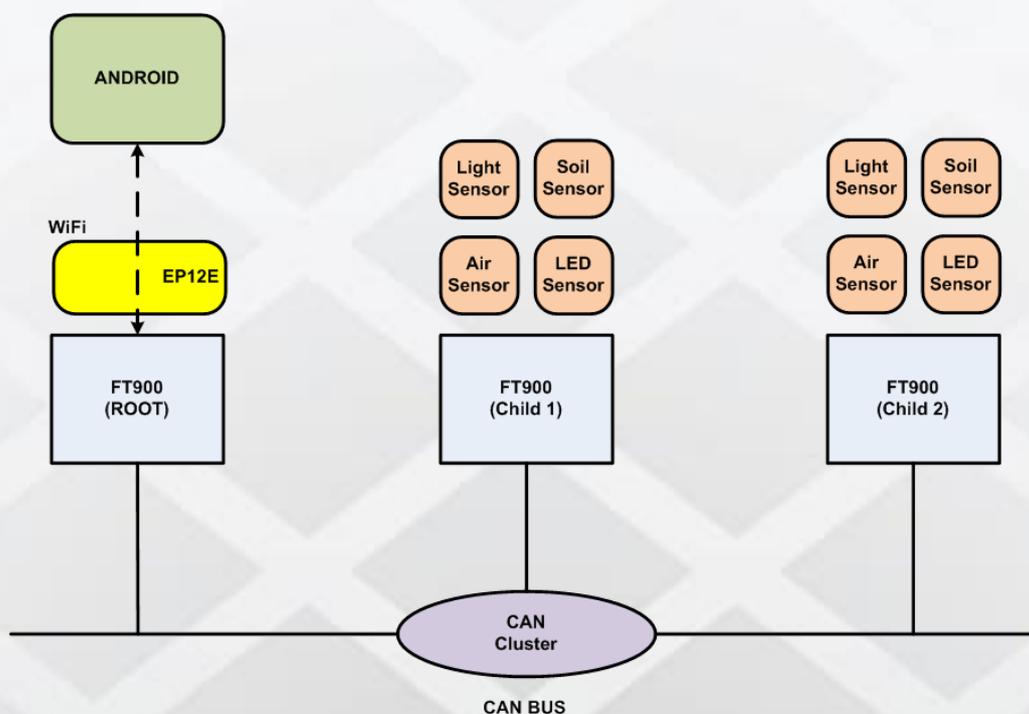## FT900 CAN BUS Application - (EZGarden)

The project aims to demonstrate the benefits of using the FT900 CAN Bus peripheral. CAN BUS is a light-weight error detectable network protocol with long distance (theoretically 1KM)/broadcast data transmission capabilities. With these properties, CAN BUS is an excellent protocol to be used in agricultural/horticultural industry which usually requires larger land for growing plants. The project has soil moisture, temperature, humidity, and light sensors to collect environmental data from different locations and has controllable RGB LEDs to extend the photosynthesis period. Three sets of FT900 are used and are physically connected via a CAN BUS cluster. The entire system is constructed as per the following diagram.

Figure 1: System Block Diagram

The root node collects sensors data from child node 1 and 2 and then transmits the data to an Android application via a WIFI module. The Android application monitors all connected sensors status at the same time and collects data to generate a real-time 2D plot. A LED control panel is used to demonstrate that the data can be transmitted bi-directionally rather than solely collecting data between the Android and end-devices.
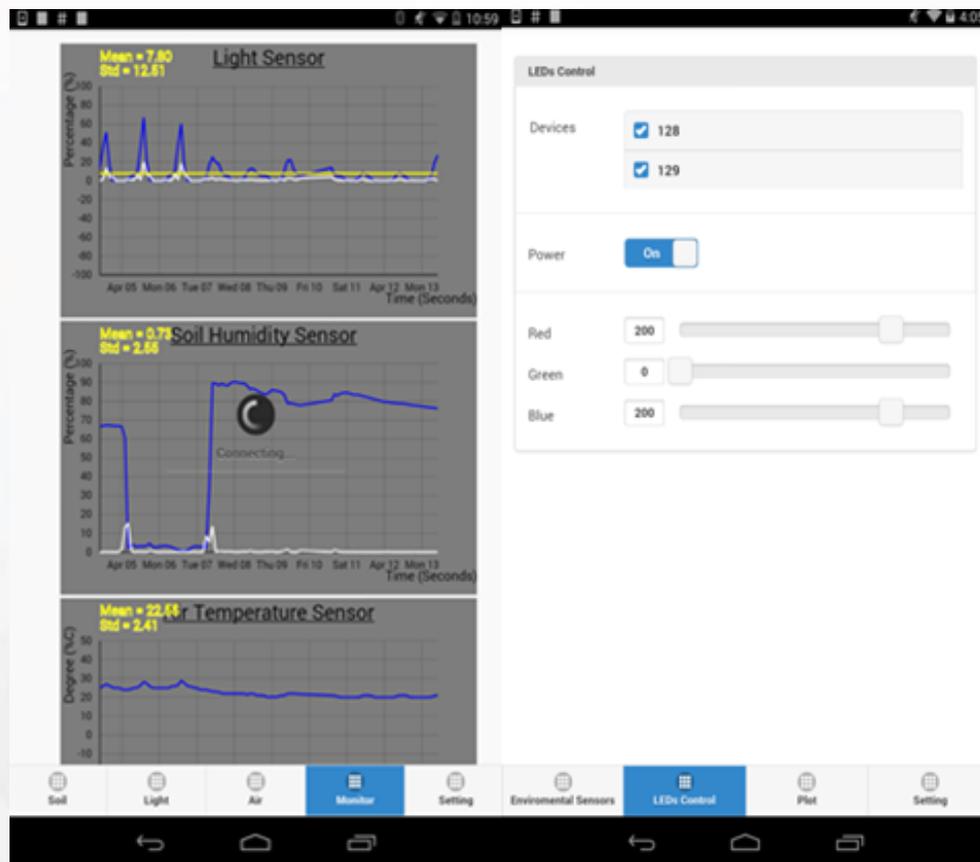
Figure 2: Android Application displaying data captured and transmitted from an FT900

The FT900

The FT900 is one of a series of 32 bit RISC core SuperBridge MCUs from FTDI. This series of devices are aimed at offering fast IO bridges such as Ethernet, Camera, USB and CAN Bus in addition to more traditional interfaces such as UART, SPI, or I^{2}C. The device core runs at 100MHz with 0 wait states and offers highly deterministic data transfer. FTDI provides open-source GCC compiler, debugger and library plugins integrated with the Eclipse IDE. Further information specific to the series may be found at: www.ftdichip.com/FT90x

Future Technology Devices International Ltd. (FTDI Chip)

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