```python
#CASE STUDY 3: TEMPERATURE DETECTION
import random
import time

def monitor_temperature():
    # Taking user input for upper and lower temperature range
    lower_limit = float(input("Enter the lower temperature limit: "))
    upper_limit = float(input("Enter the upper temperature limit: "))

    print("\nMonitoring temperature... Press Ctrl+C to stop.")

    while True:
        temp = random.uniform(lower_limit - 5, upper_limit + 5)  # Generate a random temperature
        print(f"Current Temperature: {temp:.2f}°C")

        if temp < lower_limit:
            print("Alert! Temperature too LOW! ")
            break
        elif temp > upper_limit:
            print(" Alert! Temperature too HIGH! ")
            break

        time.sleep(2)  # Wait for 2 seconds before generating next temperature

# Run the function
monitor_temperature()
```

```
Enter the lower temperature limit: 5
Enter the upper temperature limit: 45

Monitoring temperature... Press Ctrl+C to stop.
Current Temperature: 35.92°C
Current Temperature: 12.07°C
Current Temperature: 47.30°C
 Alert! Temperature too HIGH!
```

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