

## M5STICK C GRAVITY CLOCK

**MICROSOFT** 



## UI DESIGN









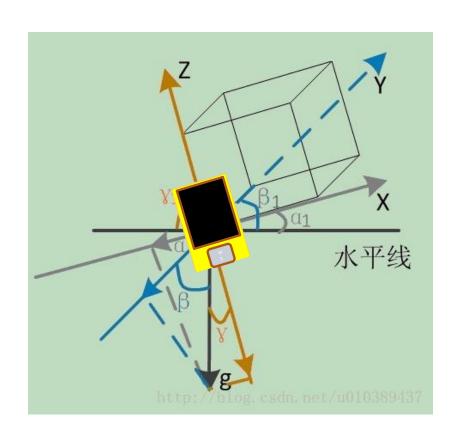
Position One

Position Two

Position Three

Position Four

## DEVIATE ANGLE PRINCIPLE



 $\alpha_1 = \arctan(Ax / \text{squr}(Ay*Ay + Az*Az))$   $\beta_1 = \arctan(Ay / \text{squr}(Ax*Ax+Az*Az))$  $\gamma_1 = \arctan(Az / \text{squr}(Ax*Ax + Ay*Ay))$ 

 $\theta x = \alpha 1*180/\pi = [arctan(Ax / squr(Ay*Ay + Az*Az))]*180/\pi$   $\theta y = \beta 1*180/\pi = [arctan(Ay / squr(Ax*Ax+Az*Az))]*180/\pi$  $\theta z = \gamma 1*180/\pi = [arctan(Az / squr(Ax*Ax + Ay*Ay))]*180/\pi$ 

## BEAUTIFUL CODE



Main Func Angle Comput e Func

Cock Position Func

Position Func (implement two position in

demo

```
to [init_var]
                                                                                  to ClearUI
                                                                                   Set countdowntimer • hide •
   while v true v
                                                   set x_acc • to 0
                                                                                   Set (labelT - hide -
                                                   set y_acc • to 0
  set clock_status_prev v to clock_status v
                                                   set z_acc v to 0
                                                                                  Set (labelH • hide •
                                                   set CountDown • to 300
                                                                                  Set [labelH_num v | hide v
                                                   set clock_status • to 100
       clock_status_prev * # * Clock_status *
                                                   set clock_status_prev * to 0
  do ClearUI
                                                   to [EnableUI_1]
                                                                                 to EnableUI_0
  Label [label0 v show clock_status v
                                                    itle title0 show ( 66 Weather:)
                                                    Set labelT show
                                                                                  Set countdowntimer • show •
                                                    Set [labelT_num + show +
                                                    Set labelH show
set x_acc v to Get X ACC
                                                    Set labelH_num show
set y_acc v to Get YACC
set z_acc v to Get ZACC
set angle_change_X • to Convert to int atan • x_acc • * x square root •
                                                                       Label label1 v show angle_change_X v
set_angle_change_Y • to Convert to int atan • y_acc • • square root •
                                                                       x_acc • ^ v (2) + v (z_acc • ^ v (2)
Label label2 v show angle_change_Y v
set_angle_change_Z * to Convert to int __atan * ___z_acc * + * * square root * I
                                                                       y_acc v ^ v 2 + v x_acc v ^ v 2
Label (label3 v show angle_change_Z v
to SetClockStatus
            angle_change_X T < T 35 and T angle_change_Y T > T 40
                                                                           and angle_change_Z < 35
do set clock_status • to 0
                  angle_change_X < 1 40 and angle_change_Y < 1 35 and angle_change_Z < 1 35
     do set clock_status v to 1
     else set clock_status v to 100
to CountDown
                                                                     to TempHumi
          CountDown > 1 0 and 1 clock_status 1 = 1 0
                                                                              clock_status • = • 1
do EnableUI_0
                                                                      do EnableUI_1
    Label countdowntimer show CountDown
                                                                          Label [abelT_num v] show | Convert to str | Convert to int | Get env1 v Temperature
    change CountDown ▼ by 1-1
                                                                          Label [abelH_num • show ( Convert to str | Convert to int | Get env1 • Humidity
    CountDown = 0
    do set CountDown • to 300
```

Init and reset Func