1 Attendance
Present:
Benjamin Hugo
Heinrich Strauss
Prof. James Gain
Unavailable:
Brandon Talbot
Dr. Patrick Marais

(Prof. James Gain's Office, Building 18, UCT Upper Campus)
from 12h30 to 13h00

2 Agenda
Progress on Zero-Length Encoder (Heinrich)
Still needs work. To be completed by the weekend.
SSE/AVX(2) progress and GPU versions not started.
(concern raised by Prof. Gain)

Progress on Predictive Encoder (Benjamin)
Working, but insufficient performance.
Tested on *hex.uct.ac.za* HPC cluster (ICTS) (still poor throughput)
SSE/AVX(2) version in progress and GPU version not started.
Current performance (parallel):
Compression @~0.25GB/s, Decompression @~0.59GB/s
(tested on Core i5 [Sandy Bridge], 4-Cores)

Progress on Arithmetic Encoder (Brandon; via Benjamin)
Working, but needs final optimisation for parallelisation.
SSE/AVX(2) version in progress and GPU version not started.

3 Post Meeting Action Items
Action: *Feedback on project proposal*
Assigned To: Prof. James Gain
Deadline: Friday, 5 July

Action: *Finish single-threaded encoder*
Assigned To: Heinrich Strauss
Deadline: Friday, 5 July

Action: *Prepare a demo of the compressors*
Assigned To: Honours Project Team
Deadline: Week of 15 July

Action: *Focus on implementation over write-up*
Assigned To: Honours Project Team
Deadline: Until CPU versions are both complete.

4 Decisions Made

Predictive Methods:
- Split the dataset into blocks
- Do not focus on parallel prefix sums optimisation if no expected benefit, but treat the 40% CPU time as lower-bound for now. (refer to Amdahl's Law)

5 Further Meetings

Next meeting to be scheduled and held in the Third Term, with follow-up meetings every two weeks.