Client Meeting 1

Week 2

Date: 05/08/2021

Start-time: 9am

Present: Michael (client), Dhruv, Dennis, Isaac, Josh, Matthew, Rodney

**Meeting Commenced:**

**Michael** stressed the importance of design architecture over Unity experience

**Michael** introduced the concept of a molecular dynamics simulation and their appliation to education/research

**Michael** identified requirements of the project:

Real-time Graphics (60-90fps)

Shaders may be used

Asynchronis

Multithreaded code (thread pools)

A modular design

Max 10 particle system

Isolated Environment – able to run two in parrellel

User Interface not necessary

Scale

Sandbox features such as create/destroy

**Michael** said it is up to the team to decide specific data structures and recommended Entity Component System (ECS)

**Rodeny** enquires about the specifications of the machines used to run the program and **Michael** says he will email them to us.

**Isaac** enquires about the physics system to be used in the project and

**Michael** explains three vector fields to consider:

Coulomb potential

Lennard-Jones potential

Morse Potential

as well as Newtonian Physics

**Michael** warns about issues, such as small vibrations and tunnelling.

**Matthew** enquires about the visual aspect of the project and **Michael** replies that it is not the focus.

**Isaac** enquires about the use of VR headsets and **Michael** replies that it won’t be necessary until later.

**Dhruv** enquires about common frameworks for particle simulations and

**Michael** recommends doing it either by particle or by force field, and that it won’t matter too much for a small scale simulation.

**Josh** enquires about collision detection methods and **Michael** responds that it can be approximated by a *“fudge step”*.

**Michael** concludes by saying he would like to meet bi-weekly.

This concludes the meeting at 10am.