

**DEVELOPMENT OF SMS-BASED TELECARDIOGRAPHY
SOFTWARE FOR PATIENT MONITORING ON BLACKBERRY
OS 5**

By

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

DEVELOPMENT OF SMS-BASED TELECARDIOGRAPHY SOFTWARE FOR PATIENT MONITORING ON BLACKBERRY OS 5

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Modern communication technology and the usage of the wireless communication provide a great opportunity to develop medical services such as telecardiology. The research is aimed to develop mobile ECG monitoring system and increase the mobility of the patient. The application is developed on BlackBerry device version 9300 OS 5. The methodologies of this research include ECG data preparation, QRS complex detection, heart rate determination, heart rate classification, and sending SMS as notification to alert the doctor. The overall accuracy of the heart rate analyzing process of the application is 98.05%. The application takes a total time of approximately 2.2 seconds to analyze the data and 2 minutes 17 seconds to send the SMS. It is capable in sending SMS automatically to alert the doctor about the patient condition every time the patient has abnormal state. The content of the message includes patient ID and the condition of the patient.

Keywords: ECG, SMS, BlackBerry

DEDICATION

I dedicate this thesis to my family, especially my “Father”.

Without Him, I am nothing.



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TABLE OF CONTENTS

STATEMENT BY THE AUTHOR	2
ABSTRACT	3
DEDICATION	4
ACKNOWLEDGMENTS	5
CHAPTER 1 – INTRODUCTION.....	10
1.1 Background.....	10
1.2 Research Scope.....	11
1.3 Objective of the Study.....	11
1.4 Significance of the Study	11
1.5 Methodology.....	11
1.5.1 Literature survey.....	11
1.5.2 Problem identification.....	11
1.5.3 Design and Analysis	12
1.5.4 Result	12
CHAPTER 2 – LITERATURE REVIEW	13
2.1. Anatomy and Physiology of Human Heart	13
2.2. Electrocardiogram.....	15
2.3. QRS Detection Algorithm.....	18
2.4. BlackBerry.....	19
2.4.1. BlackBerry Simulator.....	21
2.4.2. BlackBerry Development	21
2.4.3. BlackBerry User Interactions	24
2.4.4. BlackBerry Screen Components	24
2.5. Software Engineering.....	24
2.5.1 UML (Unified Modeling Language).....	26
2.5.2. UML Diagrams	27
2.6. Mobile Development.....	31
2.6.1. Develop Java in Blackberry.....	32
2.7 Short Message Service	32
2.7.1. Application	33
2.7.2. SMS Center (SMSC).....	34
2.7.3. SMS Gateway	35
CHAPTER 3 – METHODOLOGY	37
3.1 Application Design with UML.....	37
3.1.1 Use Case Diagram	37
3.1.2 Class Diagram.....	38
3.1.3 Sequence Diagram	39
3.2 Developing Application in BlackBerry	40
3.2.1 Why Develop in BlackBerry	40
3.2.2 Requirement for Developing in BlackBerry	42
3.3 BlackBerry Application Development	43
3.3.1 API	43
3.3.2 Application Login Process	46
3.3.3 Database	48

3.3.4	Application QRS Complex Detection Process	49
3.3.5	Heartbeat Calculation.....	54
3.3.6	Heart Beat Classification.....	55
3.3.7	Application SMS Process.....	55
CHAPTER 4 – RESULT & DISCUSSION.....		59
4.1	Application on BlackBerry Simulator Device	59
4.2	Heart Beat Process on BlackBerry Simulator	67
4.3	Application on Real BlackBerry Device 9300 OS 5	72
CHAPTER 5 – CONCLUSION AND RECOMMENDATION.....		77
5.1.	Conclusion.....	77
5.2	Recommendation.....	77
GLOSSARY.....		79
REFERENCES.....		81
APPENDIX A		83
CURRICULUM VITAE.....		107

