

AU-Herning : EPRO 4 Renewable Energy System

Project - Energy Hub

Counselor: Morten Opprud Jakobsen & Klaus Kolle

BY E10 - Team3:

**Theis Christensen
(10691)**

**Dennis Madsen
(90248)**

**Paulo Fontes
(10484)**

Executive summary

Preface

Table of Content

I	Analysis	5
1	Introduction	6
2	Problem statement	7
II	Realisation	8
3	Hardware design	9
1	Introduction	9
2	Power line and switch mode	9
3	Power switch	9
4	Interface	9
5	Results	9
4	Digital design	10
1	Introduction	10
2	LPC2478 to spartan 6 interface	10
2.1	External memory controller	10
2.2	Bus functional module	10
2.3	Wishbone	10
3	Module design	10
3.1	Design	10
3.2	Indicator	10
3.3	Interrupt register	10
3.4	Interface	10
4	Results	10
5	Software design	11
1	Introduction	11
2	Device drivers	11
3	Kernel setup	11
4	Das U-Boot	11
5	Results	11
6	Web design	12
1	Introduction	12
2	Server setup	12
3	Database	12
4	File structure	12
5	Results	12
III	Recapitulation	13
7	Conclusion	14
8	Discussion	15

Section	Chapter	4 of 20
9 Process evaluation		16
IV Appendix		18
A Project 4		19
B two		20

Part I

Analysis

Chapter 1

Introduction

Chapter 2

Problem statement

Part II

Realisation

Chapter 3

Hardware design

1 Introduction

By: NAME

2 Power line and switch mode

By: Dennis Madsen

3 Power switch

By: Paulo Fontes

4 Interface

By: Dennis Madsen

5 Results

By: NAME

Chapter 4

Digital design

1 Introduction

By: Theis Christensen

2 LPC2478 to spartan 6 interface

By: Theis Christensen

2.1 External memory controller

2.2 Bus functional module

2.3 Wishbone

3 Module design

By: Theis Christensen

3.1 Design

3.2 Indicator

3.3 Interrupt register

3.4 Interface

4 Results

By: Theis Christensen

Chapter 5

Software design

1 Introduction

By: Dennis Madsen

2 Device drivers

By: Dennis Madsen

3 Kernel setup

By: Dennis Madsen

4 Das U-Boot

By: Dennis Madsen

5 Results

By: Dennis Madsen

Chapter 6

Web design

1 Introduction

By: Paulo Fontes

2 Server setup

By: Paulo Fontes

3 Database

By: Paulo Fontes

4 File structure

By: Paulo Fontes

5 Results

By: Paulo Fontes

Part III

Recapitulation

Chapter 7

Conclusion

Chapter 8

Discussion

Chapter 9

Process evaluation

Bibliography

Part IV

Appendix

Appendix A

Project 4

Appendix B

two