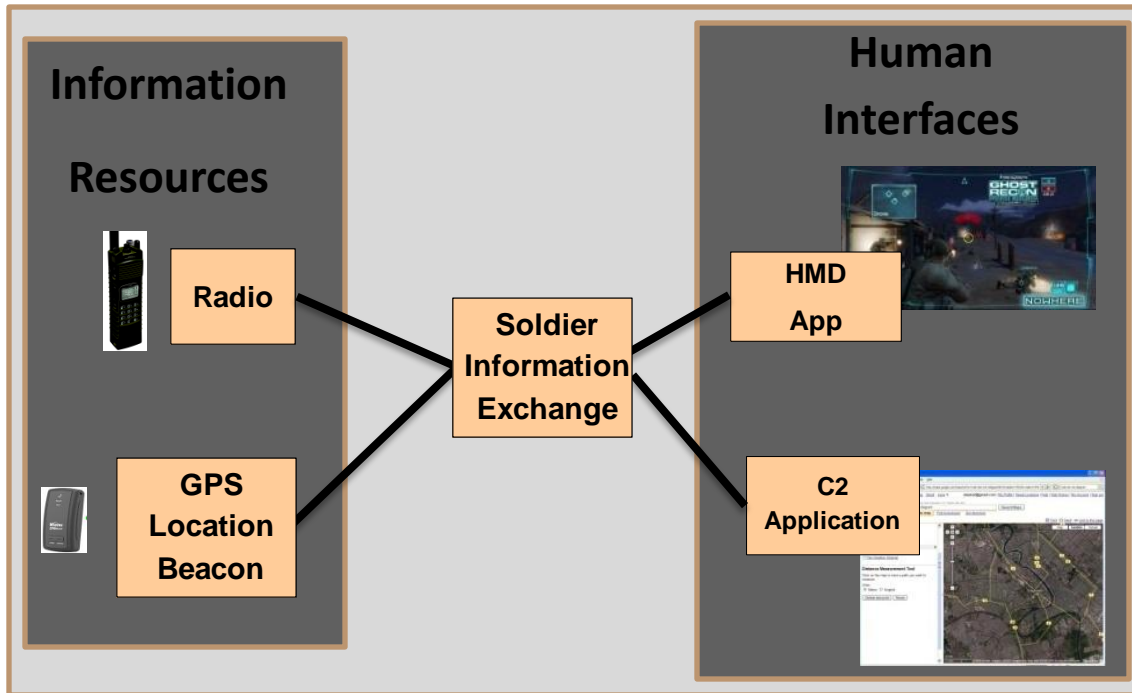


What computing infrastructure is necessary?



What Architectures are possible?

Demonstration



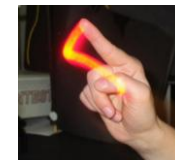
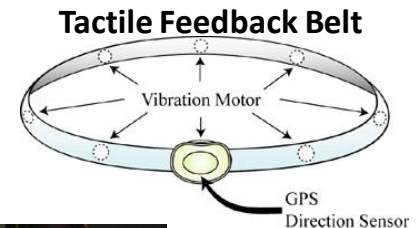
- See Through HUD
 - Friendlies
 - Targets
 - Waypoints
 - Heading



- **Soldier System Development Community**
 - **Validate whether sensors, devices, and applications can be integrated into Soldier Systems with reduced effort**
 - **Explore whether components can be patched, upgraded, and relocated with minimal to no impact to other system components**
 - **The Promise: Reduced development time and complexity driving system cost downward**
- **Operational community**
 - **Potential for increased system effectiveness**

Future Plans

- **Feedback to Soldier System Development Community on suggested approaches to Web Service Standards**
- **Integrate with on-going Investigations for Soldier Systems Communications**
- **Prototype system becomes foundation for follow on Soldier System Research**
 - Collaborative Sensors
 - Non Intrusive Human Machine Interfaces



Finger Tracking
Gesture Recognition