Bluetooth Proximity Detector

The Bluetooth Proximity Detector program turns on a light when a pre-selected Bluetooth device comes into range. The overall project contains three programs: the “What’s in Range” program to help determine what Bluetooth address to listen to, the “Simplest Detector” program which is the smallest possible program that performs the proximity check, and the “Bluetooth Detector” program which is the full program.



To help build the detector, a simple “What’s in Range” program was written first. The “What’s in Range” program constantly updates a list of Bluetooth addresses, the RSSI (Received Signal Strength Indication, A.K.A. received power) and a little bit of the advertisement data. The “What’s in Range” program is used to determine what Bluetooth address the Proximity detector should listen to.

The Simple Detector version of the code doesn’t save anything; it runs new every time. It also can only check for a single Bluetooth device. Both of these flaws will be fixed in the full version.

CLS BLUE  
PRINT “Bluetooth Detector”

Dim DetectList()  
DetectList.Add (“FA:50:CC:5E:42:B4”)  
Bluetooth.Watch (“Bluetooth”, “OnDetect”)  
Screen.RequestActive()  
System.SetInterval (“OnTimer”, 2000, “”)  
  
FOREVER

FUNCTION OnTimer (arg)  
 PAPER BLUE  
RETURN

FUNCTION OnDetect (address, rssi, data)  
 GLOBAL DetectList  
 idx = GetIndex (DetectList, address)  
 IF (idx < 1) THEN RETURN  
 REM Do something!  
 PAPER RED  
RETURN  
  
FUNCTION GetIndex(list, lookfor)  
 FOR i=1 TO list.Count  
 row = list[i]  
 IF (row[1] = lookfor) THEN RETURN i  
 NEXT i  
RETURN 0