

Home Task Manual	
IoT Fundamentals	
Lab 3: Home Task	Topic: DHT11, OLED, Interrupt
Instructor: Mr. Nasir Mahmood	BSAI 6 th
Department of Computer Science - NTU	

Objective:

To manipulate the DHT11 sensor & OLED printing state to observe the behavior and functioning of the sensors. Also, familiarize the students with debounce issue, interrupt in micro-controllers to make their code efficient and bug-free.

Note:

- ✓ All students are required to implement the tasks on physical device.
- ✓ You can use readme.txt to answer theoretical questions.

Task 1: Displaying Temperature & Humidity on OLED

- Print the values of temperature and humidity on the OLED display.
- Try adding emojis for temperature and humidity to see if the OLED supports them.
- Blow on the sensor and observe whether it detects minor changes in temperature and humidity.

Task 2: Running the Code Without Interrupt

- Run the same functionality of the lab work without interrupt & log your observations. Also state, what happened before and after interrupt?

Task 3: Understanding Debounce Issue

- What is a debounce issue and why we get rid of it?
- In which applications/domains, debounce issue can be threatening if not resolved in the system?
- Why debounce occurs? Is it a compiler error, logical error or micro-controller is cheap?

Task 4: Why Do We Use Interrupts

- Why do we use interrupt?
- How does interrupt lower the processing cost of the micro-controller?