

StopWatch Touch

StopWatch touch-related APIs and sample programs.

Example

Compilation Requirements

- M5Stack Board Manager Version $\geq 3.3.7$
- Board Option = M5StopWatch
- M5Unified Library Version $\geq 0.2.15$
- M5GFX Library Version $\geq 0.2.21$

Basic Touch

```
1  #include <M5Unified.h>
2
3  void setup(void) {
4      auto cfg = M5.config();
5      M5.begin(cfg);
6
7      M5.Display.setTextDatum(middle_center);
8      M5.Display.setFont(&fonts::FreeMonoBold18pt7b);
9      M5.Display.setTextSize(1);
10
11     M5.Display.drawString("Touch Test", M5.Display.width() / 2,
12                           M5.Display.height() / 2);
13 }
14
15 int prev_x = -1;
16 int prev_y = -1;
17
18 static m5::touch_state_t prev_state;
19
20 void loop(void) {
21     M5.update();
22
23     auto t = M5.Touch.getDetail();
24     if (prev_state != t.state) {
25         prev_state = t.state;
26         static constexpr const char* state_name[16] = {
27             "none", "touch", "touch_end", "touch_begin",
28             "___", "hold", "hold_end", "hold_begin",
29             "___", "flick", "flick_end", "flick_begin",
30             "___", "drag", "drag_end", "drag_begin"};
31         M5_LOGI("%s", state_name[t.state]);
32         M5.Display.fillRect(0, 0, M5.Display.width(), M5.Display.height(), BLACK);
33
34         M5.Display.drawString(state_name[t.state],
35                               M5.Display.width() / 2,
36                               M5.Display.height() / 2 + 30);
37     }
38     if (prev_x != t.x || prev_y != t.y) {
39         M5.Display.fillRect(0, 140, M5.Display.width(), 100, BLACK);
40         M5.Display.drawString(
41             "X:" + String(t.x) + " / " + "Y:" + String(t.y),
42             M5.Display.width() / 2, 150);
43         prev_x = t.x;
44         prev_y = t.y;
45         M5.Display.fillCircle(prev_x, prev_y, 4);
46     }
47 }
```

When you touch the screen with your finger, the current touch state (such as `touch`, `hold`, `flick`, `drag`, etc.) and the coordinates of the touch point will be displayed on the screen, and a dot will be drawn at the touch point.



LGFX_Button

```
1  #include <M5Unified.h>
2
3  m5::touch_detail_t touchDetail;
4  static int32_t w;
5  static int32_t h;
6
7  LGFX_Button button;
8
9  void setup() {
10     M5.begin();
11
12     w = M5.Lcd.width();
13     h = M5.Lcd.height();
14
15     M5.Lcd.fillScreen(WHITE);
16     M5.Display.setRotation(0);
17     M5.Display.setTextDatum(top_center);
18     M5.Display.drawString("Button Released", w / 2, 70, &fonts::FreeMonoBold12pt7b);
19
20     button.initButton(&M5.Lcd, w / 2, h / 2, 200, 200, TFT_BLUE, TFT_YELLOW, TFT_BLACK, "BTN", 4, 4);
21     button.drawButton();
22 }
23
24 void loop() {
25     M5.update();
26     touchDetail = M5.Touch.getDetail();
27
28     if (touchDetail.isPressed()) {
29         if(button.contains(touchDetail.x, touchDetail.y)){
30             M5.Display.drawString("Button Pressed", w / 2, 70, &fonts::FreeMonoBold12pt7b);
31         }
32     }
33     else {
34         M5.Display.drawString("Button Released", w / 2, 70, &fonts::FreeMonoBold12pt7b);
35     }
36 }
```

When you touch the screen, if the touch point is inside the button area, ?Button Pressed? is displayed; otherwise, ?Button Released? is displayed.



API

The StopWatch touch section uses the `Touch_Class` from the `M5Unified` library. For more related APIs, refer to the following document:

- [M5Unified - Touch Class](#)