Project Diary

Monday Week 2 14/9/15

Objectives:

- Write a research Question(s) with Aims and Objectives
- Create Project Outline/Timeline/Task List
- Read 4 Papers on Gpu/Compression/something
- Document Framework
- Read ”How to Read a Paper”

Read ”How to Read a Paper”
Skimmed ~12 papers,
Implemented a single card super basic sort.

Wednesday Week 3 23/9/15

Objectives:

- Document framework
- Read more papers
- Get your GPU sort working correctly

Started framework documents
Got local gpu sort working.
Read papers

Wednesday Week 4 30/09/15

Objectives (not all this week):

- Get cross card sort working
- Reading
- Start writing literature review
- Timeline
- Comparison grid - different research and approaches. How you compare.
- Think of a case study for main research.

Automated Tests on Framework, optimised local sort code

Wednesday Week 5 07/10/15

Objectives:

- REMEMBER AND UPDATE ON WHAT YOU’VE DONE
- Coding of cross card sort - almost there
- Get some form of lit review ready for Ben

Cross card sort completed.
Experimented with data transfer methods

Monday Week 6 12/10/15

Objectives:

- Data measuring and draw pretty graphs
- Draft of your week 9 report

Not much done >:(

Monday Week 7 19/10/15

Sped up the opencl sort by removing some incorrect buffer stuff.

Monday Week 8 26/10/15

Tried To fix OpenCl bugs

Monday Week 9 2/11/15

Fixed that massive bug with the OpenCL sort.

Monday Week 10 9/11/15

Added CUDA to the framework
Implemented a CUDA sort.
Lightly Investigated Memory copy modes on CUDA
Met with Ben

Objectives:

- Before moving to CUDA fully, test:
    - Using clEnqueueMigrateMemObj
    - Use sub buffers to work with smaller mem objects (clSubBuffer or clCreateSubBuffer)
- Tidy up the CUDA stuff
- Update graph
- Implement compression

Monday Week 11 16/11/15

Ported Cuda sort algorithm back to openCL,
clEnqueueMigrateMemObj is bad.
Tidied up framework to deal with cuda and opencl experiments nicely
Fixed the horrible selector on the resultsVis to a slightly less horrible selector,
Started looking into DX12

Goal - DirectX 12 investigation. Application that runs a compute shader across cards. Will copy “numbers” between cards. Mutate the data in some way to check.

UPDATE YOUR DIARY SHEET!!!!!!

Monday Week 13 30/11/15

Got compute shaders working on DX12, Got cross card sort working, benchmarked, really slow.

21/12/15

Tried to speed up DX12, did but not by much, still slow
Cuda Ping pong working
Bit compressor working

25/01/16

Fixed the Linux build again

WHAT’S GOING ON!!!! (Kevin - 25/1/16)

Todo

- **Re-evaluate your plan - what needs to be done by when?**
- **Get floating point compressor working - or it cannot be done.**
- **Get charts cleaned up - need to present the data.**
- **Structure of report in place**
- **Evidence for next week!!!**

03/02/16

Gfc Compressor working, not coupled with decompressor yet
Moved the timing functions of old experiments over to cuda events for accuracy
Fixed a load of old bugs, batch experiments working again
Made a JS parser to merge output csvs
Started final results colletion

06/02/16

Tried to fix gfc decompressor.
put some more data into the results.csv

20/02/16

Optimising Cuda code, fixing some bugs, getting data

15/03/16

Dissertation Work

8/04/16

Fixed Cuda Serial sort, and some GFC bugs

10/04/16

Linux build fixes, Dissertation

21/04/16

OpenCL Ping Pong, Dissertation