***Individual Report***

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**Project Name: Portable Water Quality Monitoring Device**

**Introduction** The "Portable Water Quality Monitoring Device" is an Internet of Things (IoT) project designed to measure the turbidity and temperature of water. The objective of this project is to determine whether the water is safe for drinking. The device is built using an Arduino R4 Uno Wi-Fi module, Jopto TSW-30 and SEN0189 turbidity sensors, and a DS18B20 waterproof temperature sensor. The collected data is transmitted to the Blynk application for real-time monitoring.

**Project Role and Responsibilities** In this project, I took on the role of an observer while also contributing to the hardware setup and connectivity aspects. My specific responsibilities inclu**dual**

* Observing the overall progress and ensuring that the setup followed the planned design.
* Connecting the turbidity sensors (Jopto TSW-30 and SEN0189) to the Arduino board. However, these sensors did not function as expected, requiring troubleshooting and potential alternative solutions.
* Establishing the connection between the Arduino R4 Uno Wi-Fi and the Blynk application for real-time data monitoring.
* Assisting with the Trello board by organizing tasks, tracking progress.

**Challenges Faced** During the implementation of the project, I encountered the following challenges:

* The turbidity sensors failed to work despite multiple connection attempts.

**Lessons Learned** This project provided me with valuable insights into IoT-based monitoring systems. Some key takeaways include:

* Understanding the importance of proper sensor calibration and troubleshooting techniques when dealing with faulty components.
* Gaining experience in integrating IoT hardware with a cloud-based application like Blynk.
* Recognizing the significance of teamwork and problem-solving in overcoming technical challenges.

**Conclusion** Despite facing some setbacks with the turbidity sensors, this project was a great learning experience in IoT implementation and real-time data monitoring. My role as an observer, along with my contributions to sensor connections, Blynk integration, and Trello board management, allowed me to develop a deeper understanding of water quality monitoring systems. Moving forward, further debugging of the turbidity sensors or exploring alternative sensors would be beneficial to improve the reliability of the device.