

## Individual Work Log

<b>PROJECT NAME:</b>			
<b>STUDENT NAME:</b>	Dang Khoa Le		
<b>STUDENT ID:</b>	103844421	<b>WEEK # (&amp; dates covered):</b>	#3

TASKS	STATUS	TIME SPENT	ACTION ITEM/NOTE
Client meeting and project requirement discussion	Completed	2 hours	Met client, discussed project scope: real-time OBD-II data collection for predictive maintenance
Project Scope researches and refinement based on client demand	Completed	1.5 hours	Clarified expected outcome: Predict maintenance need based on vehicle usage
Research OBD-II data capabilities & limitations	Completed	2 hours	Mapped available sensor data relevant for predictive analysis (RPM, coolant temp, fuel rate)
Refined problem statement and approach	Completed	1.5 hours	Aligned problem focus on reducing unnecessary maintenance and preventing failures
Team discussion on Phase 1 (data collection) planning	On hold	2 hours	Preparing plan to collect multi-week data from the group's own vehicle
<b>TOTAL WEEKLY TIME SPENT</b>		<b>9 hours</b>	

TASKS PLANNED FOR NEXT WEEK	EXPECTED COMPLETION
Procure OBD-II Adapter (ELM327) and Setup Raspberry Pi	Understand the setup and hardware, potential testing methods
Initial Data Collection Test Runs on Vehicle	Have some successful trial
Finalize Data Logging Format (CSV/Database) and Data Features	Identify key features on research and review previous design

### Summary/weekly reflection for Week #:

#### -key tasks done / things attended

- Met the client, understood the specific requirements around vehicle health monitoring using OBD-II.
- Researched potential sensor data streams and aligned scope on predictive maintenance.
- Refined the approach to focus on accurate prediction to avoid over-maintenance or premature failures.

#### -key things learned about Engineering Technology projects

- Importance of properly defining the problem and aligning client expectations.
- Understanding sensor data limitations and its impact on project scope.

- Realizing the need for structured data collection before model development.

*-any literature read and key things learned*

- Reviewed documents and online resources about OBD-II data extraction and predictive maintenance frameworks.
- Identified key ML models suitable for this project (Random Forest, XGBoost, LSTM).

*-Issues/problems*

- Challenge in estimating how much data is enough for reliable prediction.
- Some OBD-II parameters may not be available or accurate with low-cost adapters, requiring careful selection of hardware.