Bonezegei XPT2046 : Arduino Library for Resistive Touch

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Abstract

Bonezegei XPT2046 is a simple Arduino library for resistive touch screens based on the XPT2046 controller. The library provides functions to read the touch coordinates X, Y, and Z from the screen, as well as to calibrate the screen for accurate readings. The library is easy to use and compatible with ESP32. The library can be useful for developing applications that require user input or interaction with the touch screen. Follow the installation steps at https://bonezegei.com on how to install bonezegei libraries on Arduino IDE (Batutay, 2023).

Code Examples

The library provides methods for initializing the controller and reading the raw or scaled values of X, Y and Z from the sensor. The X and Y values represent the horizontal and vertical coordinates of the touch point, while the Z value represents the pressure applied to the screen. The following code example shows how to use the library in a basic sketch.

1. Basic Usage : Get Sensor Values

```
/*
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  XPT2046 Get Raw X, Y and Z
    ------------------------
  | XPT2046PIN   |  ESP32  |
  | MOSI         |   23    |
  | SCK          |   18    |
  | MISO         |   19    |
  | CS           |   33    | Can be Assign to other pin
  | IRQ          |   32    | Can be Assign to other pin
  --------------------------
*/

#include <Bonezegei_XPT2046.h>

#define TS_CS 33
#define TS_IRQ 32
Bonezegei_XPT2046 ts(TS_CS, TS_IRQ);

void setup() {
  Serial.begin(115200);
  ts.begin();
}

void loop() {
```

```
  ts.getInput();

  Serial.print("X: ");
  Serial.print(ts.x);
  Serial.print(" Y: ");
  Serial.print(ts.y);
  Serial.print(" Z: ");
  Serial.println(ts.z);

  delay(10);
}
```

References

Batutay, J. (2023). Arduino Library Installation on Arduino 2 IDE: Bonezegei Library. ResearchGate. https://www.researchgate.net/publication/376862516_Arduino_Library_Installation_on_Arduino_2_IDE_Bonezegei_Library