



The Neonur:
A Mobile System
To Monitor
Neonatal Nursing
Characteristics

Author:

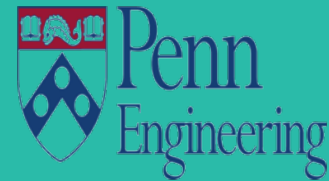
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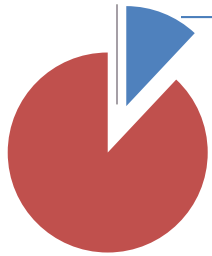
Sponsors:

- SUNFEST
- NSF



Motivation and Objectives

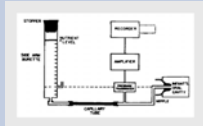
Births: 2009 U.S.



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

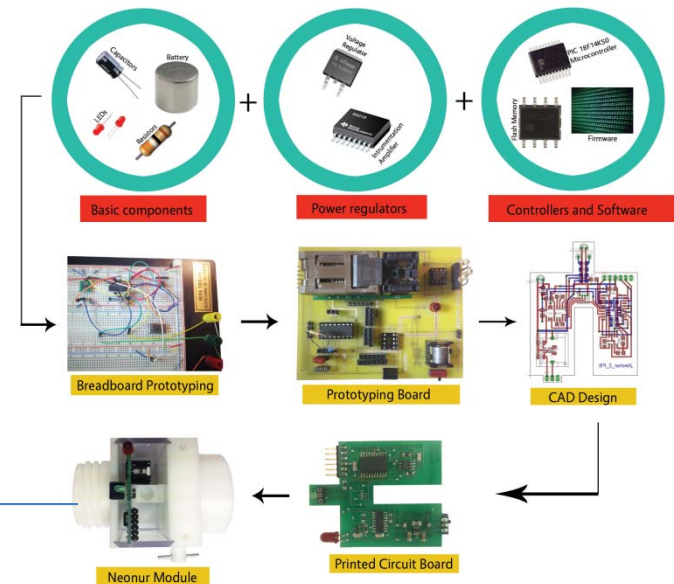
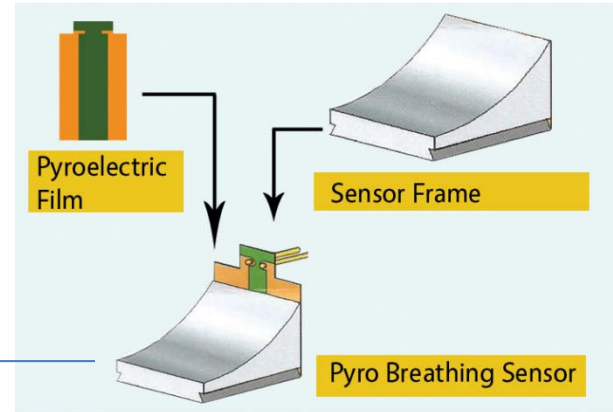
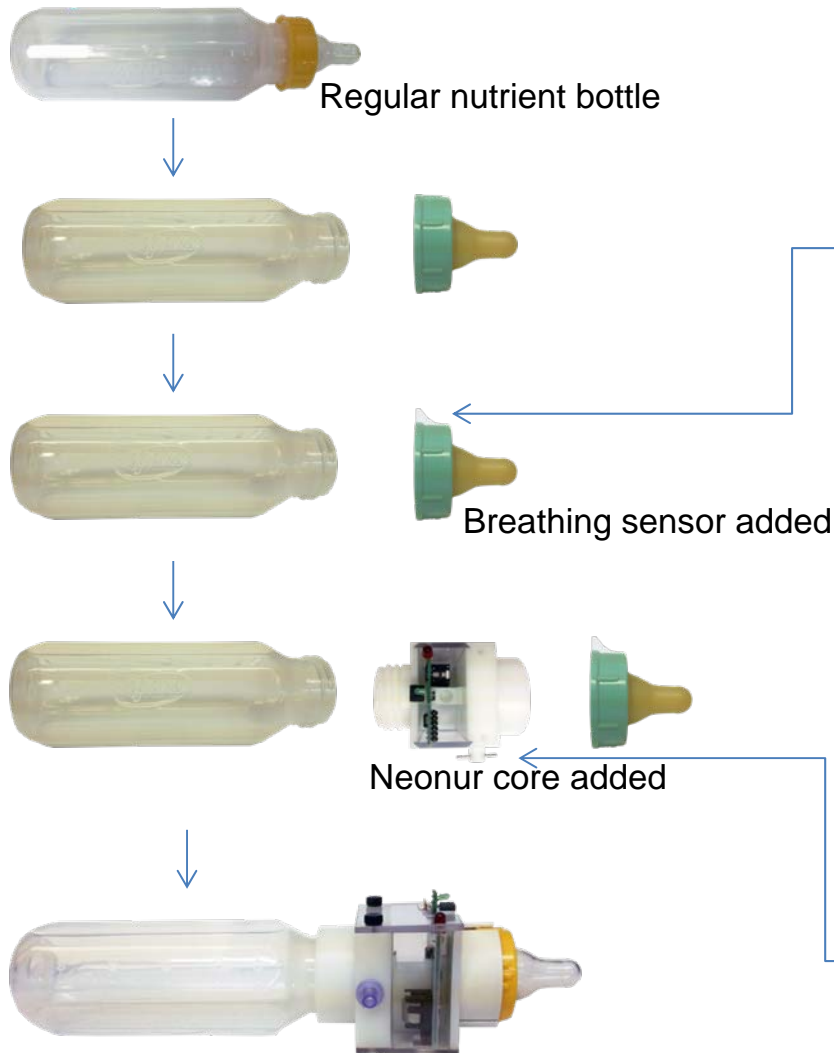
Device firmware and PC App

Communication interface

Breathing sensor

Methodology

Neonur Development Cycle



Results

Software

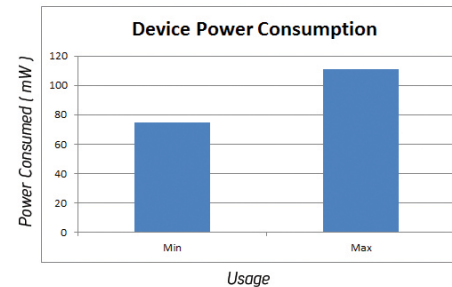
- PC Application
- Easy to use
 - Fault tolerant

- 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


Acknowledgements



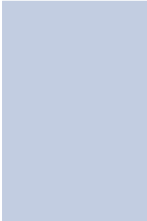
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Linda Kalb and Josh
Taton



National Science
Foundation (NSF)