
FACULTY OF ENGINEERING

**DEPARTMENT OF COMPUTER ENGINEERING AND
INFORMATICS.**

FINAL YEAR PROJECT REPORT

TITLE: DESIGN AND IMPLEMENTATION OF A SMART ASSISTANT BABY SITTER

BY

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DECLARATION

I **AHIMBISIBWE PATRICIA** BU/UG/2019/0111, hereby declare that this project report is my original work except where explicit citation has been made and has never been published and/or submitted for any other degree award to any other university or institution of higher learning for any academic award.

Sign:

Date:

APPROVAL

The final year project under the title “DESIGN AND IMPLEMENTATION OF A SMART ASSISTANT BABY SITTER” has been done under my guidance and is now ready for examination.

Signature

Date

Dr. OCEN GILBERT

Department of Computer Engineering.

DEDICATION

I dedicate this report to God Almighty my creator, my strong pillar, my source of inspiration, wisdom, knowledge and understanding. He has been the source of my strength throughout this project and on His wings only have I soared.

I also dedicate this report to my parents, Mr. John Beyongyera and Mrs. Hope Orishaba who have encouraged me all the way and whose encouragements have made sure that I give it all it takes to finish that which I have started. God bless you.

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ABSTRACT

Today's lifestyle is fast paced, parents in the present world are very busy in their professional life, hence they don't get sufficient time to take care of their new born babies. It is inconveniencing for parents to constantly watch over their new born babies while doing their work or chores, hence need of a system which helps parents to remotely monitor their babies.

In this project a smart assistant baby sitter is designed which will assist parents to remotely monitor the baby. In this system, the microphone module is to capture the baby cry sound, the temperature sensor is to detect and measure the baby's coldness or hotness, moisture sensor is to determine the moisture condition, that is urine detection and MP3 player for playing for the baby soothing sound when it cries.

The system can send sms notification to the parent/baby's care taker's device when; baby cries, baby's diapers are wet, and baby's temperature is abnormal.

LIST OF ACRONYMS

GSM	Global System for Mobile communications
SIM	Subscriber Identity Module
ECG	Electro-cardiogram
LCD	Liquid Crystal Display

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CHAPTER ONE: INTRODUCTION

1.1 Background

Infant crying is a critical evolutionary signal that allows infants to communicate hunger, discomfort and pain. Crying is also a known stressor that can decrease caregiving quality and increase risks for infant development and caregiver mental health[1].

Crying is the most salient vocal signal of distress. The cries of a newborn infant alert adult listeners and often elicit caregiving behavior. For the parent, rapid responding to an infant in distress is an adaptive behavior, functioning to ensure offspring survival.

Crying, at least in early life, is thought to be largely reflexive, often occurring in response to pain, hunger, or separation from a caregiver. Much like the solicitation signals of other species, an infant's distress cry ultimately serves to promote proximity between infant and caregiver.

The sound of a human infant cry is characterized by a high and highly variable pitch, an overall “falling” or “rising–falling” melody, typically with some degree of tremor (or “vibrato”), and often includes abrupt changes in harmonic structure[2].

These acoustic features are thought to be largely attributable to infants' short vocal chords and limited muscular control over the vocal tract

Observational studies have shown that across cultures, infant crying provokes selective orienting of attention toward the infant and a desire to intervene, typically to provide care[3].

Adults often report the sound of a crying infant as annoying, distressing, aversive, and likely to promote a desire to perform a caregiving response.

There is evidence suggesting that hearing infant cries can initiate a broad range of physiological reactions in adult listeners[4].

Parental responses to infant cries in particular have received much attention as a foundation of attachment relationships[5].

Newly born infants have distinctive skin structure, physiology so that the skin easily breaks, hence skin cleansing is essential to maintain good skin integrity of the newborn.

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