Meeting 01-04

Meeting01

Minutes of the 1st Project Meeting: one hour

- Date: 24 Feb. 2025 (Monday)
- Time: 16:30 pm
- Place: HKUST Starbucks
- Attending:
    - Mentor: HU, Siyan
    - Student: CHANG, Ruihe
- Absent: None
- Recorder: CHANG, Ruihe

Approval of minutes

- The minutes of the meeting were reviewed and approved by HU, Siyan.

Discussion items

- Discussing topics
- Determine the topic: An Efficient Web Application for 3D Point Cloud Visualization and Down-Sampling
- Learning: Point Cloud, Mesh, Gaussian Splatting, Three.js, etc.

Meeting adjournment and next meeting

- The meeting was adjourned at 5:30 PM. The next meeting will be held in March.

Meeting 02

Minutes of the 2nd Project Meeting: one hour

- Date: 22 March. 2025 (Saturday)
- Time: 20:00 pm
- Place: Online Meeting
- Attending:

- Mentor: HU, Siyan
    - Student: CHANG, Ruihe
- Absent: None
- Recorder: CHANG, Ruihe

Approval of minutes

- The minutes of the meeting were reviewed and approved by HU, Siyan.

Discussion items

- Created a Demo to visualize Point Cloud data
    - Frontend
        - Core Framework: Vue.js + Vue CLI
        - Language: JavaScript
        - 3D Engine: Three.js
        - Interaction Controls: OrbitControls
        - HTTP Requests: Fetch API, XMLHttpRequest
        - Code Style: ESLint
    - Backend
        - Web Framework: Flask
        - CORS Support: Flask-CORS
        - Language: Python
        - Data Processing: NumPy
        - Point Cloud Parsing: PLYFile
        - Logging: Python's logging module
    - Data Persistence
        - Ply file
- Identify example point cloud files

Meeting adjournment and next meeting

- The meeting was adjourned at 21:00 PM. The next meeting will be after one month.

Meeting 03

Minutes of the 3st Project Meeting: one hour

- Date: 06 May. 2025 (Tuesday)
- Time: 18:30 pm
- Place: Online Meeting
- Attending:
  - Mentor: HU, Siyan
  - Student: CHANG, Ruihe
- Absent: None
- Recorder: CHANG, Ruihe

Approval of minutes

- The minutes of the meeting were reviewed and approved by HU, Siyan.

Discussion items

- Finish Basic Features, including Point Cloud Upload, Point Cloud 3D Scene, Point Cloud Rendering, User Interaction Controls, etc.
- Facing challenges of visualizing large point cloud (over 400 million points)
- Will implement Down-sampling Strategy to handle large point cloud.
- (For more details, please see `Final Report`)

Meeting adjournment and next meeting

- The meeting was adjourned at 19:30 PM. The next meeting will be held in next week.

Meeting 04

Minutes of the 4st Project Meeting: half hour

- Date: 12 May. 2025 (Monday)
- Time: 13:30 pm
- Place: Online Meeting
- Attending:
  - Mentor: HU, Siyan
  - Student: CHANG, Ruihe
- Absent: None
- Recorder: CHANG, Ruihe

Approval of minutes

- The minutes of the meeting were reviewed and approved by HU, Siyan.

Discussion items

- Finish Advanced Features - Down-Sampling

- Improve UI interface

- Discuss Spatial Hash Down-Sampling and Random Down-Sampling strategies

- Introduce complete features from uploading, visualization, interaction, down-sampling, etc.

- Review Final Report

- (For more details, please see `Final Report`)

Meeting adjournment and next meeting

- The meeting was adjourned at 14:00 PM. This is the final meeting.