

! Non-graphic program to measure tilt of iPad

!

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!

! It seems that the best values to monitor are:

! y - right side of iPad moved up or down

! z - top of iPad moves away or forward

! x - computed but not currently used

!

! Currently displays four values on one line:

!

! y - adjusted value representing rightside movement

! y text result

! z - adjusted value represnting top edge of iPad

! z text result

Comm.openTCPIP(1, "192.168.1.10",9750)

!Force iPad orientation to landscape w/button on right

system.setAllowedOrientations(4)

! Create string variables for display

dim xstr as string ! Display these strings

dim ystr as string

dim zstr as string

! Set neutral area

!

! zadjust lets iPad be held at about 45 degrees

xadjust = 0. ! these values allow iPad to be held at angle and

yadjust = 0. ! still be neutral - no valid value

zadjust = 45

! main loop

while (1)

system.wait (.2) ! short delay

! Clear console

system.clearConsole

! Call readAccel to get current tilt values

readAccel

```
ystr = ""  
zstr = ""
```

! x - not currently used but still computed

```
x = x + xadjust
```

```
if x < 0 then  
xstr = "left down"  
else  
if x > 0 then  
xstr = "left up"  
end if  
end if
```

! Is right side up, even, down?

```
y = y + yadjust
```

```
if y < 0 then  
ystr = "right down"  
else  
if y > 0 then  
ystr = "right up"  
end if  
end if
```

! Is top away or forward?

```
z = z + zadjust
```

```
if z < 0 then  
zstr = "top away"  
else  
if z > 0 then  
zstr = "top forward"  
end if  
end if
```

```
print y, ystr, z, zstr  
print #1, "Y"  
print #1, y  
print #1, "Z"  
print #1, z  
wend
```

```
sub readAccel
```

! This reads the accelerometer, adjusts the values, then
! scales +/- 2.0 input values to +/- 125

sensitivity = 0.01 ! Ignore values in the range +/- this level

a= Sensors.accel ! Read the accelerometer

x = a(1) ! Convert to x, y, and z

y = a(2)

z = a(3)

if abs(x) < sensitivity then

x = 0 ! Set to zero if in neutral zone

else

x = x / 2.0 * 125 ! Scale value to range +/- 125

end if

! This appears to measure right side moving up or down

! Assumes iPad held in landscape w/button on right

if abs(y) < sensitivity then

y = 0

else

y = y / 2.0 * 125

end if

! This appears to measure top moved away or forward

if abs(z) < sensitivity then

z = 0

else

z = z / 2.0 * 125

end if

!print x, y, z

end sub