**Use Case I5S2: Detailed Description**

Use Case Name: Manage Calculated Weather Data
Scenario: S2: Manage Dewpoint Data
Brief Description: With the System Running, the User requests the Dewpoint Data from the System. The System calculates the Dewpoint from the temperature and humidity mission data, returning it to the User.
Actors: User
Related Use Cases: *Use Case I4: The User shall manage mission data*

Stakeholders: Users who want to manage the current Dewpoint Data.

Preconditions: The System is running, the iButton is connected to the receptor or another reading device. The iButton receptor or other reading device is connected to the computer.

Postconditions: The Dewpoint is calculated and returned to the User. The User can chose how to archive the data or evaluated the data imediately.

**Flow of Events**

| User | System |
|---|---|
| 1. Requests Dewpoint data | |
| 2. Requests the Units for displaying the Dewpoint data (Celsius, Fahrenheit Kelvin) | |
| | 3. Retrieves the temperature data (See **Use Case I4**), Retrieves the humidity data (See **Use Case I4**) |
| | 4. Applies the appropriate Dewpoint Calculation |
| | 5. Converts the data to the appropriate units as requested by the User. |

**Exception Conditions**
3a. If either the temperature or humidity data or both could not be retrieved for the heat index calculation, then the system indicates the error by setting the Dewpiont to a defualt value (NaN) as well as a possible reason for the error (One Wire Network or One Wire Device issues).

3b. If the mission record time for either the temperature or humidity data are not the same, then the system indicates the error by setting the Dewpoint to a default value (NaN).

4a. If the relative humidity is too low for an accurate Dewpoint calculation (humidity $< 0\%$), then the system indicates the issue by setting the Dewpoint to a default value (NaN).