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A Web based Baby Monitoring System

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DECLARATION

I, **ASHABA CLARE ODO**, declare that this report is my original work and is not a duplicate of any ones work but my very own and has never been submitted by any student to any institution of higher learning for an academic award.

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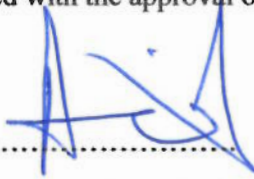
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APPROVAL

This Dissertation Report under the title "WEB BASED BABY MONITORING SYSTEM" has been submitted with the approval of the following supervisor.

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LIST OF ACRONYMS

ALTE	Apparently Life Threatening Events
SIDS	Sudden Infant Death Syndrome
LCD	Liquid Crystal Display
BPM	Beats Per Second
IT	Information Technology
SQL	Structured Query Language
IDE	Integrated Development Environment

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ABSTRACT

A Web Based Baby Monitoring System prototype was developed which gives a reliable and efficient baby monitoring system that can play a vital role in providing better infant care. The system monitors vital parameters such as body temperature, heart rate, and respiration rate of an infant and using Web application, this information is transferred to their parents remotely. Measurements of these vital parameters can be done and under risk situation conveyed to the parents with a notification to initiate the proper control actions. The system architecture consists of different modules including Wearable Hardware with sensors for measurement of each of the three parameters, the middle hardware for receiving data from the wearable and sending of data to the database server that saves and stores the Real time data to the Web application that provides Real time monitoring and push notification.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Many women are often involved in domestic tasks as well as income generating activities and sometimes this may lead them to being away from their babies. An approximation of Seven hundred thousand (700,000) life births in the world is overshadowed by a large number of infant deaths for various reasons like apparently life threatening events (ALTE) or sudden infants death syndrome (SIDS). Continuous monitoring of physiological parameters and notification updates is a need in the current scenario. Child health status is an important aspect and a health monitoring system is an ultimate solution for that [1].

Parents need to know the health status of their children when they are away from them, so that necessary actions can be taken in case of a critical situation. Infant deaths occur due to improper care taken, since mothers with newly born babies have to stay away from them due to various reasons. Health status of babies is hard to detect during such situation. The sudden fall and increase in physiological parameters may cause sudden infant deaths syndrome (SIDS) and may lead to Apparently Life Threatening Event [2]. Good parenting requires the parent to quickly respond to the needs of their children. Constant monitoring of the child also becomes a necessity, especially up to an age of 18 months. Therefore quick response to a child's needs and their constant monitoring, up to an age of 18 months, is a prerequisite in parenting. Back in the days, parents relied on hearing the cries of children. This was fairly easy when parents were less busy and homes much smaller. A little negligence on the part of parents can cost a lot, especially since kids are totally dependent on someone else for their normal functions.[3].

There are some technologies based on wireless sensor networks that are currently in use including; the early developed smart jacket for neonatal monitoring which uses biosensor belt for monitoring, heart frequency, body movements, heart rate, and body temperature. The smart jacket technology was limited for clinical usages. It was embedded with Bluetooth for communication over short range. Health tracker and Health gear are some wearable wireless technologies which monitor baby's vital signs and notify parents. Wireless-Crib monitor that uses Breath-Optics technology focuses on respiratory system of body and accordingly sends

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