SYSC4907 PROJECT:
SENSOR-BASED ACCESS CONTROL SYSTEM

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A Fourth Year Project Report
submitted to the Dept. of Systems & Computer Engineering
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for the degree of
Bachelors of Engineering

Abstract

This report tells you all you need to know about something.

Acknowledgements

I would like to thank my supervisor, anyone who paid me money, gave me equipment, etc.

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List of Abbreviations

NFC	Near Field Communication
HMAC	Keyed-hash message authentication code

Chapter 1

Introduction

Give an introduction to your project. This might include:

- Motivation for your project
- Problem you are trying to solve
- Scope of your project
- Organization of your report

You should tune this appropriately for what best suits your project.

Chapter 2

The Engineering Project

2.1 Health and Safety

Using the Health and Safety Guide posted on the course webpage, students will use this section to explain how they addressed the issues of safety and health in the system that they built for their project.

2.2 Engineering Professionalism

Using their course experience of ECOR 4995 Professional Practice, students should demonstrate how their professional responsibilities were met by the goals of their project and/or during the performance of their project.

2.3 Project Management

One of the goals of the engineering project is real experience in working on a long-term team project. Students should explain what project management techniques or processes were used to coordinate, manage and perform their project.

2.4 Individual Contributions

This section should carefully itemize the individual contributions of each team member. Project contributions should identify which components of work were done by each individual. Report contributions should list the author of each major section of this report.

2.4.1 Project Contributions

Give the individual contributions of the each team member towards the project.

2.4.2 Report Contributions

Give the individual contributions of the each team member towards writing the final report.

Chapter 3

Technical Background

3.1 NFC

3.2 Cloud Computing

3.2.1 AWS

3.3 Security

3.4 Singe-board computers

3.4.1 Raspberry pi

3.4.2 Arduino

Chapter 4

Business Use Cases

4.1 Online Order Secure Pickup

4.2 Central Mail Package Pickup

4.3 Long Term Storage

4.4 Service Provider

Chapter 5

Problem Analysis and System Design

5.1 Overall System Analysis

5.2 NFC

5.3 Android

5.4 Hardware

5.5 Cloud

5.6 Lock Demonstration

Chapter 6

System Implementation

6.1 NFC

6.2 Android

6.3 Hardware

6.4 Cloud

Chapter 7

Testing and Bug Fixes

Chapter 8

Conclusions

References

[1] T. Me and R. You, "A great result," *Wonderful Journal*, vol. 5, no. 9, pp. 1–11, 1998.

[2] J. Him and K. Her, "An even better result that you won't believe," *Best Journal Ever*, vol. 4, no. 8, pp. 55–66, 2002.

Appendix A

Extra Simulation Results

Appendix B

Review of Linear Algebra