$\Delta T_{EX} 2_{\epsilon}$ -Vorlage von Matthias Pospiech

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May 13, 2011

Erklärung der Selbstständigkeit

Hiermit versichere ich, die vorliegende Arbeit selbstständig verfasst und keine anderen als die angegebenen Quellen und Hilfsmittel benutzt sowie die Zitate deutlich kenntlich gemacht zu haben.

<Ort einfügen>, den <Datum einfügen>

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1 Introduction

1.1 Personal motivation

This thesis describes the analysis, enhanced design and implementation of an existing microcontroller based mesh solution [Kor09]. The current solution showed.

1.2 Research overview

1.3 Mesh networks in embedded devices

2 Evaluation

- 2.1 Existing solutions
- 2.2 Assumptions
- 2.3 Requirements

3 Architecture

3.1 Algorithms

- 3.1.1 Concurrency
 - Problem description
 - Petri net design
 - Complexity
 - Thread based design
 - Stack
 - Context switch
 - Protothreads
- 3.1.2 Routing design
- 3.1.3 Protocol design
- 3.2 Implementation
- 3.2.1 Hardware

RAM

- Harvard architecture
- RAM bus
- Latch

6 3 Architecture

USB serial interface

RFM12B interface

keyboard interface

3.2.2 Software

UART

SPI

RFM12

Watchdog

Shell

4 Research

- 4.1 Methodology
- 4.2 Results

5 Conclusion

Bibliography

[Kor09] Korniowski, Marek: Projekt odpornej na awarie sieci komputerowej z transmisją danych w pasmach nielicencjonowanych (2009)

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Danksagung