

# Augmented reality



Hill-Rom

## Development of Augmented Reality App to demonstrate spatial sensor data in a hospital environment

Hill-Rom is a leading worldwide manufacturer and provider of hospital beds. Hill-Rom wanted to investigate novel visualisation methods for spatially-dependent hospital bed data. They were particularly interested in using augmented reality to view spatial pressure and moisture data from mattress sensors.

### Expertise

- Software engineers
- Mathematical algorithms
- User interface
- Data management
- Image processing
- VR and AR

### Domain expertise

- Understanding of hospital environment
- Operator needs
- Medical grade software development
- Commercial insight and understanding



Hillrom™



### **Our client asked:**

Hill-Rom asked Sagentia Innovation to develop an augmented reality app to help them to demonstrate how spatial sensor data from hospital bed mattresses could be used for quickly and easily monitoring patients. Their aim was to demonstrate how novel visualisation techniques can be used to make sense of complex data sets in a clinical environment.

### **The project story:**

Sagentia Innovation developed an augmented reality application to run on an iPad that demonstrated how this technology could work. By presenting the information in an app, it would enable nurses to quickly and easily check patients for signs of medical issues such as pressure sores.

We used image processing to detect specific bed images, overcoming the technical challenges of superimposing 2D contour map data on a three-dimensional patient and of maintaining the link between that 2D map and the patient regardless of the viewing perspective.

We also designed an interface to view the Braden Scale for bed sore risk and used the Unity-generate 3D model to display pressure data on a patient model.

### **Results: deliverables and outcomes**

Hill-Rom is now taking the app to Voice of the Customer trials with healthcare professionals.

### **Contact us**

[info@sagentiainnovation.com](mailto:info@sagentiainnovation.com)

+44 1223 875200

[www.sagentiainnovation.com](http://www.sagentiainnovation.com)

**“The Sagentia Innovation team was adept at understanding our technical needs and use cases. Their project management was sincerely the best that I have ever experienced, which enabled their technical skills to shine in a final product that has exceeded our expectations with customers.”**

**Eric Agdeppa, Executive Director Innovation**