Control over CAN and Flexray

Embedded Control Systems

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Contents

Introduction **2**

1 Part 1 **3**
1.1 Introduction . . . 3
1.2 Response Time analysis . . . 3
1.2.1 Response time analysis per processing unit . . . 3
1.2.2 Response time analysis for the CAN bus messages . . . 3
1.3 System model . . . 3
1.4 Design decision . . . 3
1.5 Results . . . 3

2 Part 2 **4**
2.1 Introduction . . . 4
2.2 Response Time analysis . . . 4
2.2.1 Response time analysis per processing unit . . . 4
2.2.2 Response time analysis for the CAN bus messages . . . 4
2.3 Optimisation for sensor-to-actuator delay . . . 4
2.4 System model . . . 4
2.5 Design decision . . . 4
2.6 Results . . . 4
2.7 Conclusions . . . 4

3 Part 3 **5**
3.1 Introduction . . . 5
3.2 Answer all the questions . . . 5
3.2.1 Theoretical analysis versus actual implementation . . . 5
3.3 Design decision . . . 5
3.4 Results . . . 5
3.5 Conclusions . . . 5
3.6 Results . . . 5
3.7 Conclusion . . . 5

Introduction

Chapter 1

Part 1

1.1 Introduction

1.2 Response Time analysis

1.2.1 Response time analysis per processing unit

Table 1.1: By running the Matlab script ResponsetimeAnylsis_FPP.m with the different parameters given for PU1 and PU2 these response times are obtained. These files are then delivered as PU1.m PU2.m

PU1	T_1	T_2	T_3	T_4 (T_s)
Matlab (ms)	0.1	2.1	4.1	7.2
Inchron (ms)	0.1	2.1	4.1	7.2

PU2	T_5	T_6	T_7	T_8
Matlab (ms)	6	3	9	5
Inchron (ms)	6	3	9	5

1.2.2 Response time analysis for the CAN bus messages

1.3 System model

1.4 Design decision

1.5 Results

Firstly: Response time analysis
Secondly: Control system input and output

Chapter 2

Part 2

2.1 Introduction

2.2 Response Time analysis

2.2.1 Response time analysis per processing unit

2.2.2 Response time analysis for the CAN bus messages

2.3 Optimisation for sensor-to-actuator delay

2.4 System model

2.5 Design decision

2.6 Results

Firstly: Response time analysis
Secondly: Plots from chronVIEW (before and after optimization)
Last: Control system input and output

2.7 Conclusions

Chapter 3

Part 3

3.1 Introduction

3.2 Answer all the questions

3.2.1 Theoretical analysis versus actual implementation

3.3 Design decision

3.4 Results

Firstly: Solution to the design problem. (Include the parameters you have chosen)
Secondly: from chronVIEW for your design

3.5 Conclusions

3.6 Results

3.7 Conclusion