UNIVERSITI TEKNOLOGI MARA

NEAR FIELD COMMUNICATION FOR PHARMACY MEDICATION INFORMATION

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Dissertation submitted in partial fulfilment
of the requirements for the degree of
Master of Science (Computer Networking)

Faculty of Computer and Mathematical Sciences

December 2014

ABSTRACT

Near Field Communication (NFC) is base on technology from Radio-Frequency Identification (RFID). NFC use shorter range communication between 3 cm to 10 cm and also use lower radio frequency at 13.56 MHz. Since 2010 when NFC was integrated into mobile phone the use of NFC technology become widens. This paper presents experimentally the use of NFC for pharmaceutical outlet to assist customer starting at the entrance of the premise till getting consultation from the pharmacist. NFC helps the customer navigating around the premise base on map that had been push to customer NFC mobile device. Every single cabinet in the premise also tag with NFC to share information regarding with the item available. Consultation with pharmacist becomes easier when all necessary information relating to medicine can be share between pharmacist and customer using their NFC mobile device. All of this approach will reduce the time of customer find their need and they also can get proper information and consultation from the pharmacist. Proper medication labelling also can reduce medication error that can affect patient health. The result of the study also suggested that a larger memory size of NFC tag for future research for sharing more medication information to the patient. It is hope that the study can contribute to the improvement of accessing information in pharmacy and also enhance sharing process of medication information between patient and pharmacist.

ACKNOWLEDGEMENTS

In the name of Allah, the Most Gracious and the Most Merciful

Alhamdulillah all praises to Allah S.W.T the almighty for His forgiveness and protection upon completing this dissertation.

First and foremost of all I am warmly expressing my deep appreciations to my supervisor Dr. Kamaruddin bin Mamat for his supervision and support from the early stage until the completion of this research. I also would like to sincerely thank all the lectures that taught and guide me with great knowledge and experience from the beginning of my journey as a master student. I would also like to thank dissertation coordinator Dr. Nor Shahniza Kamal Bashah in providing and assisting knowledge in writing aspect of this dissertation report.

Secondly I would like to express my sincere thanks both to my parents and parents' in-law including my wife for their prayers, love, motivation and support.

Last but not least my fellow friends in indirectly helps giving ideas and solutions in completion of this research.

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CHAPTER 1

INTRODUCTION

Chapter 1 Introduction explain and defined objectives, research question, problem statement and scope as the framework and fundamentals of the research as a reference and guideline for the experiments to make sure it within the scope of research.

1.1   BACKGROUND OF PROJECT

Near Field Communication (NFC) is a set of standards for smart phones and similar devices to establish radio communication with each other by touching them together or bringing them into proximity, usually no more than 10 cm. Present and anticipated applications include contactless transactions, data exchange, and simplified setup of more complex communications such as Wi-Fi. Communication is also possible between a NFC device and an unpowered NFC chip, called a "tag".

NFC is an amendment to the existing contactless smart card systems, but still compatible to them. It is presented in ISO 18092 (NFCIP-1), supporting cards compliant to ISO 14443. NFC allows wireless transactions over a distance of up to 10 centimetres. This is part of the *Touch and Go* philosophy giving the user a new dimension of usability. Hence, NFC-enabled handsets allow the consumer to interactively participate in the Internet of Things in a way like never before.

Consumers can use their handsets to retrieve further information by touching tags integrated within posters, products, or shelves. Alternatively, the handset itself can be used as a transponder, and therefore provides additional functionality in terms of applications and identification. This vision requires interoperability on different layers and a common agreement of industry players integrating technology and applications(Markantonakis & Mayes, 2013).

This paper proposes an interactive environment to consumer when entering the pharmaceutical premise. Interactivity in this situation is consumer can get all