Functional Requirements for Weather Station:

* The system shall measure weather parameters such as the wind speed and direction, the ground and air temperatures, the barometric pressure, and the rainfall over a 24-hour period.
* The instruments which take the readings are controlled by the software system which periodically takes readings and manages the data collected from the instruments.
* The system monitor the instruments, power, and communication hardware and report faults to the management system.
* The system manage the power, ensuring that batteries are charged whenever the environmental conditions permit but also that generators are shut down in potentially damaging weather conditions, such as high wind.
* The system allows for dynamic reconfiguration where parts of the software are replaced with new versions and where backup instruments are switched into the system in the event of system failure.