**Bluetooth Controlled LCD display**

**Component list**

* Micro Controller.
* LCD 16x2 Display.
* Bluetooth Module.

**Block diagram**

Output

Input

Bluetooth sensor

Micro controller

Android

LCD Display

Micro controller

Micro controller

**Micro-Controller.**

* ESP32 is a low-power, and highly integrated microcontroller that is widely used in the Internet of Things (IoT) applications.
* It is based on the Xtensa LX6 processor, which is a dual-core 32-bit microcontroller with integrated Wi-Fi and Bluetooth connectivity.
* The ESP32 features a wide range of peripherals such as GPIO, ADC, DAC, I2C, SPI, UART, and more, which makes it highly versatile for a wide range of applications.
* It also supports various development platforms such as Arduino, MicroPython, and ESP-IDF, making it easy for developers to get started with the platform.

**LCD 16x2 Display**

* An LCD 16x2 display is a type of liquid crystal display (LCD) that is commonly used in electronic devices for displaying text and simple graphics.
* The "16x2" in the name refers to the display's dimensions, which consist of 16 characters displayed in each of two rows.
* The LCD 16x2 display consists of a display panel that is made up of several layers of materials, including a liquid crystal layer, polarizers, and electrodes.
* The display panel is backlit by an LED or other light source to make the characters and graphics visible.
* The display is typically controlled by a microcontroller or other electronic device, which sends commands and data to the display through a communication interface such as I2C or SPI.
* The microcontroller can control the display's backlight, display characters and symbols in specific positions, and even create custom characters for more advanced applications.

**Bluetooth Module**

* The HC-05 Bluetooth module is a wireless communication module that allows for wireless data transmission between two devices.
* It is a popular and affordable Bluetooth module that can be easily integrated into electronic projects.
* The HC-05 module uses Bluetooth 2.0 EDR (Enhanced Data Rate) technology, which allows for faster data transmission speeds and lower power consumption compared to earlier Bluetooth versions.
* The module operates in the 2.4GHz frequency range and has a range of up to 10 meters (33 feet).
* The module consists of a small circuit board with a Bluetooth chip, antenna, and serial communication interface.
* The module can be powered with a 3.3V power supply and communicates with a host device using a simple serial interface (UART).