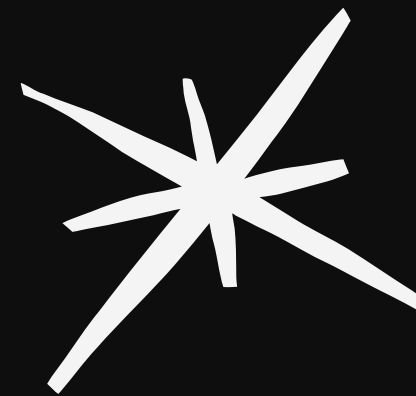


OPen Design Technology



Summative Assessment



Concept

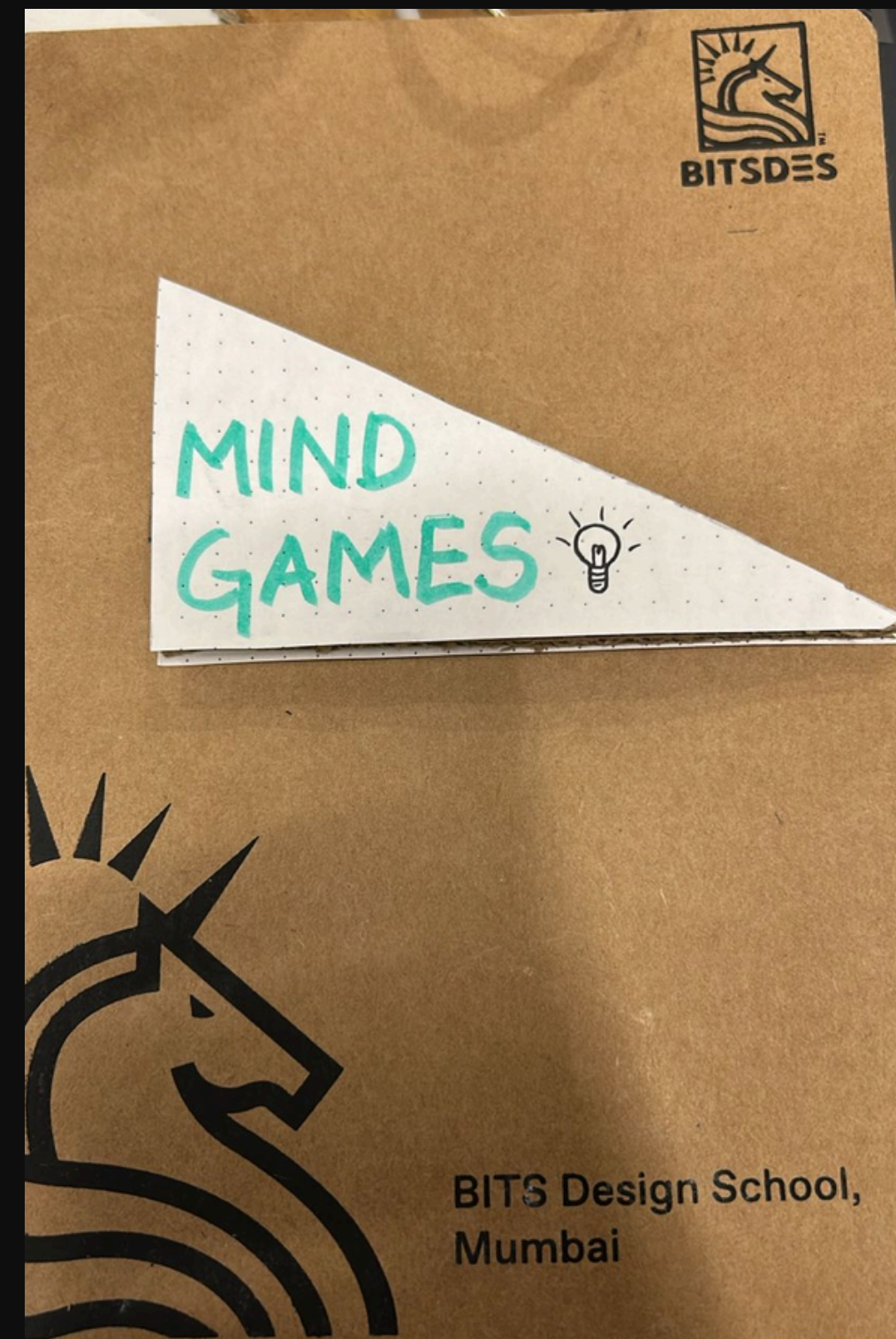
This game is a memory based interactive game. The user inputs a value into the code and that decides the length of the sequence the user will have to remember and mimic.

Upon starting, the leds blink in their randomised order and the user mimics it. If the user enters the wrong sequence, the neopixel turns red and the buzzer sounds once. Whereas, if the user enters the right sequence, the neopixel turns green and the buzzer sounds twice.

Hardware

INPUT : Push buttons

OUTPUT : Neopixel, Buzzer, LED



FIRE CODE

```
1 from machine import Pin
2 import time
3 import random
4 import neopixel
5
6 pb = Pin(18, Pin.IN, Pin.PULL_UP)
7 p = Pin(32, Pin.IN, Pin.PULL_UP)
8 neo=neopixel.NeoPixel(Pin(14),16)
9 astro = Pin(25, Pin.OUT)
10 astro1 = Pin(33, Pin.OUT)
11 buzz = Pin(22, Pin.OUT)
12
13 # led = []
14 # inputbutton = []
15 length = 3
16
17 while True:
18
19     led = []
20
21     for i in range(length):
22         led.append(random.choice([1,2]))
23
24     print("sequence:", led)
25
26     for i in range(length):
27         if led[i] == 1:
28             astro.on()
29             time.sleep(0.4)
30             astro.off()
31             time.sleep(0.3)
```

```
33         if led[i] == 2:
34             astro1.on()
35             time.sleep(0.4)
36             astro1.off()
37             time.sleep(0.3)
38
39     inputbutton = []
40
41     for i in range(length):
42
43         while True:
44
45             if pb.value() == 0:
46                 inputbutton.append(1)
47                 astro.on()
48                 time.sleep(0.2)
49                 astro.off()
50                 time.sleep(0.2)
51                 print("Pressed: 1")
52                 time.sleep(0.3)
53                 break
54
55             if p.value() == 0:
56                 inputbutton.append(2)
57                 astro1.on()
58                 time.sleep(0.2)
59                 astro1.off()
60                 time.sleep(0.2)
61                 print("Pressed: 2")
62                 time.sleep(0.3)
63                 break
64
```

```
65
66     if inputbutton == led:
67         print("Correct")
68         time.sleep(0.1)
69         buzz.on()
70         time.sleep(0.1)
71         buzz.off()
72         time.sleep(0.1)
73         buzz.on()
74         time.sleep(0.1)
75         buzz.off()
76         for i in range(0,16):
77             neo[i]=(0,255,0)
78             neo.write()
79             time.sleep(0.1)
80         for i in range(0,16):
81             neo[i]=(0,0,0)
82             neo.write()
83             time.sleep(0.7)
84         #         neo[i]=(0,0,0)
85         #         neo.write()
86         #         time.sleep(0.3)
87     else:
88         print("Wrong")
89         buzz.on()
90         time.sleep(0.5)
91         buzz.off()
92         time.sleep(0.1)
93         for i in range(0,16):
94             neo[i]=(255,0,0)
95             neo.write()
96             time.sleep(0.7)
97         for i in range(0,16):
98             neo[i]=(0,0,0)
```

```
98         neo[i]=(0,0,0)
99         neo.write()
100        time.sleep(0.7)
101        #         neo[i]=(0,0,0)
102        #         neo.write()
103        #         time.sleep(0.3)
104
105        time.sleep(2)
```

FIRE WORKING VIDEO 🔥

