Project Team 10 - Meeting Minutes

Date: Tuesday, 29th October 2025
Time: 12:00
Location: Virtual (Microsoft Teams)
Meeting Type: Initial Client Meeting

Present: Yeaw Chu Lee , Ethan Adegbeyeni , David Bello

Apologies: Jenson McEwan

Meeting Purpose

Initial client meeting to discuss project requirements, scope, and existing system overview for the OpenFOAM CFD Visualisation project.

Discussion Summary

1. Project Overview
The client provided an explanation of the project's existing situation and current workflow:

- Current System: OpenFOAM simulation data is currently visualized using ParaView
- Problem Statement: The existing workflow is difficult to use and not suitable for interactive, real-time exploration of offshore wind turbine datasets
- File Sizes: Simulation data files are extremely large (terabyte-scale), causing severe performance issues
- Previous Work: A previous student successfully optimized data from terabytes down to gigabytes and implemented a baseline Unity visualizer with improved performance

2. Project Objectives
The team is tasked with either:

1. Improving the existing Unity-based visualization system, or
2. Streamlining the data pipeline and workflow with a different engine

The goal is to create a more performant platform for interrogating offshore wind turbine simulation data.

3. Technical Details
- Data format: XML files compatible with ParaView
- Current visualization tool: Baseline Unity application (provided by previous student)
- Performance target: Interactive framerates for large-scale CFD datasets
- End users: Academic researchers and engineers working on offshore wind turbine simulations

New Items

- Client to send sample data
- Research ParaView data export formats and Unity optimization techniques
- Prepare any questions for next meeting based on data received
- Apologies member to be briefed on meeting outcomes
- Team to review project brief in detail

Items for next meeting:

- Review and discuss sample data files received from client
- Examine baseline Unity code structure and identify bottlenecks
- Clarify specific user requirements and interaction features needed
- Discuss team member roles and initial task allocation
- Establish communication protocols with client (frequency of meetings, preferred contact method)

Next Meetings

Thursday, 6th November 2025, 2:30 PM, Virtual (Microsoft Teams)

- Review sample data and baseline code
- Discuss initial technical approach
- Assign team roles and tasks for Sprint 1

Minutes prepared by: Ethan Adegbeyeni
Date: 29th October 2025