Name : Lee Jian Zhen

Position : R&D Software Intern

Department & Unit : Manufacturing Department, Software Unit

Supervisor : Mr. Syed Ahmad Syafiq

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| **Date** | **Task Performed (Point Form)** |
| 10/10/22 | * Introduction to JKS Engineering * Brief of task for having the direction of job scope (Enhance existing PLC project, etc) * Install the software required for PLC programming (TwinCAT3) * Gather information for PLC programming learning purpose |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 11/10/22 | * Learn structured text PLC programming with TwinCAT3 by using the gathered resourced provided by supervisor * Go thru some information about ladder diagram |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 12/10/22 | * Presentation about the understanding of Programmable Logic Controller by using TwinCAT3 * Prepare information to create a small and simple program for bread bakery machine |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 13/10/22 | * Follow the guide on BECKHOFF for having a clear direction while programming using TwinCAT3 * Brief of MQTT and OP CUA |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 14/10/22 | * Enhance the knowledge about the TwinCAT3 * Complete the task given by supervisor (create a simple “game”) by using TwinCAT3 * Discussion with supervisor about the TwinCAT3 programming tips |

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| **Date** | **Task Performed (Point Form)** |
| 15/10/22 | * Attend the presentation about GAMP5 * Installed the required software for OPCUA documentation |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 17/10/22 | * Attend the knowledge sharing session presented by Tan and Mr. Lim * Go thru the whole documentation of OPCUA * Do practices with the “extend” inside TwinCAT3 |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 18/10/22 | * Attend the presentation about MQTT, OPCUA, SEMI E10 by Tai * Present the bakery program to supervisor * OPCUA progress done until create server and user (admin, client, anonymous) |

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| **Date** | **Task Performed (Point Form)** |
| 19/10/22 | * Done the OPC UA setup on own device (laptop) and enable to read and write the variable * Practices about the security for TwinCAT3 folder encryption by using OEM certificate with Syed and Tai |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 20/10/22 | * Give some suggestion to Tai about the documentation of OPC UA * Done redo my bakery program * Show to Syafiq how the OPC UA connect, read, and write the variable |

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| **Date** | **Task Performed (Point Form)** |
| 21/10/22 | * Meeting with Tai and Syafiq about Tai’s project * Implement visualization into bakery program and present it to Syafiq |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 25/10/22 | * Discussion with Syafiq for assigning task (Git, and Amkor) * Do some research on Git and use SourceTree as Git GUI * Testing the version control together with Syafiq (Upload file, add contributor, pull , commit, push, pull request, etc) |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 26/10/22 | * Study the Git for version control. Somehow I done in 2 methods (Use SourceTree as Git GUI / straight use TwinCAT3 build in feature) * Discussion with Syafiq about what to improve in the new Amkor project * Used 1 hours to help Mocha solve the problem of unable to clone private repository when using SourceTree. It was bad ending, but we found that the problem was on the SourceTree side because I try to use TwinCAT3 instead of SourceTree to clone the repository and it’s a success. |

Comments:

SourceTree has a well-designed interface that user can immediately know there has what

functionality but we still need to study how to use those functionalities by our own.

TwinCAT3 also can has those functionalities, but we need to find it ourselves.

In my experience, TwinCAT3 is easier to use for basic control because the step was lesser

than SourceTree. SourceTree has better description about the whole image of version ctrl

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| **Date** | **Task Performed (Point Form)** |
| 27/10/22 | * Go thru Amkor Project code and understand it (Asked Syafiq some question regarding the code. E.g., digital I/O) * Use TwinCAT3 Git feature to perform version control |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 28/10/22 | * Installed TortoiseGit but still haven’t try it out * Try to find a way to simplify the variable name (E.g. Machine.Arm[X].bAvailability) * Do some research on UML diagram (https://creately.com/blog/diagrams/uml-diagram-types-examples/) |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 29/10/22 | * Study the different between procedural programming and object-oriented programming in TwinCAT3 * Do research on UML diagram * Show Syafiq about the UML diagram and OOP in TwinCAT3 |

Comments:

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| **Date** | **Task Performed (Point Form)** |
| 31/10/22 | * Discussion with Syafiq and conclude UML diagram (Class Diagram) for Amkor project will be carry out first * Discuss with HumbleJ about the pseudocode of his project * Listed all attribute from Amkor project to MsExcel (Left Library) * Discussed with Syafiq about the idea of designing the Class Diagram for Amkor project |

Comments: