Use Case S3: Detailed Description

Use Case Name: Monitor Barametric Pressure Data
Scenario: Record Daily Pressure Extremes
Brief Description: With the System running, the System records the barometric pressure extreme data–the minimum and maximum barometric pressure–from the 1-wire temprature sensor.
Actors: System
Related Use Cases:
Use Case S11: *The System Shall Save Barometric Pressure Extremes*
Stakeholders: Local and National Weather Bureaus and individuals monitoring local weather data.
Preconditions: The System is running, the barometric pressure data is received from the barometric hardware. The extreme barometric pressure data values are initialized: -999.9 for max, 999.9 for min.
Postconditions: The extreme barometric pressure data (minumum and maximum) are noted and coverted to three units (mm Hg, in. Hg, kPa).

Flow of Events

System	One Wire Temperature Sensor
	1. Return requested barometric pressure data measured
2. Records the date/time of the current barometric pressure measurement.	
3. Compare the current barometric pressure against both the minimum and maximum.	
4. Record the current barometric pressure as an extreme if it is less than or equal to the minimum or greater than or equal to the maximum.	
5. Record the date and time for *event 4*	

Exception Conditions
1a. If the One Wire Barometric Pressure sensor stops working, then the System changes neither the minimum nor maximum values.
1b. If the One Wire Barometric Pressure sensor returns an error, then the System changes neither the minumum nore maximum values.
1c. If the One Wire Network breaks, then the System changes neither the minumum nor maximum values.
3a-5a. If the data has changed from the previous messurement (must be compared), the barmetric pressure extremum are reset to the default values and compared for the new date.