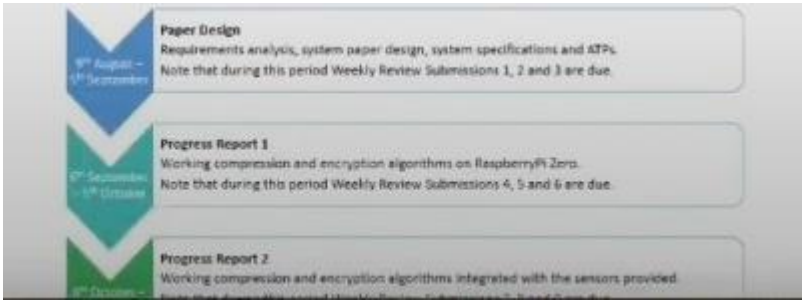
EEE3097S-2022

Date	10/08/2022
Attendees Chair	Moutloatsi Setlogelo (STLMOU001) Brendon Mutema (MTMBRE002)
Agenda items	• Discussion points after meeting tutor • Determine choice of subsystem • Updates to timeline • Requirements progress and ATPs
Action items from previous meeting	• Setup a full structure within Trello • Structure GitHub repository • Revisit lecture videos to mark down suggested solutions
Discussions points and action items	After meeting with our tutor, we realised we needed to set goals for ourselves of what we want to achieve in our subsystems at the end of the project. Our goals are therefore to be in line with the user requirements which is being able to have working subsystem algorithms with the compression side to be able to extract the 25% coefficients, having a good compression ratio whilst retaining the most important data. We are also looking to draw little computational power for both encryption and compression. And maximizing battery longevity. Data must be transferred as soon as processing is done. We split the system into subsystems where Moutloatsi would be dealing with the encryption side and Brendon the compression side. For the compression algorithm, the best algorithm will be the one with the smallest compression ratio while keeping data integrity. Consideration also had to put on the compression and decompression speed while selecting the algorithm to avoid wasting power. The chosen algorithm is supposed to compress the data from the simulations so that we will be able to retrieve at least 25% of the data. For the ATP the data is sent to the algorithm for compression, we take note of the size of the compressed file and compare it to the size of the uncompressed data to calculate the compression ratio. For data Integrity we decompress the data and compare the decrypted data to the test data to see if it has been modified in any way and the speed of the process of encryption and decryption are the times taken to perform the process'

	For the encryption, a good algorithm would be needed with an acceptable security and needs to draw little power usage. An ATP would be to determine if the file is in fact encrypted which we can test by sending an unencrypted file to the micro-controller and retrieve it, seeing if the input data matches the yield data. We also need to be able to decrypt the file by either sending it back to the micro-controller or making a separate desktop script to decrypt the data. Another ATP would be to determine which of the two best algorithms would draw the least amount of power by determining which one has the best computational speed. After getting both programs to work, we time how long it takes for the encrypted file to return from the microcontroller, generating an average speed. Our timeline is in line with the course timeline  Action Items: Compiling the progress report IMU data Simulations Review YouTube Playlist
Signatures	MS  B.E.T MUTEMA