Positive Energy Worker Subtitle



Zied Guesmi

Supervisors: Prof. A.B. Supervisor

Prof. C.D. Supervisor

Advisors: Dr. A. Advisor

Dr. B. Advisor

Department of Computer Science Engineering
Faculty of Mathematical, Physical and Natural Sciences of Tunis
University of Tunis ELMANAR, Tunisia

This dissertation is submitted for the degree of Computer Engineer



Acknowledgements

And I would like to acknowledge ...

Abstract

This is where you write your abstract ...

Table of contents

Li	st of f	figures			xi
Li	st of 1	tables			xiii
1	Gen	eral Int	troduction		1
2	Pro	ject Con	ntext		3
	2.1	Contex	ext		. 3
	2.2	Host c	company		. 3
	2.3	Proble	ematic		. 3
	2.4	Sugges	ested Solution		. 3
	2.5	Adopto	ted Methodology	 •	. 3
3	Stat	e of The	ne Art		5
	3.1	Introdu	luction		. 5
	3.2	Critiqu	ue de l'existant		. 5
	3.3	Conclu	lusion		. 5
4	Desi	ign & te	echnical specifications		7
	4.1	Introdu	luction		. 7
	4.2	Archit	tecture		. 7
		4.2.1	Global System Architecture		. 7
		4.2.2	Scheduler		. 7
		4.2.3	Worker		. 7
		4.2.4	Software Development Kit (SDK)		. 7
	4.3	Detaile	led Design		. 7
	11	Conclu	lucion		7

Table of contents

5	Req	uiremei	nts and Analysis	9
	5.1	Introdu	uction	9
	5.2	Requir	rements	9
		5.2.1	Functional Requirements	9
		5.2.2	Non-Functional Requirements	9
	5.3	Analys	sis	9
		5.3.1	General Use Case Diagram	9
		5.3.2	System Sequence Diagram	9
	5.4	Conclu	asion	9
6	Imp	lementa		11
	6.1	Introdu	uction	11
	6.2	Enviro	nment	11
		6.2.1	Hardware	11
		6.2.2	Electronic Card: Raspberry Pi	11
		6.2.3	Solar Panel	11
		6.2.4	Battery	11
		6.2.5	Witty Pi	11
		6.2.6	Software	11
		6.2.7	Development Technologies	11
		6.2.8	Documentation	11
	6.3	Illustra	ation	11
	6.4	Conclu	asion	11
7	Gen	eral Co	nclusion And Perspectives	13
Re	eferen	ces		15

List of figures

List of tables

General Introduction

- Blockchain, IoT, Cloud Computing, fancy words that shaped the actual era of IT
- With all the innovation they have brought, are we using them the right way?

Project Context

2.1 Context

- pfe
- Engineering degree

2.2 Host company

- iExec: founded when where, size, doing what ...

2.3 Problematic

- Enegy Consumption
- Centralized Services
- Idle IoT devices
- Idle Computing resources

2.4 Suggested Solution

- Positive Energy Worker - Usefull use cases - Multi-functionality IoT devices

2.5 Adopted Methodology

- To Do

4 Project Context

2.6 Hidden section

Lorem ipsum dolor sit amet, *consectetur adipiscing elit*. In mag a dignissim nisl iaculis nec. Praes et tempus mi cursus.

Etiam elementum eleifend sed 1 . Maecenas dapibu augue ut urna Integer non dictum nunc.

¹My footnote goes blah blah blah! ...

State of The Art

3.1 Introduction

- what's out there

3.2 Critique de l'existant

- Centalized
- Energy Consumption
- Idle resources

3.3 Conclusion

Design & technical specifications

4.1 Introduction

- intro

4.2 Architecture

- 4.2.1 Global System Architecture
- 4.2.2 Scheduler
- **4.2.3** Worker
- 4.2.4 Software Development Kit (SDK)
- 4.3 Detailed Design
- 4.4 Conclusion

Requirements and Analysis

5.1 Introduction

- intro

5.2 Requirements

- **5.2.1** Functional Requirements
- **5.2.2** Non-Functional Requirements
- 5.3 Analysis
- **5.3.1** General Use Case Diagram
- **5.3.2** System Sequence Diagram
- 5.4 Conclusion

Implementation

6.1 Introduction

- intro

6.2 Environment

- 6.2.1 Hardware
- 6.2.2 Electronic Card: Raspberry Pi
- 6.2.3 Solar Panel
- 6.2.4 Battery
- **6.2.5** Witty Pi
- 6.2.6 Software
- **6.2.7** Development Technologies
- **6.2.8** Documentation
- 6.3 Illustration
- 6.4 Conclusion

General Conclusion And Perspectives

References