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

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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