

Controller:

```
from microbit import*  
import radio  
import random
```

```
radio.on()  
x=5  
radio.config(group=x)  
light = ""  
distance = ""  
v = 0  
e = 0  
pressed_pin = 0  
pin = 0  
touch = 0  
z=0  
times= 0  
w = ""
```

```
def receive():  
    global light, distance  
    light = str(radio.receive())  
    distance = str(radio.receive())
```

```
def pin_press_handler():  
    global pressed_pin  
    if pin8.read_digital() == 0:  
        pressed_pin = "u"  
    elif pin8.read_digital() == 1:  
        pressed_pin = "none"  
    if pin13.read_digital() == 0:  
        pressed_pin = "r"  
    elif pin13.read_digital() == 1:  
        pressed_pin = "none"  
    if pin14.read_digital() == 0:  
        pressed_pin = "d"  
    elif pin14.read_digital() == 1:
```

```
pressed_pin = "none"
if pin12.read_digital() == 0:
    pressed_pin = "l"
elif pin12.read_digital() == 1:
    pressed_pin = "none"
```

```
def mb_led_display():
    global pressed_pin,x
    if (pressed_pin == "u"):
        display.show(Image.ARROW_N)
    elif (pressed_pin == "r"):
        display.show(Image.ARROW_E)
    elif (pressed_pin == "d"):
        display.show(Image.ARROW_S)
    elif (pressed_pin == "l"):
        display.show(Image.ARROW_W)
    elif (pressed_pin == "none"):
        display.show('x')
```

```
def send():
    global pressed_pin, pin,y
    if pressed_pin == "u":
        radio.send("u")
    elif pressed_pin == "r":
        radio.send("r")
    elif pressed_pin == "d":
        radio.send("d")
    elif pressed_pin == "l":
        radio.send("l")
    if pin == "s":
        radio.send("s")
    if touch == "logo":
        radio.send("logo")
    elif touch == "none":
        radio.send("stop")
```

```

def distances():
    global distance,e, z
    if distance == ('y'):
        if e == 0:
            display.show("x")
            display.scroll(x)
            z=1
            e=1
        elif e==1 and radio.receive()=="n":
            z=0
            e=0
def vib():
    global z
    if z==0:
        pin1.write_digital(0)
    elif z==1:
        pin0.write_digital(1)
        sleep(250)
        z=0

def lights():
    global light, v
    if light == "low":
        if v == 0:
            v = 1
            pin1.write_digital(1)
            sleep(250)
            pin1.write_digital(0)
        elif light == "high":
            v = 0
            pin1.write_digital(0)

def speed():
    global pin
    if pin16.read_digital() ==0:
        pin = "s"
    elif pin16.read_digital() == 1:

```

```
pin = "none"
```

```
def touches():
```

```
    global touch
```

```
    if pin_logo.is_touched() == True:
```

```
        touch = "logo"
```

```
    elif pin_logo.is_touched() == False:
```

```
        touch = "none"
```

```
def randoms():
```

```
    global x,same, times, w
```

```
    if pin15.read_digital() == 0:
```

```
        times += 1
```

```
        if times <= 3:
```

```
            same = x
```

```
            while same == x:
```

```
                same = random.randint(1,20)
```

```
            x = same
```

```
            if x < 10:
```

```
                w = x
```

```
            elif x == 11:
```

```
                w = "a"
```

```
            elif x == 12:
```

```
                w = "b"
```

```
            elif x == 13:
```

```
                w = "c"
```

```
            elif x == 14:
```

```
                w = "o"
```

```
            elif x == 15:
```

```
                w = "e"
```

```
            elif x == 16:
```

```
                w = "f"
```

```
            elif x == 17:
```

```
                w = "g"
```

```
            elif x == 18:
```

```
                w = "h"
```

```
            elif x == 19:
```

```

        w = "i"
    elif x == 20:
        w = "j"
    elif x == 10:
        w = "k"
    radio.send(str(w))
    radio.config(group=x)
    display.scroll(str(x))
else:
    radio.send("turn off")
if button_a.get_presses() > 0:
    x -= 1
    if x == 0:
        x = 1
    display.scroll(x)
    radio.config(group=x)
if button_b.get_presses() > 0:
    x += 1
    if x == 21:
        x = 20
    display.scroll(x)
    radio.config(group=x)

while True:
    receive()
    pin_press_handler()
    randoms()
    mb_led_display()
    distances()
    send()
    lights()
    speed()
    touches()
    vib()

```