** Griffith School of Engineering**

**PROFESSIONAL PRACTICE**

**CATEGORY A, B & C ACTIVITY LOG SHEET**

**1. PERSONAL DETAILS**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Griffith identification Number** | | | | | | |  | **Family Name:** Barber |
| 5 | 1 | 3 | 8 | 8 | 7 | 7 |  | **Other Names:** Jessy |

**2. PROFESSIONAL PRACTICE ACTIVITY**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **CATEGORY**  (See Note 1) | | **A** | **Days**  (See Notes 2 & 3) | | | | **5** |
| **Week Beginning** | **21 / 11 / 22** | | | **Week Ending** | | **25 / 11 / 22** | | |
| **Supervisor Name:** Alex Forward | | | | | **Contact Ph:** +61755492370 | | | |
| **Organisation Name:** Gilmour Space Technologies | | | | | **Email:** alex.forward@gspace.com | | | |
| **Organisation Address:** 5 Millennium Circuit, Helensvale | | | | | | | | |

**3. ACTIVITY DESCRIPTION & REFLECTION**

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| **Description of Activities Undertaken:** (Approximately 50 words)  I researched the theory behind a CAN bus in terms of its physical layout and data transmission. I started planning my project which involved designing software applications and hardware to sniff for battery management system (BMS) data packets being transmitted over a CAN bus network. The packets needed to be decoded into relevant information from the BMSs such as module voltage, cell voltage and cell temperature. The system had to be designed as a read only device and support a data transmission rate of up to 1 Mbps. |
| **Discuss the Engineering Application Abilities Developed:** (Approximately 50 words) (See Note 5)  Whilst planning the initial design of my project, I developed my research abilities and knowledge development by studying the inner logic of CAN bus data transmission. I learned about packets, endianness, hexadecimal addressing and protocols for decoding data from CAN frames. I have also developed my skills in C++ within the CLion IDE by learning about Cmake files to organise my project. Overall, I feel that I have extended my knowledge in binary encoding / decoding, packet transmission and programming. |
| **Discuss the Professional and Personal Attributes Developed:** (Approximately 50 words) (See Note 5)  Before I started developing the code for my applications, I had to become familiar with the software team’s GitLab repository. This required me to learn about Git CLI commands for committing, and about branching commits. I hadn’t been involved in a large-scale repo with multiple authors before, so I feel like I have developed my understanding of how companies organise the software they are working on at a large scale. |

**4. STUDENT SIGNATURE**

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| **Student Signature:** | **Date: 26/11/22** |