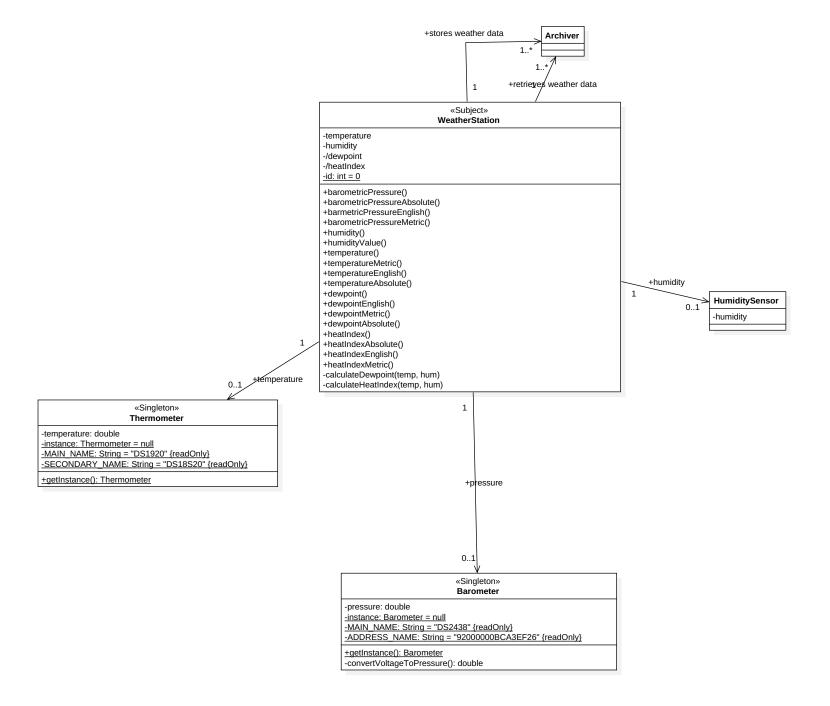
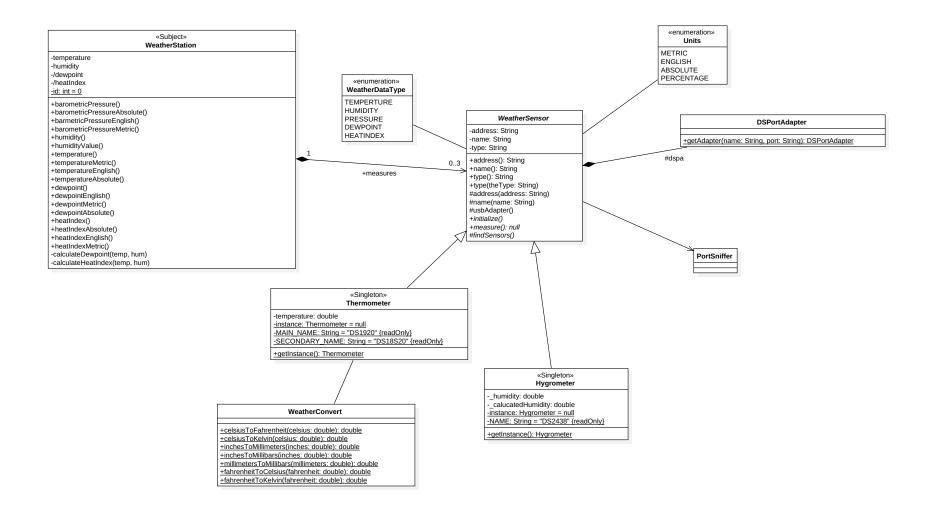
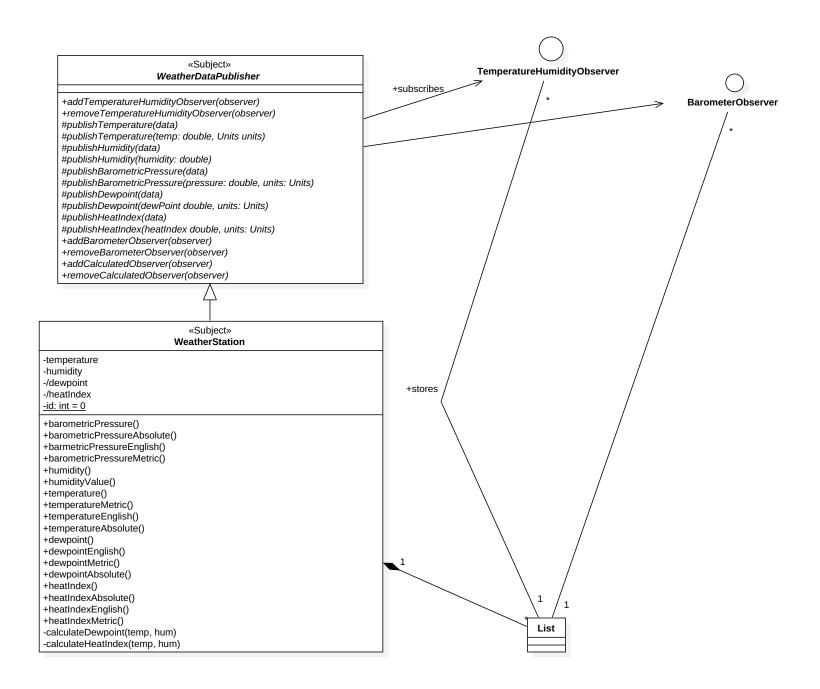


 $\underline{Model::WeatherStation::UseCase1::UseCase1::UseCase1S4SystemSequenceDiagram}$ interaction UseCase1S4SystemSequenceDiagram system: System user: User 1 : dewpoint = measureDewpoint(units:Units) 3 : temp = temperature 27 : humidity = getHumidity 28 : dewpoint = calculateDewpoint(temp, humidity, units) 5 : dewpoint = convert(dewpoint, units) 7: dewpoint 31 : Cannot Measure Temperature «exception» 32 : Cannot Measure Humidity «exception»

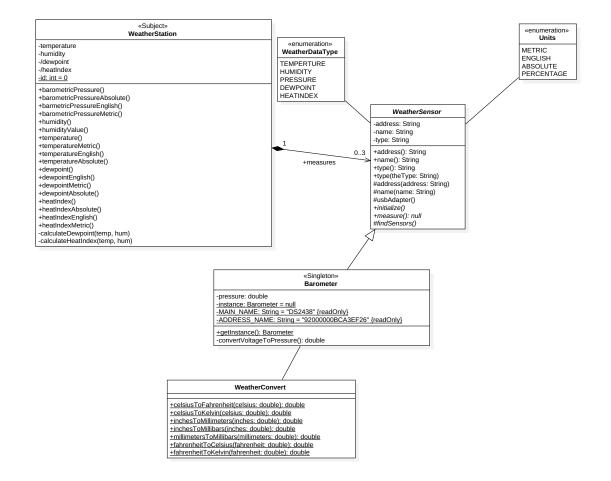




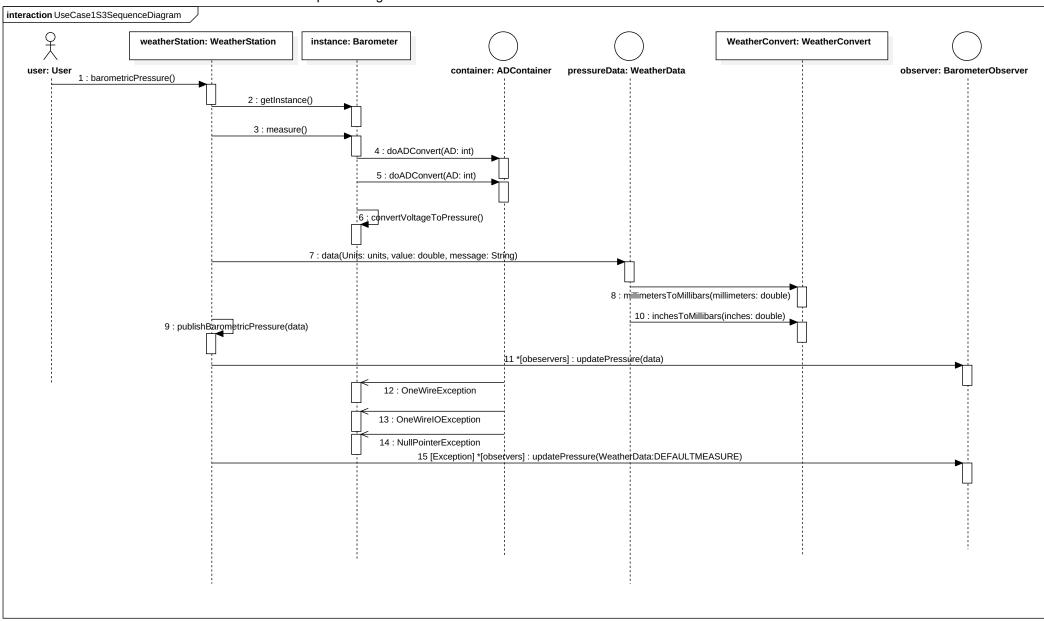
Model::Collaboration1::Interaction1::UseCase1S1SequenceDiagramMetric interaction UseCase1S1SequenceDiagramMetric weatherStation: WeatherStation convert: WeatherConvert thermometer: Thermometer tempContainer: TemperatureContainer tempData: WeatherData user: User observers: TemperatureHumidityObserver 1 : temperatureMetric() 2 : getInstance() 3 : measure() this can be done with temperatureEnglish() and temperatureAbsolute() 4 : getTemperature() 5 : data(Units: units, value: double, message: String) : celsiusToFahrenheit(celsius: double) could be English temperature or absolute temperature 7 : celsiusToKelvin(celsius: double) 8 : metricData() 9 : publishTemperature(temp: double, Units units) 10 *[observers] : updateTemperatureMetric(temperature; double) 11 : One Wire Exception 12 : One Wire IO Exception 14 *[observers] : updateTemperatureMetric(WeatherData:DEFAULTTEMPERATURE)

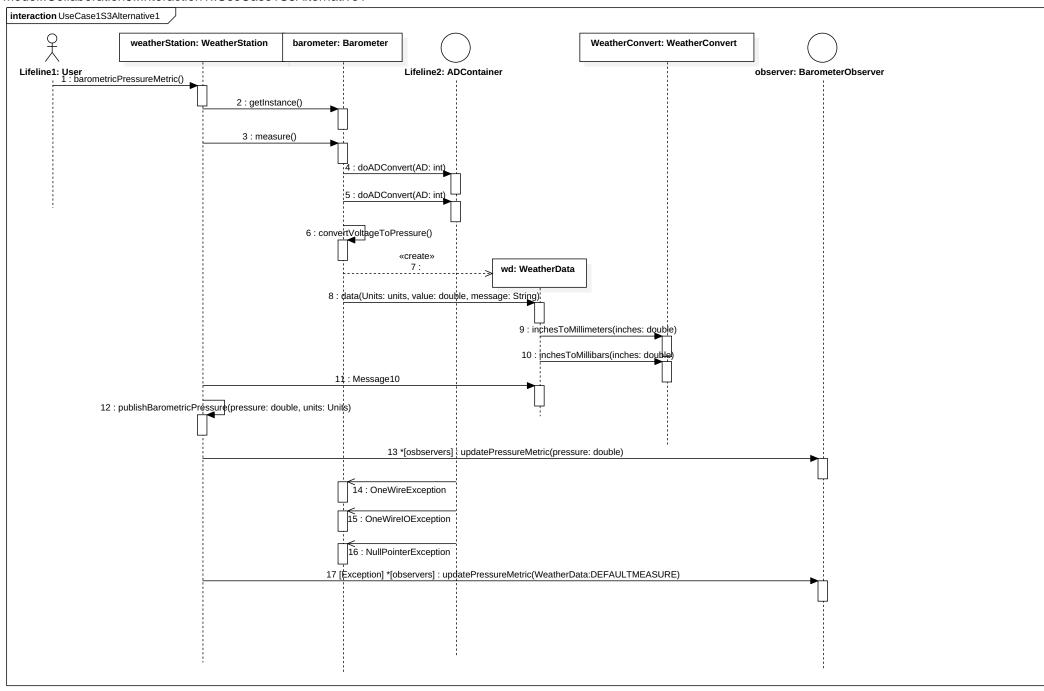


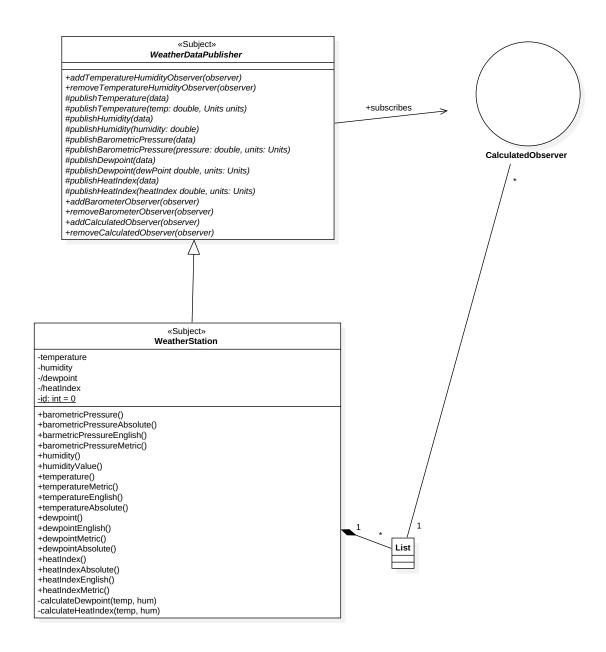
Model::Collaboration2::Interaction1::UseCase1S2SequenceDiagram interaction UseCase1S2SequenceDiagram weatherStation: WeatherStation hygrometer: Hygrometer Lifeline1: User humiditySensor: HumidityContainer observer: TemperatureHumidityObserver 1 : humidityValue() 2 : getInstance() 3 : measure() 4 : getHumdity() weatherData 6 : Message5 7 : Message6 8 : publishHumidity(humidity: double) 9 *[observers] : updateHumidity(humidity: double) 10 : OneWireIOException 11 : OneWireException 12 : NullPointerException 13 *[observers] : updateHumidity(WeatherData:DEFUALTHUMIDITY)

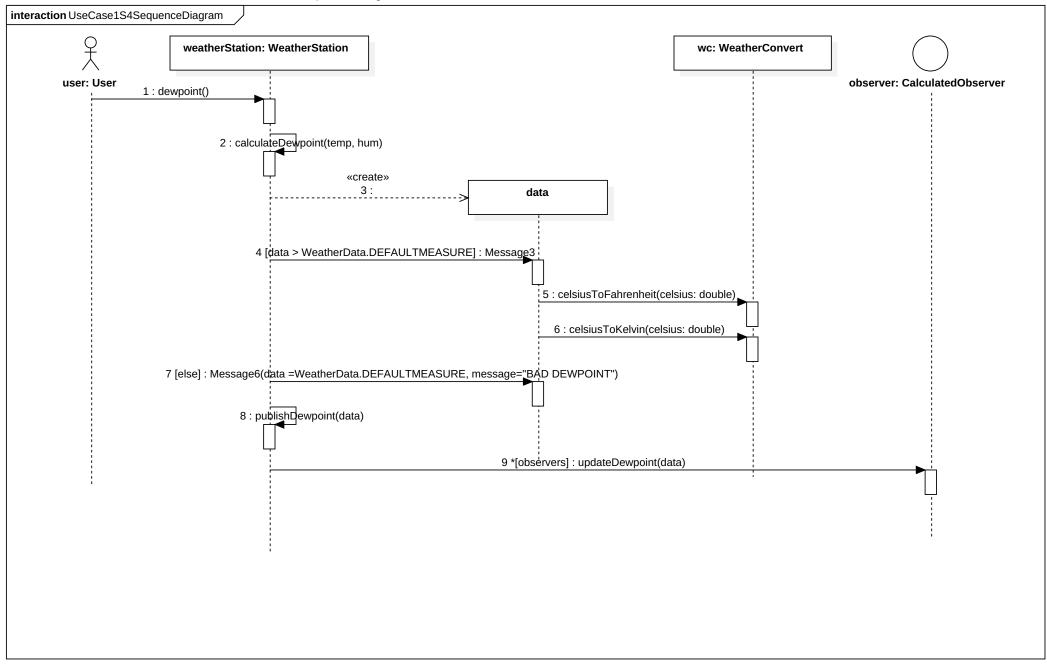


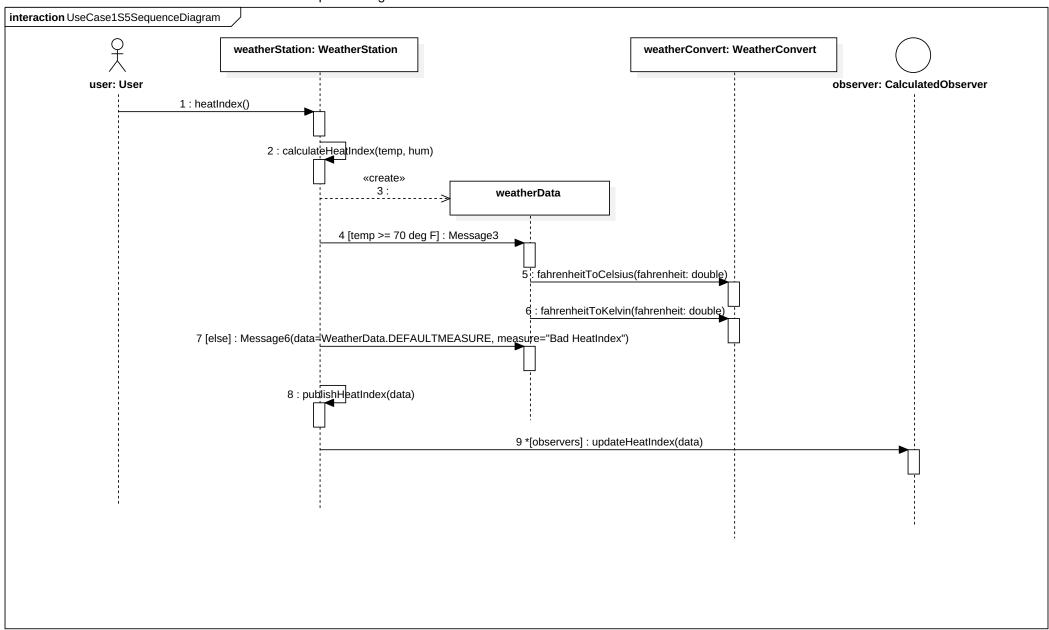
Model::Collaboration3::Interaction1::UseCase1S3SequenceDiagram

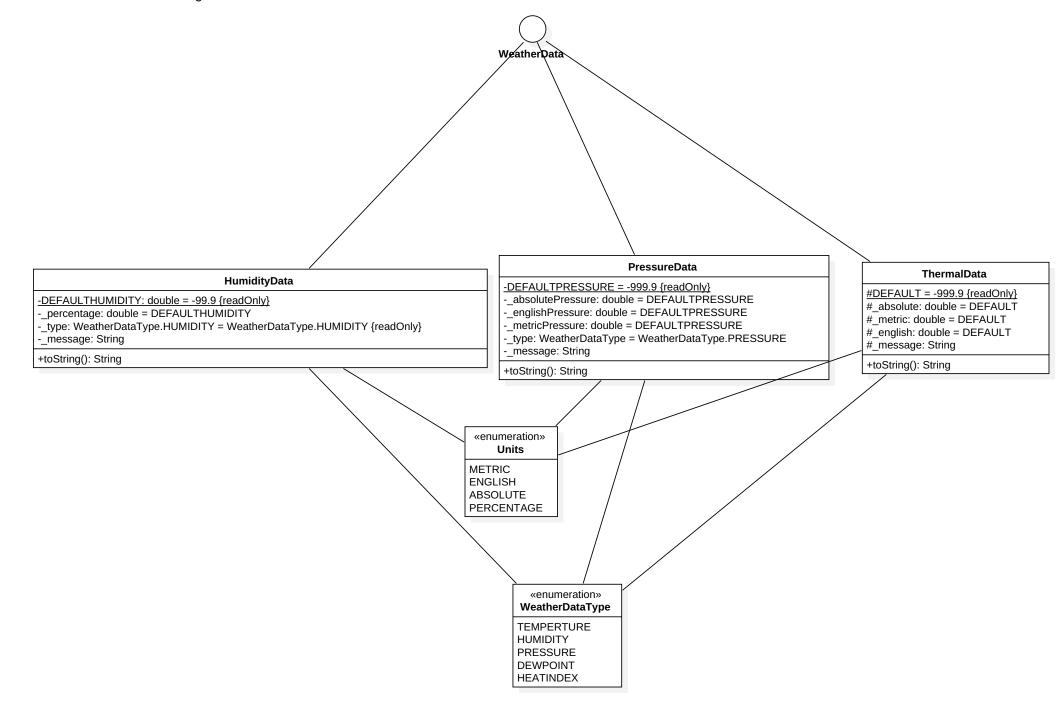


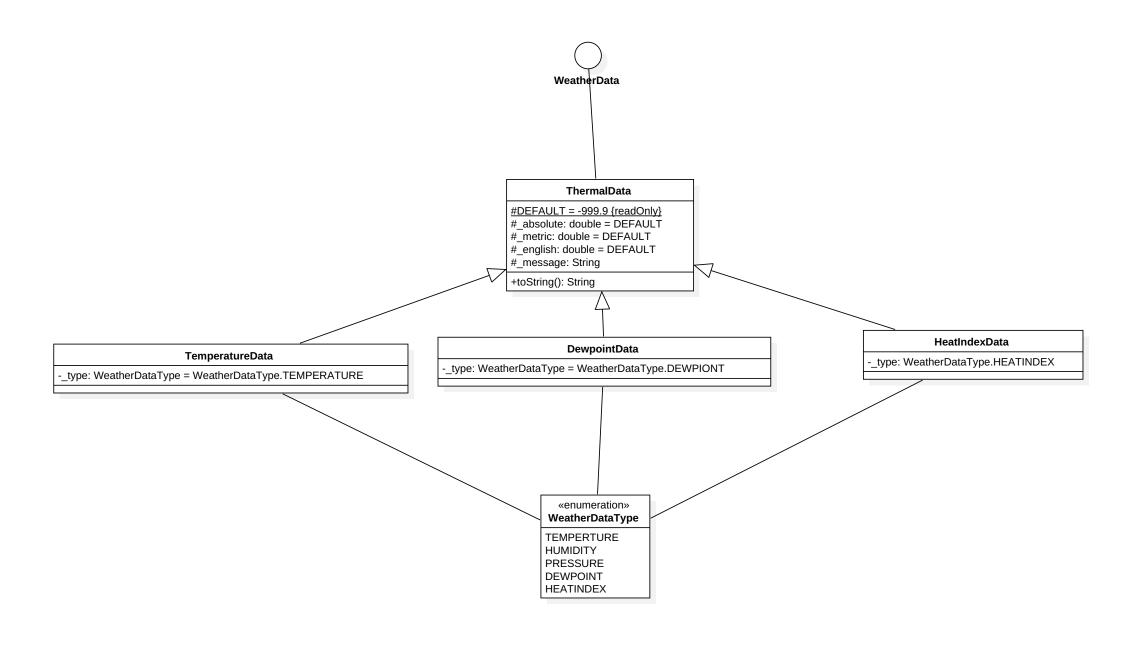












Model:: Collaboration 8:: Interaction 1:: Use Case S2 System Sequence Diagraminteraction UseCaseS2SystemSequenceDiagram System ArchivingSystem seq Itteration For all Weather Data 1 : WeatherData 2 : Type 3 : Time Stamp 4 : Archive Weather Data 5 : Archive Not Available «exception» 6 : Store data by default in alternative format «exception» 7: Archiving not set up 8 : Create Archiving System 9 : Save Data as Requested 10 : Data not saved «exception» 11 : Attempt to Save again 12 : Store data by default in alternative format

Collaboration1::Interaction1::UseCase1S2SequenceDiagramAlternative interaction UseCase1S2SequenceDiagramAlternative weatherStation: WeatherStation hygrometer: Hygrometer Lifeline1: User humidityContainer: HumidityContainer humidityData: WeatherData observer: TemperatureHumidityObserver 1 : humidity() 2 : getInstance() 3: measure() 4 : getHumdity() 5 : data(Units: units, value: double, message: String) 6 : publishHumidity(data) 7 *[observers] : updateHumidity(data) 8 : OneWireException 9: OneWireIOException <u>k</u>-----10 : NullPointerException 11 *[observers]: updateHumidity(data:WeatherData._percentage = WeatherData.DEFAULTHUMIDITY)