Trach Alert

Code Flow – Scenarios

June 10th, 2023

**Scenario 1 – No Breathing**

* ***Thermistor and Microphone Working:*** Zero BPM Readings for 10 consecutive seconds **(Alert User)**
* ***Thermistor Working, Microphone isn’t:*** Zero BPM Readings for 10 consecutive seconds **(Alert User)**
* ***Thermistor isn’t Working, Microphone is:*** Zero BPM Readings for 10 consecutive seconds **(Alert User)**
* ***Thermistor and Microphone not Working:*** Zero BPM Readings for 10 consecutive seconds **(Alert User)**

**Scenario 2 – Normal Breathing**

* ***Thermistor and Microphone Working:*** Normal Overall BPM Readings.
* ***Thermistor Working, Microphone isn’t:*** Normal Thermistor BPM Readings, Zero Microphone BPM Readings **(Show Thermistor Readings) -- In Progress**
* ***Thermistor isn’t Working, Microphone is:*** Zero Thermistor BPM Readings, Normal Microphone BPM Readings. **(Show Microphone Readings) – In Progress**
* ***Thermistor and Microphone not Working:*** Zero BPM Readings for 10 consecutive seconds (Device Malfunction) **(Alert User)**

Alert Specific Sensor Malfunction.

**Scenario 3 – Abnormal Breathing**

* ***Thermistor and Microphone Working:*** Checks if there are 10 consecutive seconds of abnormal readings from both sensors, then alerts user. **(Alert User)**
* ***Thermistor Working, Microphone isn’t:*** If Microphone readings are zero for 10 consecutive seconds, check only Abnormal Thermistor readings, then alert user. **(Alert User)**
* ***Thermistor isn’t Working, Microphone is:*** If Thermistor readings are zero for 10 consecutive seconds, check only Abnormal Microphone readings, then alert user. **(Alert User)**
* ***Thermistor and Microphone not Working:*** If both readings are zero for 10 consecutive seconds, alert user (Device Malfunction) **(Alert User)**

**Scenario 4 – Device Dislodgement**

* ***Thermistor and Microphone Working:*** Checks if there are 12 Consecutive Seconds of Decreasing Thermistor Readings (negative slope) indicate dislodgement, then alerts user. **(Alert User)**
* ***Thermistor Working, Microphone isn’t***: Checks if there are 12 Consecutive Seconds of Decreasing Thermistor Readings (negative slope) indicate dislodgement, then alerts user. **(Alert User)**
* ***Thermistor isn’t Working, Microphone is:*** Checks if there are 10 consecutive seconds of zero thermistor readings, and if there is an abnormal Microphone BPM Reading (below 10 or greater than 60), then alerts user. **(Alert User) ????????????**
* ***Thermistor and Microphone not Working:*** Zero BPM Readings for 10 consecutive seconds. **(Alert User)**

Below than 10, and above 60.