Software Overview

Year: \_\_\_\_\_\_ Semester: \_\_\_\_\_\_\_\_ Team: \_\_\_\_\_ Project:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Assignment Evaluation:

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| --- | --- | --- | --- | --- |
| **Item** | **Score (0-5)** | **Weight** | **Points** | **Notes** |
| **Assignment-Specific Items** |
| **Software Overview** |  | x2 |  |   |
| **Description of Algorithms** |  | x2 |  |   |
| **Description of Data Structures** |  | x2 |  |   |
| **Program Flowcharts** |  | x3 |  |   |
| **State Machine Diagrams** |  | x3 |  |   |
| **Writing-Specific Items** |
| **Spelling and Grammar** |  | x2 |  |   |
| **Formatting and Citations** |  | x1 |  |   |
| **Figures and Graphs** |  | x2 |  |   |
| **Technical Writing Style** |  | x3 |  |   |
| **Total Score** |  |   |

5: Excellent 4: Good 3: Acceptable 2: Poor 1: Very Poor 0: Not attempted

General Comments:

*Relevant overall comments about the paper will be included here*

1.0 Software Overview

*In your functional specification, your team describes the desired/expected functionality of your design. In this section, describe the implementation of that functionality from a software and firmware perspective. What functionality is being implemented in software and firmware? How is that functionality being implemented in software and firmware? That information should be included here.*

2.0 Description of Algorithms

*It is likely you are using particular algorithms or software processes in your design to efficiently achieve certain functions and objectives. (Even simple processes, such as implementing embedded trig functions through table lookup, are appropriate for this section of the report) Describe the algorithms/processes you expect to use in the software/firmware of your design. Use cited source materials and links wherever possible to support your descriptions.*

3.0 Description of Data Structures

*It is likely you are using particular data structures for some or all of the data handled in your design’s software/firmware (structures either designed by your team or provided by various sensors, chips, or software libraries). Describe the data structures you expect to use in the software/firmware of your design. In the event that your design doesn’t utilize meaningful data structures, detail the structure of communication packets being used by the microcontroller (send byte, acknowledge, data, etc.) Use cited source materials and links wherever possible to support your descriptions.*

4.0 Sources Cited:

*Throughout this and other papers, use of the IEEE citation style should be used. Use of embedded hyperlinks for all web-based sources is required. A reference to the IEEE citation style format is provided* [*here*](http://www.ieee.org/documents/ieeecitationref.pdf)*.*

Appendix 1: Program Flowcharts

*Use this appendix to provide program flowcharts of your design. Depending on your design, multiple program flowcharts may be appropriate. If this is the case, include the additional flowcharts in this section.*

Appendix 2: State Machine Diagrams

*Use this space to provide a state machine diagram of your proposed software. Categorize the operating states that your microcontroller will be in, as well as what conditions cause the microcontroller to transition between states. Feel free to use the* [*Mealy*](http://en.wikipedia.org/wiki/Mealy_machine) *or* [*Moore*](http://en.wikipedia.org/wiki/Moore_machine) *state machine models, as is appropriate for your design.*