Meeting 1

01/03/2018 7pm - 8:30pm (1.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Minutes:
- Caught up and got to know one another
- Learnt about one another's background and experience
- Discussed reasoning behind the project choice
- Selected the consensus project
- Posted links for information about Raft algorithm, recommended 1 hour long video of author explaining
- Recommended reading the PhD paper on the algorithm
- Decided not to use an Android app as an example program
- Decided on communication medium of Discord
- Scheduled weekly meeting times of Wednesdays at 8pm
- Organised to meet to start work on Assessment 1

Work going forward:
- Watching the video on the Raft algorithm
- Attend next meeting on Friday 2nd of March at
- Email Jim regarding being a 2 person team

Meeting 2

02/03/2018 7pm - 10:30pm (3.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Meeting agenda:
- Confirm all users have push notifications for messages in Discord
- Create meeting minutes document
- Go over what is required for assessment 1
- Update bio on forum to recommendations
- Resolve references to "homepage of team wiki", this is to be made available within first 2 weeks
- Establish joint document collaboration method, Google Docs proposed
- Establish version control, add documents made
- Invite Jim to the Discord server
- Look over what is required for assessment 2 so we have an idea of what is coming up

Minutes:
- Confirmed happy with email that was sent to Jim requesting to work as 2 man team
- Yes, all users have Discord push notifications turned on.
- Yes, we've created the meeting minutes documents, this is it
- We went over what was required for assessment 1
- We agreed that we'll have to wait until Monday when teams are solid for Jim giving us homepages to post information required on wikis
- Established Google Docs as joint collaboration method
- Established Bitbucket as version control server
- Completed the required Team Charter document
- Agreed on demonstration console program, outlined in Project Overview of Team Charter
- Agreed on a SMART goal for our Team Goal
- Agreed on a C++ style guideline, link in Team Charter
- Agreed on a code review mechanism, Collaborator
- Agreed on a documentation software package, Visual Paradigm
- Moved Google Docs docs into a folder, and created shareable link for Jim
- Made an invitation link for Jim for the Discord server
- Agreed on team rules and expectations
- Signed the team charter
- Setup version control on Bitbucket, troubleshooting various issues along the way
- Made our own branches on Bitbucket

- Made a clear README.md file, added a .gitignore and a LICENSE
- Added the redacted Team Charter
- Meeting came to a close due to fatigue
- Organised to meet again to do work on Saturday 03/03 at 2pm

Work going forward:
- Complete unfinished business from last meeting
- More specifically, ensure that all requirements laid out in Assessment 1 are met
- Give Jim links to Discord, Bitbucket repo, and Google Docs
- Will establish a protocol that meeting minutes are confirmed by both parties going forward

Meeting 3

03/03/2018 2pm - 4:30pm (1.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Meeting agenda:
- Go over list of info to include in project proposal
- Complete unfinished business from last meeting
- More specifically, ensure that all requirements laid out in Assessment 1 are met
- Give Jim links to Discord, Bitbucket repo, and Google Docs
- Will establish a protocol that meeting minutes are confirmed by both parties going forward
- Fix up markup for the README.md file
- Add linking to important documents in the README.md file

Meeting minutes:
- Discussed README.md changes and linking important documents into the file for easy access
- Discussed that meeting minutes will be committed to repo and we will need to ensure no personal information is added to them
- Set up a Team on BitBucket, gave both of us admin access
- Both setup SourceTree
- Sean walked Joshua through how to use SourceTree
- Joshua commited the Meeting Minutes and Team Charter to the repo
- Joshua committed a placeholder file for Project Proposal to the repo
- Sean proposed the changes to the README.md file to link the important docos
- Joshua gave feedback to turn out names into links as well
- Sean confirmed he will do these changes
- Meeting has been adjourned, to be continued at 4pm
- Meeting continued at 4pm
- Debugging an issue with quotes showing in the readme.md file on only Joshua's devices
- Not going to continue resolving the issue on Joshua's devices. Sean is following the correct method, it's working on his computers, assuming Joshua's devices somehow at fault. Accepting Sean's changes to readme.md file
- Organised to meet again to do work on Sunday 04/03 at 2pm

Meeting 4

04/03/2018 2pm - 3:30pm (1.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Meeting agenda:
- Go over list of info to include in project proposal
- Complete unfinished business from meeting 2 and 3
- More specifically, ensure that all requirements laid out in Assessment 1 are met
- Give Jim links to Discord, Bitbucket repo, and Google Docs
- Will establish a protocol that meeting minutes are confirmed by both parties going forward
- Push changes for mixed README.md to master branch
- Discuss change of language from C++

Meeting minutes:
- Agreed to change language of library to C#
- Updated readme.md to reflect changes
- Took words from the readme.md file to update to team charter, pushed a new version of that up to master
- To keep it in-house with Atlassian's Bitbucket/SourceTree, we're looking to use Crucible for code review
- Joshua agreed to pay for EC2 hosting, and Sean to pay for Crucible license
- We agreed that if Joshua's work will sponsor hosting, we'll use the free hosting
- Sean updated all the links in README.md so they all point to latest master branch
- We agreed Sean needs to spend more time getting familiar with Raft
- Joshua will follow up completing the Project Proposal document by next weekly meeting on Wednesday

To follow up:
- Joshua to discuss with his work about sponsoring a server
- Give Jim links to Discord, Bitbucket repo, and Google Docs

Meeting 5

07/03/2018 7:45pm - 10:15pm (2.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Discussions/developments which have happened since last official meeting:
- Joshua will host the Code Review server, Crucible, himself at home. He will provide Sean VPN access
- Joshua setup a VPN server and Crucible server
- We spent 40 minutes debugging VPN issues, solved it to be an issue with an aged .ovpn file bundled with the .msi installer
- We've tested this VPN access and confirmed working
- Crucible was not working at the time of testing VPN, Joshua has since fixed Crucible server. MySQL55w-server issues, reinstalled.
- Joshua wrote a Dynamic DNS service for Windows and is running it in his hypervisor
- We gave Jim our preferred times for having our fortnightly meetings, all on Wednesday. In order, 9pm, 8pm, 7pm.
- We looked into using a ticketing system for tracking tasks in our project, decided it was overkill for such a small team
- Sean has gone through the git repo and updated email addresses to standardise
- Sean provided a PDF for API design for us to reference

Meeting agenda:
- Get Sean's sign off for Project Proposal document, make any necessary changes
- Confirm could not find a template for Project Proposal document
- Discuss the Project Stages Draft document
- Go through the released Template documents in Resources section to ensure we aren't missing any sections in our documents. Update where required.
- Setup and put links on the Team Wiki
- Confirm Sean has access to Crucible server
- Discuss/suggest pair programming machine, and confirm Sean has access
- Set out the steps of the project going forward a bit so we know what we're doing, look at LCOM requirements
- Jim mentioned a lot in the latest meeting that "writing documentation with honesty and not covering up for one another" is very important. Although functionally zero chance of being an issue for this team, we'll discuss adding an honesty clause to our Team Charter. Also consider adding a stipulation that failing to meet any obligation, no matter

how small, for either person, will be recorded, even if it's forgiven/not an issue Just for logging.
- Confirm and complete work for first oversight meeting; a previous iteration document and a plan for next iteration.
- Commit any changed documents to version control, commit meeting minutes to version control

Minutes:
- Confirmed VPN working and able to access Crucible server
- Sean made a review and confirmed it was working
- Sean confirmed Project Proposal against marking criteria, he signed off. All we need to do is add the date and our names
- Discussed Project Stages Draft, will use this on Project Plan later and finish it up
- Updated Team Charter with honest clauses
- Showed Sean the pair programming computer
- Install Microsoft Office on pair programming computer
- Added all the links required for allowing supervising academic to team resources/wiki
- Added a PMAS post on the team wiki
- Started on our first iteration documents for our insight meeting next week
- Updated all changed documents to version control
- Agreed to meet again on Friday at 9pm to finish iteration plans, add to VC and link in wiki

Meeting 6

09/03/2018 8:00pm - 9:45pm (1.75 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Discussions/developments which have happened since last official meeting:
- Added some thoughts into Phase 1 research
- Moved meeting forward an hour, to 8pm

Agenda:
- Discuss if Iteration Plan should be landscape due to excess tables
- Complete the iteration documents
- Organise a time to do some work together on the research phase
- Organise to confirm with Jim about having access to our repo

Minutes:
- Converted Iteration Plan 1 document to landscape
- Completed the Iteration Plan 1 document
- Committed Iteration Plan 1 document to version control
- Added link to Iteration Plans in readme.md file in version control and link to wiki
- Worked on Iteration Plan 2 document
- Pushed the draft Iteration Plan 2 document to version control, added link to wiki
- Sent email to Jim to confirm where the time/dates for our oversight meeting is
- Next meeting is Wednesday at 8pm

Meeting 7

14/03/2018 7:00pm - 10:20pm (3.33 hours)

Present:
- Joshua attended meeting
- Sean attended meeting
- Jim attending (9:00pm - 10:00pm)

Agenda:
- Finish our 2nd iteration doc
- Start our 3rd iteration doc

Minutes:
- Finished the 2nd iteration doc
- Finished our 3rd iteration doc plan document
- Pushed both to version control
- Attended meeting with Jim
- Jim gave us feedback for our Project Proposal and Team Charter
- Jim discussed how he'd like the iterations to be, we've done it incorrectly

Meeting 8

17/03/2018 9:00am - 3:30pm (6 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Make the changes that Jim suggested for Team Charter
- Make the changes that Jim requested for the Iteration Plans
- Confirm all links in the wiki works
- Remove week 1 and 2 Iteration Plans

Minutes:
- Talked about network encryption design
- Talked about how we can secure leader election, but we cannot secure proof of work/log entries by the leader. That needs to be based on trust alone, sadly.
- Update Team Charter per Oversight meeting discussion
- Agreed we need to update our process so that documents worked on by both parties, such as Team Charter and Iteration Plans are committed by the joint VC user
- Moved obsolete :(Iteration plans 1 and 2 into obsolete folder google drive
- Update wiki iteration plan to meet subject outline schedule
- We looked at the Subject and Assessment schedule and saw that a working prototype is due by 21st of May. This prototype has been built over a course of 6 weeks through Elaboration Iteration 1 through 3 inclusive. To allow ourselves an extra 2 weeks to build the prototype, we would like to aim to have LCOM finished and submission ready by 26th of March so that we can be two weeks ahead, leaving 8 weeks for building the prototype.
- Agreed to also to **start work on LCOM today to achieve the 26th of March deadline**
- This means we're going to do **LCOM entirely in one iteration, and iteration 2 will include starting out design of the prototype**
- Created Inception Iteration Plan 1, pushed to version control and updated wiki
- Begun work on Project Vision document for LCOM, confirm no need to upload to Version Control (taken a bit longer than anticipated!)
- Agreed on meeting at 7pm on Monday, Tuesday, Wednesday, Friday and Saturday until work is complete.

Meeting 9

19/03/2018 7:00pm - 10:00pm (3 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Finish Project Vision document
- Continue working through LCOM

Minutes:
- Confirmed agenda
- Committed an updated version of the meeting minutes to VC
- Sean made two diagrams for the Project Proposal document
- Continue working on Project Vision Document
- Finished part 3 of the Project Vision document
- Started looking at part 4, the requirements for the Project Vision Document
- Decided to call it a night, will continue on Project Vision part 4 tomorrow 7pm

Meeting 10

20/03/2018 7:00pm - 10:00pm (3 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Discussions/developments which have happened since last official meeting:
- Joshua completed the list of functional/non-functional requirements in Project Vision document

Agenda:
- Confirm Joshua's changes to Project Vision document
- Finish Project Vision document
- Continue working through LCOM

Minutes:
- Confirmed Joshua's changes to Project Vision document
- Set priorities of each of the functional and non-functional requirements
- Agreed that another graph with warm nodes would be useful, Sean to make
- Touched up aesthetics of the Project Vision document
- Agreed we aren't up to quality standards on the last two points, Joshua to do some extra work and have that completed
- Started work on the use case diagram document

Meeting 11

21/03/2018 7:00pm - 10:00pm (3 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Minutes:
- Totally rewrote the use case document, we'd gone the wrong path before
- Continued work on the use case document

Meeting 12

23/03/2018 8:00pm - 10:00pm (2 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Minutes:
- Continuing work on the use case diagram document
- Finished the use case diagram document
- Started on Short Use Case document
- Found another use case, and another include relationship to add to use case diagram
- Continuing on Short Use Case document
- Will adhourn until tomorrow at 10am

Meeting 13

24/03/2018 10:00am - 3:30pm (4.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Confirm Joshua's changes to Project Vision document

Minutes:
- Continuing work on the short use case document

Meeting 14

27/03/2018 8:00pm - 10:30pm (2.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Review the draw.io use case uml
- Discuss bits Sean missed at end of LCOM meeting

Minutes:
- Continuing work on the short use case document
- Finished short use case and committed

Meeting 15

28/03/2018 7:00pm - 10:45pm (3.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Complete Iteration Plan 1
- Start Iteration Plan 2

Minutes:
- Discuss plan for moving forward
- Created list of Jim questions/agenda
- Finished Iteration Plan 1
- Finished the initial Iteration Plan 2
- Committed those to version control
- Updated links on wiki page for documents
- Fix actual hrs to equal man hours
- Discussed tech demo (send json over UDP as message, then unpack and read)
- Discussed Domain Model requirements (can be a class diagram, whatever succinctly conveys project)

Meeting 16

30/03/2018 9:00am - 4:40pm (6.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Continue working on Iteration Plan 2
- Continue working on LCOM submission

Discussions/developments which have happened since last official meeting:
- Joshua completed the technical competency demonstrator

Minutes:
- Discussed UDP Networking tech demo.
- Joshua discovered message size issue (You are guaranteed 576 bytes (548 for UDP payload) with IPv4, but you should look to keep under 1472 bytes (1444 UDP) at least for most users. https://stackoverflow.com/a/4457269/2071729)
- Created repository for technical competency demonstrator (TCD)
- Committed RaftNetworking to Repo
- Committed TCD to Repo
- Need to create a README.md for TCD
- Discussed creating repository for UDP networking library
- Walked through TCD and RaftNetworking library
- Completed draw.io sketch of domain model including cardinality and detail
- Tried to fix Sean's network
- Completed Visual Paradigm Domain Model, committed to version control
- Completed Project Vision update priorities for function

Meeting 17

31/03/2018 9:00 -

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Continue working on LCOM submission
- Review any changes that need to be made to Domain Model
  - Do we need to add the developer read/write system logs?
- Is the below excerpt from the marking matrix (Requirements Model section) covered already in the Project Vision doc or do you think we need to detail again separately?

| Does the analysis of non-functional requirements demonstrate an ability to identify, quantify, prioritise, and communicate required system qualities? (LO2) | All critical and significant NFRs addressed and justified. Both runtime and non-runtime quality characteristics considered.

Consideration of NFRs detailed and specific.

Prioritisation of NFRs clearly and correctly justified against specific needs of project.

Costs and benefits of | |

Minutes:
- Reviewed/audited Domain Model
- Committed to version control
- Emailed Jim for feedback and clarifying for the second part of Requirements Model
- Embedded the RaftNetworking.dll file into the Tech Demonstrator
- Started work on the Architecture Proposal document
- Doubled hours in Iteration Plan 1 to reflect man hours
- Completed Project Vision document, committed to VC
- Almost completed Architectural proposal.
- Next meeting Wednesday aim for 7:00pm (might be 7:30pm)

Was worried I'd need to write a UDP packet reassembler to send UDP packets larger than 512 bytes. But, apparently .NET UDP already does this below 65KBs. I sent a massive 65KB packet, and saw it broke up automatically into 1514 byte packets and sent. Added a check to max packet size in the library, so we'd throw and inform a user ourselves. I looked, we should add compression to the messages we send, probably GZip since it's included

Meeting 18

04/04/2018 6:30 - 8:00pm

Present:
- Joshua attended meeting
- Sean attended meeting

Discussions/developments which have happened since last official meeting:
- Joshua added compression to networking library
- Joshua confirmed 65KB is the largest packet size, that's perfectly fine, won't need to write the packet reassembler. .NET will auto break into 1514 byte packets and reassemble itself up to 65KB.

Minutes:
- Go over networking changes
- Talk about Jim email
- Look at finishing the Architecture Proposal document
- Issues with how to finish that off, emailed Jim

Meeting 19

07/04/2018 9:00am - 9:30pm (10 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Do the write up for the Technical Competency Demonstrator (TCD) - 20 Marks
- Finish proposed architecture - 20 marks
- Risk List - 5 Marks
- Master Test Plan - 5 Marks
- Project Plan - 5 Marks
- Inception Phase Status Assessment - 5 Marks
- Finish requirement model - 20 marks

Minutes:
- Assembled images of output for the TCD
- Linked the original jpegs as hyperlinked images so they're viewable if the rendering isn't clear enough on output/export
- Recreated a class diagram of the networking with the changes
- Wrote the explanation/analysis and completed the TCD document
- Confirmed both group members are happy with quality of the document
- We haven't heard back from Jim, so we've confirmed our educated guess as to what to put in the "Layers of architectural framework" in Architecture Proposal diagram
- We've produced a diagram, and a table which links NFRs to Architecture
- Confirmed both group members are happy with the quality of the document
- Completed the Generic Risk List
- Completed the Project Specific Risk List
- Confirmed both group members are happy with the quality of the document
- Started work on Master Test Plan
- Agreed we don't have sufficient understanding of how the Master Test Plan should work, such that we'll follow this up with Jim on Wednesday in our Oversight meeting
- Started work on Project Plan document
- Agreed on each milestone and deliverable
- Made changes back through the LCOM documents as required to support stance
- Confirmed both group members are happy with the quality of the document
- We did not finish Inception Phase Status Assessment, Requirement Model or Master Test Plan. These are scheduled to be completed as part of the next iteration
- Next meeting will be on Wednesday at 7pm to produce Iteration documents for Oversight meeting with Jim at 9pm

Meeting 20

11/04/2018 7:00pm - 10:30pm (3.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Finish last weeks iteration plan
- Complete the next iteration plan
- Look at NUnit
- Get NUnit working with RaftNetworking solution
- If there is time, look at some of the design stuff
- Have oversight meeting with Jim at 9pm

Minutes:
- Getting NUnit working in RaftNetworking solution
- Completed last iteration plan
- Completed the new iteration plan for iteration 3
- Agreed to add meeting minutes and LCOM stuff to VC

Meeting 21

12/04/2018 8:00pm - 9:30pm (1.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Complete requirements model work tonight

Minutes:
- Made new Requirement Model document in Google Drive
- Wrote some words around the domain model
- Fixed issues with private data in VC commits again
- Added the required info in Project Vision to meet the Requirement Model requirements

Meeting 22

13/04/2018 8:00pm - 10pm (2 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Complete the Master Test plan

Minutes:
- Completed master test plan
- Confirmed both are happy with document quality
- Committed changes to version control
- Confirmed next meeting time for 9am tomorrow

Meeting 23

14/04/2018 9:00am - 1pm (4 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Complete the Inception Phase Status Assessment
- Compile the LCOM sections together into a submittable LCOM
- Confirm document quality, make any changes necessary
- Commit to version control/submit, email notify Jim

Minutes:
- Started work on Inception Phase Status Assessment
- Completed Inception Phase Status Assessment
- Discussed repo directory structure change (Project Initiation folder)

Meeting 24

18/04/2018 7:00am - 9:30pm (2.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Start work on this fortnights iteration, starting to design
- Start the design of networking, security, then Raft

Minutes:
- Wrote a document which has the features we'll want in the design of networking/security
- Completed the security design, in a basic form

Meeting 25

21/04/2018 9:00am - 10pm

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Continue work on this fortnights iteration, doing the design
- Start the design of networking, then Raft algorithm

Minutes:
- Completed the class diagrams for the following:
  - Raft Networking
  - Raft Distributed log
  - Raft Node Info
  - Raft Messages
  - Logging Wrapper
- Completed audit quality reviews of the diagrams
- From this point forward our planning should be more realistic and achievable (fingers crossed we hope!)

Meeting 26

27/04/2018 7:00pm

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Update meeting minutes
- Finish off iteration plan from last iteration
- Create the iteration plan or next iteration

Minutes:
- Updated meeting minutes
- Finished Iteration Plan 3

Meeting 27

28/04/2018 7:00pm

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Finish the design/diagram for Raft
- Complete the TDD integration and unit tests for all classes

Minutes:
- Updated meeting minutes
- Finished Iteration Plan 3

Meeting 28

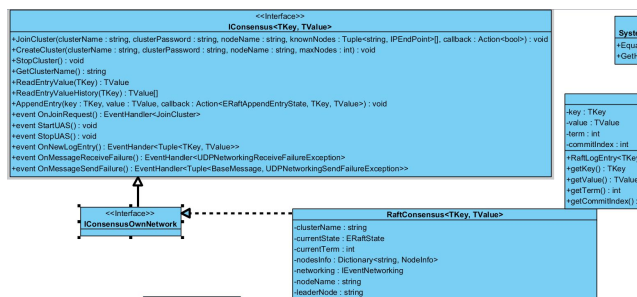29/04/2018 9:00am - 9:30pm - (11.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Finish the design/diagram for Raft
- Complete the TDD integration and unit tests for all classes

Minutes:
- Activity diagram of JoinCluster
- Finished RaftNetworkMessaging class diagrams
- Messages are not authenticated only relying on encryption, authentication if time allows
- Finished RaftConsensus Class diagram
- Fitness is going to be feature development if time allows
- Decided development to be EVENT DRIVEN ONLY. Feature development if time allows non event driven application to lower the barrier of entry to understand our library.
- Pipe dream use external network library… Everyone implement our network library
  - Feature could be implemented as per sketch below (requires consideration)

- Created Visual Studio project for TeamDecided.RaftConsensus and TeamDecided.RaftNetworking
- Created Visual Studio project for TeamDecided.RaftConsensus.Tests and TeamDecided.RaftNetworking.Tests
- Commited to VC
- Started filling out basic structure
- Next meeting Wednesday 7pm
  - Fixup Networking class diagram (Event based)
  - Implement networking classes into RaftNetworking project
  - Start learning and doing Testing on RaftNetworking!!!
- Saturday meeting 9am agenda
  - Joshua to implement RaftNetworking
  - Sean to implement TDD for other classes
  - Clean up BitBucket from the Raft Networking repo

Meeting 29

02/05/2018 7:00pm - 10:00pm (3 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Go over Joshua's implementation of the networking class
- Go through Joshua's proposed updates after starting to implement code
- Update the Visual Paradigm diagram for the networking class
- Merge all the projects into a single RaftConsensus project
- Push meeting minutes, haven't done it in a long time

Minutes:
- Reviewed dream list and created the project dream list doc on google drive
- Conducted code review together in bitbucket via teamviewer
- Made agreed changes and finished first code review
- Updated the Visual Paradigm diagrams for the networking class
- Merged all the projects into one Visual Studio solution
- Pushed meeting minutes

Meeting 30

05/05/2018 9:00am - 10:00pm (12 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Start learning and doing TDD/Unit testing on RaftNetworking
- Joshua to implement RaftNetworking security protocol
- Sean to implement TDD for other classes in RaftNetworking
- Clean up BitBucket from the Raft Networking repo
- Push the meeting minutes

Minutes:
- Completed integration and unit testing for RaftNetworking.Messages
- Rename RaftLogging to RaftCommon. As this will be the common code between the libraries (no duplication)
- Added IRaftDisposable --- No No No we undone this!
- Completed writing tests on RaftNetworking
- Josh still working on RaftNetworking Security protocol.

Meeting 31

09/05/2018 7:00pm - 10:00pm (3 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Update meeting minutes
- Finish off iteration plan 4
- Create the iteration plan 5

Minutes:
- Updated meeting minutes
- Finished Iteration Plan 4
- Finished Iteration Plan 5
- Discussed with Jim that he's happy to give us an extra iteration over the uni break
- Sean and I would like to take this, so we'll have to re-write our iteration

Meeting 32

12/05/2018 9:00am

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Update meeting minutes
- Discuss next the extra iteration and how to plan it
- Complete the work from the current iteration due today

Minutes:
- Updated meeting minutes
- Discussed we can't plan what to put into next iteration specifically until we get there, so we'll hold off for now and just keep working
- Discussed the work to be completed today
- Implemented RaftDistributedLog and RaftNodeInfo
- Joshua completed Raft Networking Security
- Joshua and Sean completed Raft Networking Testing
- Dropped INetworking interface for Raft Consensus to use anyone's networking, dream list
- Merged everything into Master
- Holding off on RaftLogging until we're finished prototype, it's not strictly required

Meeting 33

19/05/2018 11:00am - 9:00pm (9 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Discuss Josh's required time off during uni break for uni exams and the weekender holiday earlier discussed
- Discuss Sean's requirements for time off during uni break
- Confirm initial implementation of stubbed Raft Consensus code
- Complete Raft Consensus Implementation
- Confirm all integration and unit tests pass
- Complete a functional demonstration prototype

Minutes:
- Discussed Mocking
- Made IConsensus work with RaftConsensus class
- Decided to leave full dependency injection level testing until after we have an implementation for the prototype, simply for reasons of time constraints
- We will skip the 2nd of June meeting, and then meet again on the 9th. For exam study reasons. Sean exam on Monday, Joshua on Tuesday.
- Joshua's weekender is in the first week of July, so it's 2nd of July (Sat) to 5th July (Tues)
- Started implementing RaftConsensus,
- JoinCluster implemented - needs testing
- We're aiming to have a working prototype by 10pm Saturday next week
- Joshua will work on algorithm with any spare time he has during the week, Sean will work on implementing tests with any spare time he has during the week

Meeting 34

23/05/2018 7:00pm - 9:45 (2 hours, 45 minutes)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Take a quick look over progress made since last meeting
- Complete the current iteration plan
- Write the next iteration plan
- Work out dates for study over the break, working with Jim's extension
- Confirm with Jim about where our assessment marks are up to, need them to revise our documents with

Minutes:
- Completed current iteration plan 5
- Created iteration plan 6
- Reviewed current project working state, Josh walked through current message exchange and cluster initialization.
- Updated iteration plan links on the wiki

Meeting 35

26/05/2018 9:00am - 10:00pm (10 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Go over Sean's work about linking Work Items to commit entries
- Complete this weeks work items, get a prototype running/finish consensus algorithm

Minutes:
- Went over Sean's work about linking Work Items to commit entries
- Worked on implementing additional consensus logic. Finished most of it. Now it's onto testing it.
- Having issues testing it, it's just too complicated with all the threads flying around. Going to look into trying to better isolate the problem so can investigate.

Meeting 36

27/05/2018 12:30pm-10:00pm

Present:
- Joshua attended meeting
- Sean attended meeting - In and out where available

Agenda:
- Joshua to continue working on getting algorithm working
- Sean to continue prototype where available

Minutes:
- Worked on algorithm
- Started to develop the prototype

Meeting 37

28/05/2018 8:30pm-10:00pm (1.5 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Joshua bug exterminating
- Sean bug hunting and continue to work on prototype

Minutes:
- Found bug (prototype hang and not spawn windows) Found the high frequency Lock was blocking threads and causing dead lock :(
- Reviewed the GUI.
- Implemented Logging to help diagnose ongoing threaded bug examination.

Meeting 38

29/05/2018 7:30pm-10:30pm (3 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Joshua bug exterminating
- Sean bug hunting and continue to work on prototype

Minutes:
- Found issue when GUI closed the network and node object were not being disposed properly. Forced to manually Dispose() from GUI onFormClosed

Meeting 39

30/05/2018 7:30pm-10:30pm (3 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Joshua bug exterminating
- Sean bug hunting and continue to work on prototype

Minutes:
- Found found bug that sometimes not all GUI member forms would render; found that unique case where follower would become candidate and then fall over hence bringing down the cluster.. (josh has better details)
- Did a review of gui layout and suggested changes have been made:
- BootStrap:

    Lock ability resize window
    Title - Include "BootStrap"
    Server's is not a capital and Address
    Update "Item1" colum title to appropriate
    Please enter cluster name you wish to "create"
    Giant title "Team Decided - Raft Consensus"

- RaftLogging multiple events
- Subscribe to the event of DoDebug, and DoInfo
- Implement event which gives back TKeyTValue
- Testing:

    - Commit entry
    - Voting works

Meeting 41

31/05/2018 7:30pm-10:30pm (3 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Joshua bug exterminating
- Sean bug hunting and continue to work on prototype

Minutes:
- Continuing to hunting down intermittent threading bug when multiple windowed nodes displayed
- Reviewed new gui layout and functionality
- Raft Logging events and buffer added
- Continued to hunt bugs with UI hangs when joining/creating cluster

Meeting 42

1/06/2018 7:30pm-10:30pm (3 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Joshua bug exterminating
- Sean bug hunting and continue to work on prototype

Minutes:
- Josh to working on Append log event so that the nodes can get notification of commit.
-

Meeting 43

5/06/2018 7:30pm-10:30pm (3 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Joshua bug exterminating
- Sean bug hunting and continue to work on prototype

Minutes:
- Josh testing OnNewCommitedEntry
- Josh finished Append.log event so that the nodes can get notification of commit.
- Sean to continue working on GUI and make bugs for Josh to find

Meeting 44

6/06/2018 7:30pm-10:30pm

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Joshua bug exterminating
- Sean bug hunting and continue to work on prototype

Minutes:
- Working on PMAS iteration documents
- Jim called off meeting due to illness. Requested confirmation of LCAM due date given our two week extension.
- Pushed up iteration docos to VC

Meeting 45

7/06/2018 7:30pm-10:30pm

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Joshua bug exterminating
- Sean bug hunting and continue to work on prototype

Minutes:

Meeting 46

8/06/2018 7:30pm-10:30pm

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Joshua bug exterminating
- Sean bug hunting and continue to work on prototype

Minutes:

Meeting 47

9/06/2018 7:30pm-10:30pm

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Joshua bug exterminating
- Sean bug hunting and continue to work on prototype

Minutes:
- Fix UAS Status active/inactive
- Put a label on the debug window with node status (leader/candidate...)
- Limit to 9 nodes
- Do appropriate log levels throughout RaftConsensus
- Add logging to RaftNetworking
- Solve raft networking bug, the exception throwing thing
- Go through and make sure all things that should be logged, are, in both libraries
- Added debug functionality to GUI Bootstrap and node debug tab.
- Fixing encryption rejoin failure after rejoin (unable to decrypt message from server)
- Pushed to nuget using [instructions](#)

Meeting 48

11/06/2018 10:00am-5:00pm - 7:30pm-10:30pm

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Go over changes Joshua made
- Start LCAM
- Update iteration document

Minutes:
- Completed Project vision review
- Completed Requirements Model review
- Completed Final Architecture review
- Completed Risk list review
- Completed Project plan review
-

Meeting 49

12/06/2018 7:30pm-10:30pm

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Continue LCAM
- Revised master test plan
- Look at Executable Architecture/Test results
- Then look at Elaboration Phase Assessment

Minutes:
- Completed Master Test Plan review
-

Meeting 50

13/06/2018 7:30pm-10:30pm

Present:
- Joshua attended meeting
- Sean attended meeting
- Jim for oversight portion

Agenda:
- Continue LCAM
- Revised master test plan
- Look at Executable Architecture/Test results
- Then look at Elaboration Phase Assessment

Minutes:
- Revising Master Test Plan again after discussions last night while creating test result documents .
- Last minute oversight meeting (which is a good thing - opportunity to review project state and discuss requirements for LCAM submission)
- Showed Jim our prototype, he was happy and impressed with content and the inner workings.
- Discussed the requirements for the testing document
- Covered the iteration plans
- Happy with our changelog style, need to submit separately
- He was also happy with the idea of a video of application running
- Add a blurb in relation to the prototype, architecture the use of nuget, also comment on the features that have not been implemented in this submission.

Meeting 51

13/06/2018 10:30am - 9:45pm (10 hours)

Present:
- Joshua attended meeting
- Sean attended meeting

Agenda:
- Continue LCAM
- Revised master test plan
- Look at Executable Architecture/Test results
- Then look at Elaboration Phase Assessment

Minutes:
- Completed again Revised Master Test Plan again
- Completed Test Results document
- Updated NuGet package