

Integrated Patient Bed Evaluation System with the University of Texas at Arlington

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Expanding on the application of the non-invasive digital illumination technology of DeepView™, Spectral MD and the University of Texas Southwestern Medical Center at Dallas in coordination with the University of Texas at Arlington have developed a unit that leverages the technology of DeepView but is integrated into the patient's hospital bed.

Using Spectral MD's digital illumination technology, Dr. Raul Fernandez of UT Arlington's Automation and Robotics Institute collaborated with Spectral MD to integrate the technology onto a standard hospital bed frame that would allow for movement of the imaging unit underneath the patient's mattress.

Bed sores represent a pervasive and costly problem in clinical settings; patients who develop bed sores on the backside of the body are most often immobile, making it hard for clinicians to examine under the patient in order to diagnose the problem properly. By using the integrated bed system, clinicians can examine underneath the patient for signs of bed sores, eliminating the difficulty of moving the patient for examination. Spectral MD's digital illumination imager is mounted to the bed frame and moves on an x and y axis underneath the patient. The device can be controlled electronically, eliminating the need for manual placement.

"The integrated patient bed frame imager is a solution that will add new meaning to point-of-care imaging devices, as it will not only deliver onsite functionality but also limit the need to move patients from their resting states," said Rohin Moza, Electrical Engineer for Spectral MD.

This collaboration sprang from other innovative collaborations between UT Southwestern and UT Arlington.

"The collaboration was established based on a precedent of a successful engagement between our engineering team and medical team at UT Southwestern. We first collaborated with Dr. Jose Melendez on a "smart bed" project that was larger in scope and involved the University of Texas at Dallas, UT Arlington and UT Southwestern. This project was an outgrowth of that initial engagement," stated Dr. Raul Fernandez.

The integrated bed system has been completely built and delivered as a proof of concept prototype. The evaluation phase will be the next step in the process towards commercial use.