Use Case S1: Detailed Description

Use Case Name: Monitor Temperature Data
Scenario: N/A
Brief Description: With the System running, the System monitors the temperature data by periodically requesting raw temperature information from the 1-wire temperature sensor.
Actors: System
Related Use Cases:
Use Case A1: *The Administrator shall set the Measurement Rate for all active hardware sensors*
Use Case S6: *The System Shall Save Temperature data*
Use Case S7: *The System Shall Save Temperature Extremes*
Use Case S9: *The System Shall Monitor and Save Temperature Extremes*
Stakeholders: Local and National Weather Bureaus, User other systems and individuals monitoring local weather data.
Preconditions: The System is running, the Measurement rate is set, the network is set and working the thermometer hardware is connected to the network.
Postconditions: The Raw Temperature data is received from the thermometer hardware, the raw data is converted into actual temperature data. The temperature is converted into the appropriate units (Celsius, Fahrenheit, Kelvin).

Flow of Events

System	**One Wire Temperature Sensor**
1. Periodically request raw temperature data from the One Wire Temperature Sensor	
	2. Returns the raw temperature data
3. Converts the raw sensor data into the appropriate scales: Celsius, Fahrenheit, Kelvin	

Exception Conditions
2. If the One Wire Temperature Sensor returns an error, then the system shall handle the error and report a default temperature (-999.9°).
2. If the One Wire Temperature sensor stops working (drops out), the the system shall report an error and display a default temperature value (-999.9°).
2. If the One Wire network breaks, then the system shall report an error and display default temperature value (-999.9°).