1 Environment Monitoring and Control Unit

EMCU tries to monitor and control various aspects that affects the seed growth. Inorder to accomplish that, EMCU needs to *interface* various *actuators* and *sensors*. As a matter of fact, the sheer amount of *actuators* and *sensors* required to achieve this exceeds the total number of GPIOs[1] ESP32 has. In order to *synchronize* all of the *subsystems*, ESP32 needs an *external subsystem* to control all the other *subsystems*, an AUXILIARY SYSTEM as we will be calling this *external system*, in this entire document.

Apart from the AUXILIARY SYSTEM, the EMCU consists of 5 other main *hardware subsystems*.
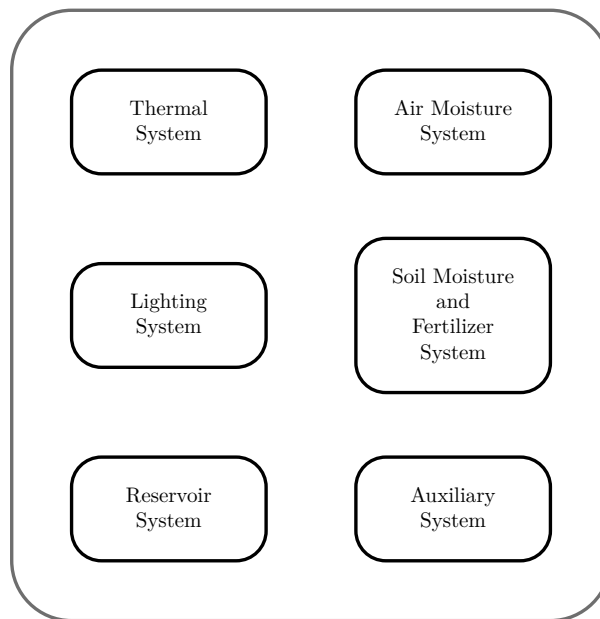

Figure 1: Hardware Subsystems of Incubator.

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[1]General Purpose Input Output pins.