Work Logbook

Kate Bowater

U1019160

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| **Date** | **Activity** | **Time (Hours)** |
| 16/03/24 | Created ELE33052024DA repository and folders.  Included Alexander Kist and Bo Song as collaborators.  Committed work logbook | 0.5 |
| 19/03/24 | Committed design report copy to docs folder (not finished) | 0.5 |
| 20/3/24 | Created new flow in Node-Red | 4 |
| 23/3/24 | Included relevant papers of application scenario in docs folder. Committed to repository | 0.75 |
| 23/3/24 | Formatted reference list. Finalized application scenario and worked on the specification section of report | 5 |
| 23/3/24 | Created test program in OpenPLC editor | 2 |
| 24/3/24 | Started design project in OpenLC editor and tested using Radzio for Modbus, but could not get working | 3 |
| 24/3/24 | Added more information to Specification section of design report | 2 |
| 25/3/24 | Spent time troubleshooting. Had to reimport new image of raspberry pi clone into virtualbox due to OpenPLC connectivity issues. This resolved the earlier problem of the circuit not working. Created new circuit in OpenPLC editor and imported to OpenPLC, tested with Modbus with success. | 3 |
| 25/3/24 | Worked on Node-Red flow to OpenPLC to check Modbus reading and UI response. Made edits to OpenPLC to resolve issues | 4 |
| 27/3/24 | Made changes to OpenPLC logic to ensure buttons for water pump work in Node-Red | 5 |
| 27/3/24 | Updated design report and Modbus window according to circuit changes | 1 |
| 28/3/24 | Worked on design report. Edited specifications and system overview. Started on ICT security risks and found three more references. | 5 |
| 29/3/24 | Added more information to system overview of design report and ICT risks, included references. | 3 |
| 1/4/24 | Worked on Node-red to decode data in flows and then use that to write to the PLC via Modbus. Updated design report to include the code and scaling used. Some issues during testing involving writing to Modbus and requires further troubleshooting | 8 |
| 2/4/24 | Found the issue of writing to Modbus was due to the assigned data type of the payload – needs to be number 0 or 1. Finalisation of Node-red flow to UI dashboard. | 3 |
| 3/4/24 | Investigating mapper service and sending data to the API. Nothing worth committing. | 4 |
| 4/4/24 | Successfully sending data to the mapper service. Made adjustments to the UI dashboard for a blinking LED as pH warning. Saved copy of Node-red flows to src folder. | 4 |
| 7/4/24 | Made edits to the System Overview of design report and ICT risks. Not committed to repository. | 3 |
| 8/4/24 | Further editing and research for ICT risks. | 4 |
| 10/4/24 | Continued working on ICT risks section. Added more references. | 6 |
| 11/4/24 | Added to conceptualisation section of report. Created flowcharts and images for support. Swapped MQTT node in node-red from test data to generate red. Wrote executive summary. | 8 |
| 12/4/24 | Finalised report. Created pdf of commits to repository. | 3 |
|  | **Total** | **81.75** |