**The fourth biweekly project update**

Over the past two weeks, progress on the course project includes the following items:

* **Prevent p2p failure:** Switched from WebRTC to Socket.IO to avoid HTML usage and simplify integration with the core streaming logic.
* **ABR Integration:** Implemented adaptive bitrate (ABR) rules into the peer-to-peer video streaming prototype, allowing for dynamic quality adjustments based on peer and network conditions.
* **Parameter Research:** Conducted a literature review to estimate realistic values for peer churn rate and the distance scaling factor (α), which will guide evaluation scenarios.
* **Experiments and Visualization:** Run initial rounds of experiments and generated plots to evaluate streaming performance under different churn and α conditions.
* **Debugging:** 1> The logging function and the dynamic peer joins/departures are not compatible, switching to asynchronous implementations; 2> The chart.js, the simple\_peer.js are not compatible; 3> Security settings blocks data flow; etc.
* **Clean up Git commit history :** For a more clean presentation.

**Next Steps:**

* Redo experiments with more rounds to smooth out the performance curves and improve statistical confidence.
* Explore and implement peer prioritization rules to optimize data routing and delivery.
* Refine and finalize the project report with updated results and analysis.