Daily Report : 30-09-2025

Project: Muzzle velocity

Tasks Completed:

1)Hall Sensor Integration:

- Connected two Hall effect sensors (Sensor 1 and Sensor 2) to Arduino on interrupt-capable pins.
- Configured sensors to detect the North pole of a passing magnet and generate interrupts.

2)Interrupt Service Routine (ISR) Development:

- Implemented sensor1ISR() to start a timer (startTime) when Sensor 1 detects a magnet.
- Implemented sensor2ISR() to stop the timer (endTime) when Sensor 2 detects a magnet.

3)Speed Calculation:

- Calculated travel time between sensors,
- Calculated speed
- Verified correct speed/time output in Serial Monitor.

4)OLED Display Integration:

- Interfaced SH1106 128x64 OLED display using the U8g2 library.
- Displaying latest measurement::
- T (µs): Time taken between sensors.
- S (m/s): Calculated speed.
- Tested with different fonts for readability.

5)System Behavior:

- Confirmed interrupts trigger correctly:
- Sensor 1: Starts timer.
- Sensor 2: Stops timer & enables calculation.

Current Status:

- Speed and time values are correctly printed in the Serial Monitor.
- Values are displayed on OLED; initial issues with placeholders -- resolved.