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'--------Title--------

' File......keyless_entry.pbp
' Started....6/20/06

'------------Variables------------

    x           VAR     BYTE            'initialize variables
    b0          VAR     BYTE
    y           VAR     BYTE
    door        VAR     BYTE
    dist_raw    VAR     WORD
    dist_inch   VAR     WORD
    l           VAR     WORD

'---------Constants/Defines-------

    conv_inch   CON     15

'------------Main Code------------

    y = 1
    l = 0
    PAUSE 1500                          'initialize LCD

    HIGH 5                              'initialize bi-colored LED to red
    LOW 6

                                        'initialize servos
    FOR b0 = 1 TO 50                    'unlock door
    PULSOUT 2,210
    PAUSE 20
    NEXT

    FOR b0 = 1 TO 85                    'close door part of the way
    PULSOUT 7,175
    PAUSE 20
    NEXT

    FOR b0 = 1 TO 20                    'close door more
    PULSOUT 7,195
    PAUSE 20
    NEXT

    FOR b0 = 1 TO 50                    'close door completely and lock it

    PULSOUT 7,210
    PULSOUT 2,100
    PAUSE 20
    NEXT

    LCDOUT $FE,1,"     Locked     "     '"Locked" appears on top
                                        'line of LCD
    LCDOUT $FE,$C0,"Step up to door "   '"Step up to door" appears on
                                        'bottom line of LCD
loop:
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    GOSUB sonar                             'get sonar reading

    IF dist_inch < 24 THEN GOTO sensed      'if reading is < 24 then goto
sensed
    LCDOUT $FE,$C0,"Step up to door"        '"Step up to door" appears on
bottom
                                            'line of LCD
    l = l +1                                'variable "l" incremented by 1
midloop:

    SERIN 4,4,10,loop,[68],x                'waits 10 miliseconds for IR signal
    IF x = 1 THEN GOTO lock                 'if last byte of signal is 1
                                            'then lock
    IF x = 2 THEN GOTO unlock               'if last byte of signal is 2
                                            'then unlock
    GOTO loop

sensed:
    IF l < 3 THEN GOTO spot                 'this sets the sonar's sensitivity
    LCDOUT $FE,$C0," *****STOP***** "       '"*****STOP*****" appears on bottom
                                            'line of LCD
    PAUSE 1500                              'display "*****STOP*****" for
                                            '1.5 seconds
spot:
    LCDOUT $FE,$C0,"Unlock with FOB "       '"Unlock with FOB" appears on
bottom
                                            'line of LCD
    l = 0                                   'variable "l" = 0

    GOTO midloop

lock:                                       'lock subroutine

    IF y = 1 THEN                           'this decides if the door is
    PAUSE 100                               'already locked if door is locked
    GOTO loop                               'it won't try to lock it if door
    ENDIF                                   'is unlocked it will

    HIGH 5                                  'bi-colored LED is red
    LOW 6

    FOR b0 = 1 TO 85                        'close door part of the way
    PULSOUT 7,185
    PAUSE 20
    NEXT

    FOR b0 = 1 TO 20                        'close door more
    PULSOUT 7,195
    PAUSE 20
    NEXT

    FOR b0 = 1 TO 50                        'close door completely and lock it
    PULSOUT 7,220
    PULSOUT 2,100
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    PAUSE 20
    NEXT

    LCDOUT $FE,1,"     Locked     "     '"Locked" appears on top line of
LCD
    y = 1

    GOTO loop

unlock:                                 'unlock subroutine

    IF y = 2 THEN                       'this decides if the door is
    PAUSE 100                           'already unlocked if door is
unlocked
    GOTO loop                           'it won't try to unlock it if door
    ENDIF                               'is locked it will

    HIGH 6                              'bi-colored LED is green
    LOW 5

    FOR b0 = 1 TO 50                    'unlocks door
    PULSOUT 2,210
    PAUSE 20
    NEXT

    FOR b0 = 1 TO 90                    'opens door part of the way
    PULSOUT 7,60
    PAUSE 20
    NEXT

    FOR b0 = 1 TO 20                    'opens door completely
    PULSOUT 7,50
    PAUSE 25
    NEXT

    LCDOUT $FE,1,"    Unlocked    "     '"Unlocked" appears on top line of
LCD
    y = 2

    GOTO loop

sonar:                                  'sonar subroutine

    PULSOUT portb.0,1                   'send 1 milisecond pulse to sonar
    PULSIN portb.1,1,dist_raw           'times the pulse width and stores
it
    dist_inch = (dist_raw/conv_inch)    'in variable dist_raw convert raw
                                        'data into inches
    RETURN                              'go back to main program
```