**RESPSENSE** @RSRC at DkIT

**Dundalk Institute of Technology’s Regulated Software Research Centre, RSRC, has developed a prototype technology platform and product for applications in respiratory rate detection and analysis in patients.**

**Background:**

* RR is considered to be the first and most significant vital sign that can detect the **deteriorating patient**.
* New patient monitoring solutions and **Early Warning Score** Calculations require accurate and automatic RR detection.
* Trends in RR can provide very important diagnostic and prognostic information which is currently unavailable.

The outcome of this research programme was:

* The development a Prototype Respiratory Rate Device (photo 1) using an acoustic sensor, including the hardware and embedded software platforms for the sampling of respiratory sounds with a low power wireless interface
* The development of a Software application (Photo 2) to provide analysis

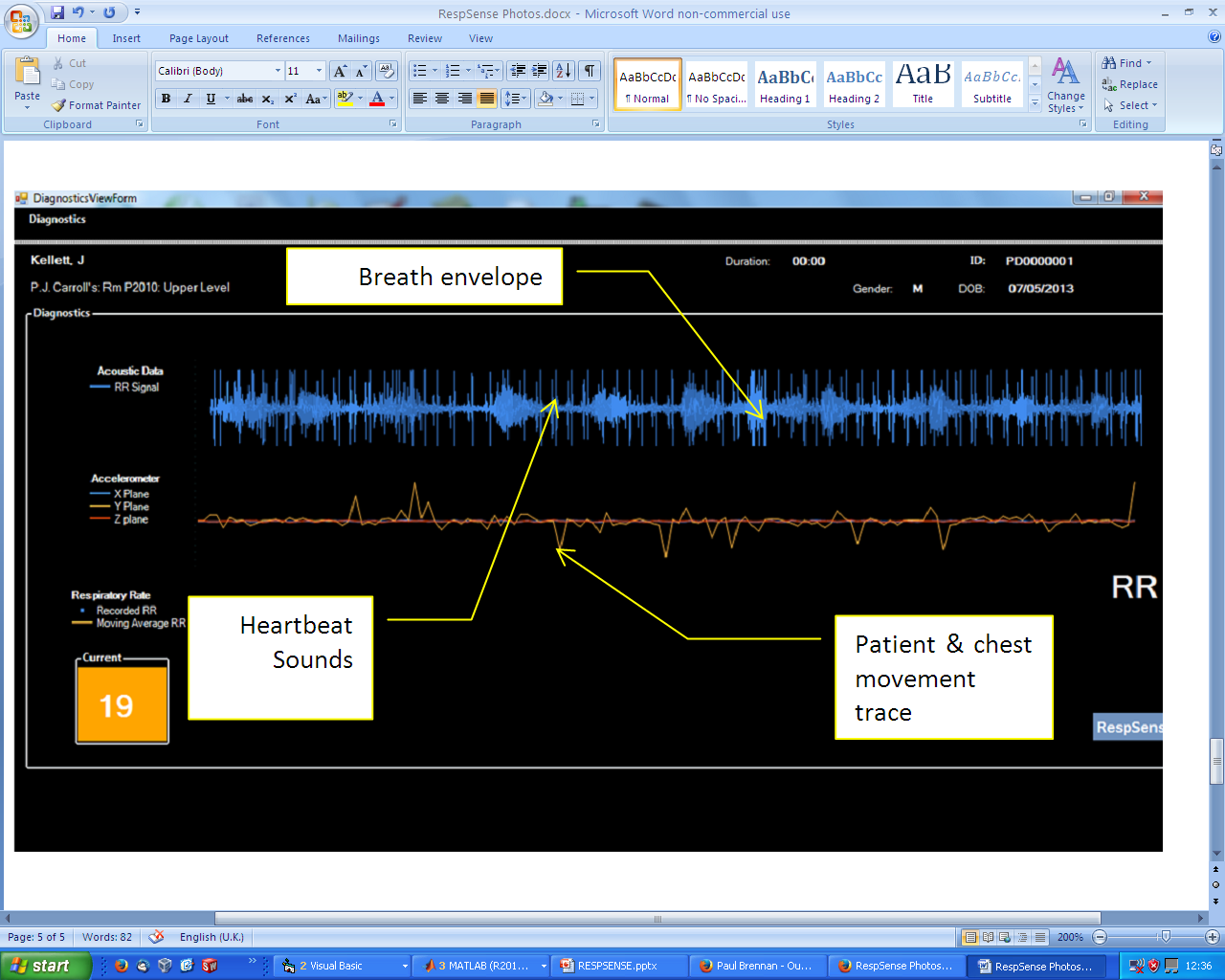
 

Photo 1. Prototype Acoustic Sensor Photo 2. Prototype Signal Display/Analysis

positioned in sternal notch.

**The opportunity :**

Key further development work is required in the following areas;

* Further mechanical design of the Patient Unit & Sensor Unit enclosures Design of disposable membrane for Sensor Unit to enhance acoustic transmission and provide an infection control solution.
* Improve robustness and accuracy of RR detection algorithm.

DkIT would licence the prototype technology platform and device to a company who could then apply for Applied Research support for these further developments.

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