Utilizing Wireless Technology to Enhance Biometric Solutions

Eric Kukula, Graduate Researcher, Stephen J. Elliott, PhD, Assistant Professor
Chris Reffkin, Undergraduate Researcher, & Aaron Schenk, Undergraduate Researcher,
Biometrics Standards, Performance, & Assurance Laboratory
Department of Industrial Technology, College of Technology

The Problem
With the increasing need to control and account for access to secured areas as well as for admission verification to privileged events, biometrics have already proven themselves to be a respected solution. However, with respect to admission verification, biometric solutions currently are implemented in static fashions where the verification devices are in a fixed position. This requires either the purchase of more devices to implement systems in all possible areas, or impose more burden upon the end user by making them wait in longer lines. The merging of biometric and wireless technologies provides a cost-effective and streamlined solution to facilitate the admission, enrollment, and verification processes over distances where wired solutions may not be feasible.

The Proposal
The advancements in wireless technology have come to a point where implementing a secure stand-alone wireless network is extremely cost effective. Therefore by utilizing off the shelf wireless equipment, biometric devices have been connected wirelessly and securely to a central database while continuously changing their physical locations.

The Solution
Three industry standard hand readers, a wireless router, a wireless bridge and a server were used to create a secure, stand alone network to allow the hand readers to operate in varying locations as if they were in a fixed position via a WPA encrypted 802.11g wireless network.

Wireless Biometric Hand Reader Proof of Concept

For more information visit: http://www.biotown.purdue.edu