An Internet Based Telemedicine Platform with Cognitive Support

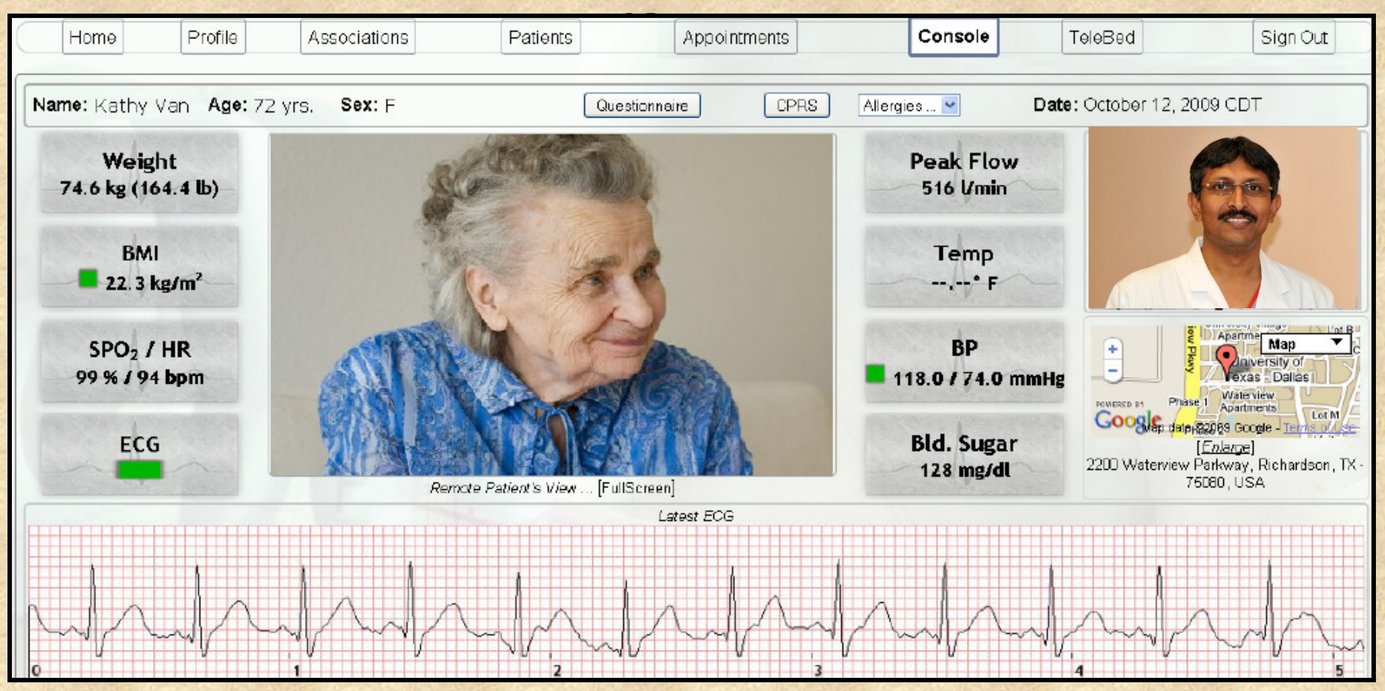
Savio Monteiro, Sriram Natarajan and Adnan Saeed

Advisors:
Subhash Banerjee[1], Gopal Gupta, Mehrdad Nourani and Lakshman Tamil
University of Texas at Dallas
Richardson, TX 75080
[1]Veteran Affairs Hospital, Dallas, TX & UT Southwestern Medical Center, Dallas, TX

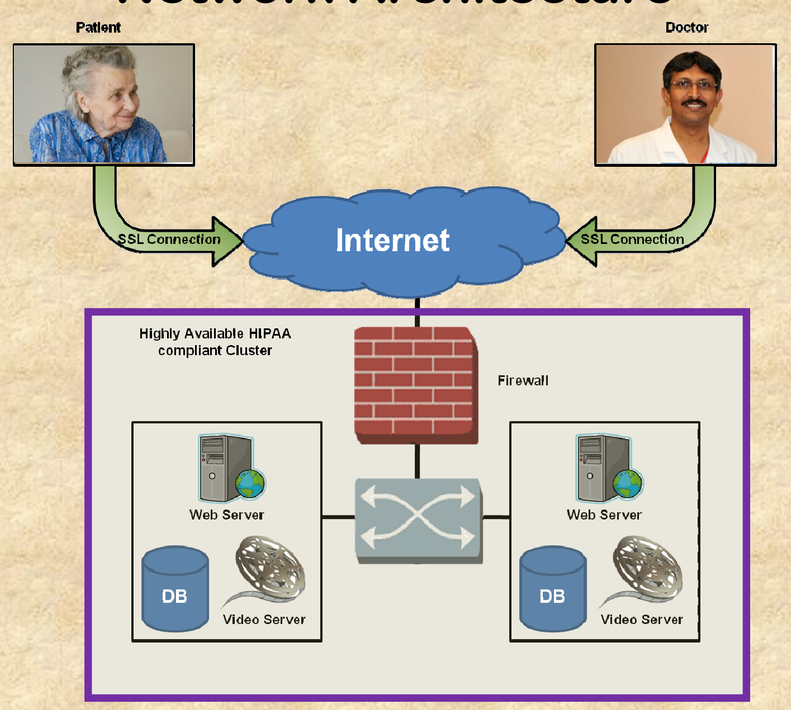
Abstract

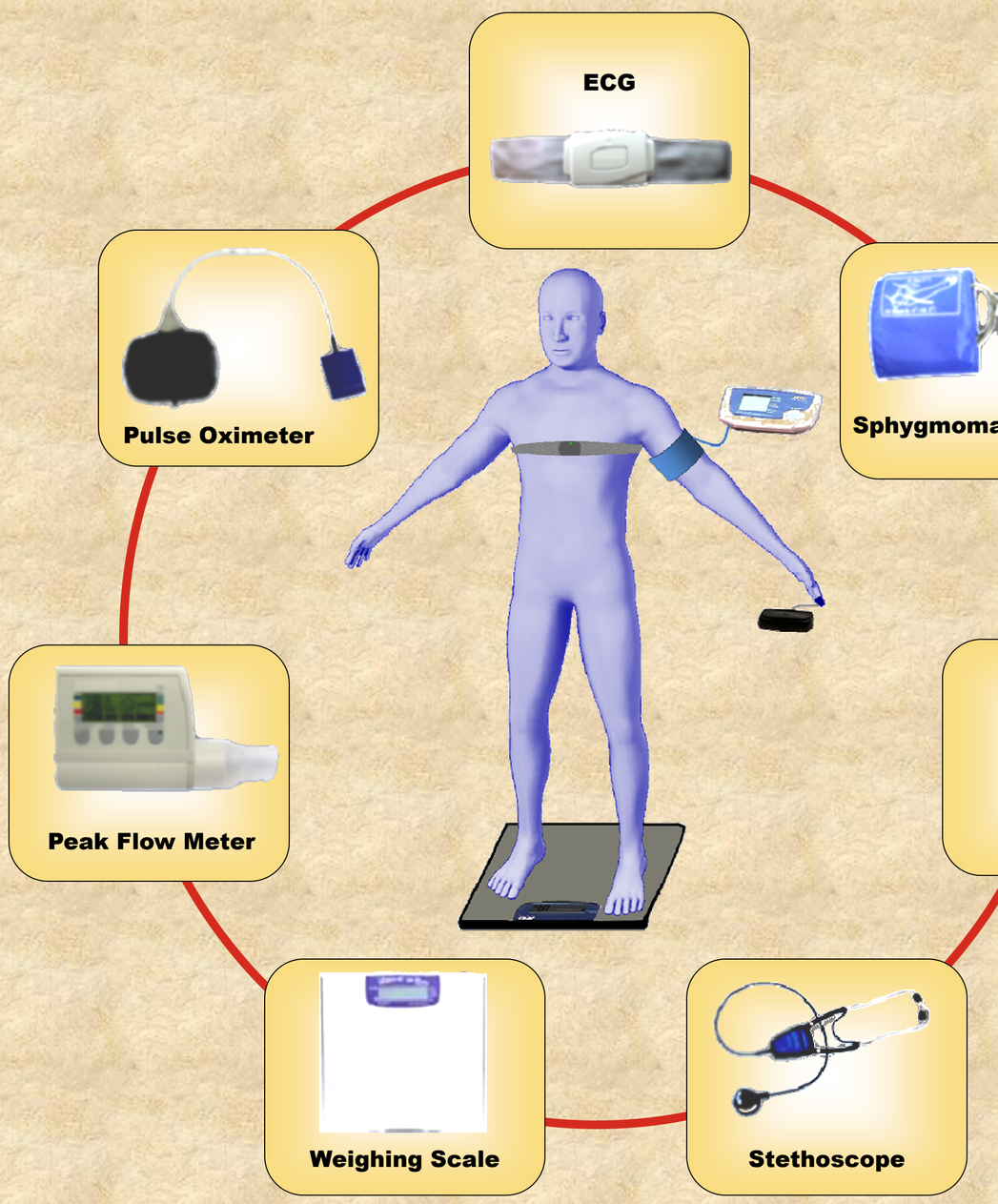
Providing accessibility to quality healthcare anywhere and anytime to all the citizens is one of the challenges of this millennium. Information Technology has prowess to face this challenge. We have developed an internet based telemedicine platform that has the capability to provide anywhere-anytime consultation and is scalable. This cost effective solution can be used to manage chronic health conditions and treat non-emergency health problems. This telemedicine platform in addition to providing remote vital signs monitoring, can also offer cognitive support to all the stakeholders involved in healthcare including the patient and his family.

Web Console



Network Architecture





BAN Network	• FDA Certified Body Sensors • Wireless Connectivity
Cognitive Support	•Risk profile, Endemic disease maps, Environmental maps •Data mining: Current evidence, Guidance •Disease model
Machine Learning	• Feature extraction from raw signals • Support Vector Machine (SVM) based learning algorithm for classification
Highly Available Cluster	• Highly Available Database and video server • Load balancing and redundant web server • HIPAA compliant system

UTD
UT DALLAS
The University of Texas at Dallas

Quality of Life Technology
LABORATORY