Parsimonious Information Technologies for Pixels, Perception, Wetware and Simulation: Issues for Petrasek's Global Virtual Hospital System

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ABSTRACT

New types of "engaging" embedded systems and devices will greatly assist future medical care, as for Petrasek's envisioned Global Virtual Hospital System. The most effective devices will need to be designed in a "parsimonious" way for their economic use of energy, digital bits, communication time, and in terms of trading more expensive physical structures for less expensive computational ones. At the technological level, each device needs a carefully selected "matched set" of technological tradeoffs between the particular medical and user ends and means. The matched set of choices would carefully make sure that the device "methods" and implementations lead reliably to the device "goals" and purposes.

In addition, however, there is a critical user-oriented aspect where the devices will also need to utilize highly "engaging environments" that are not too cumbersome or too tiring to use. People are becoming increasingly sophisticated with regard to the interactive requirements they have for their devices, from their experience with digital media, iPhones, video computer games and other types of environments that "engage" a person's attention for long periods of time, and without annoying delays and frustrations.

It is an absolute requirement that the devices incorporate highly engaging environments so that using them does not tire the user or cause unnecessary medical errors and delays.

This improved type of portable device, scanners, services and information methods would efficiently and more accurately gather sufficiently detailed medical information from the patient's body, help relay sufficient parts of the patient information electronically to a worldwide net of physicians and relay appropriate results and prescriptions back to the patient.

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