The Neonur: A Mobile System To Monitor Neonatal Nursing Characteristics

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Motivation and Objectives

Births: 2009 U.S.

12% of neonates: At-risk or premature

Evolution of monitoring devices

1963
Kron, Stein & Goddard Monitoring System

1980’s
Litt & Kron Infant Monitoring System

2008
The Neonur: A Mobile Monitoring System

Objectives

- Device firmware and PC App
- Communication interface
- Breathing sensor
Methodology

Neonur Development Cycle

1. Regular nutrient bottle
2. Breathing sensor added
3. Neonur core added
Results

Software

- Easy to use
- Fault tolerant

Device Firmware

- USB Handling
- Fault tolerant

Data Transfer

- Safe
- Fast

Hardware

Power Consumption

Max: 111 mW
Min: 75 mW

Breathing Sensor

- Self-powered pyroelectric sensor

Duo-Channel Sampling
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