

**DEVELOPMENT OF AN ELECTRONIC WIRELESS MONITORING MAILBOX  
USING RF MODULE**

**Thesis is presented in partial fulfillment for the award of the  
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## **ABSTRACT**

This thesis presents on the development of a prototype Electronic Wireless Monitoring Mailbox using Radio Frequency (RF) Module that can monitor the current status of user's mailbox. Mailbox is an important gadget that receives letter or mail but unfortunately its existence is barely noticeable. Users normally do not notice of a received mail even though they are at home or as for the flat or condominium dwellers, since their mailbox are located away from their apartments, a received mail will normally be unnoticeable. In an attempt to solve the above problem, a concept of mailbox notification system and mail minder that uses wireless RF module is introduced. This system allows users to check remotely the status on a received mail of their mailboxes. A new way to transfer input data on the mailbox is using wireless RF module. IR sensor placed in the mailbox is used to detect an incoming mail, this act as an incoming data. The RF transmitter will transmit the incoming data received from the mailbox to the receiver. Users are able to check the status of their mailboxes via an LCD display located at their house. It is also hoped that the developed system could assist the disabled and also the old folks. The main development tools used for this project are ATMEGA 328, wireless RF module 433MHz, digital IR sensor and other components.

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# **CHAPTER 1**

## **INTRODUCTION**

### **1.0 INTRODUCTION OF PROJECT**

Mailbox is a private box into which mail is delivered. It is also known as letterbox or postbox. There is also electronic mail that has its own system which is also called mailbox, but this electronic mail could not receive real postage like envelopes and packaging. Although the electronic mail was introduced in the late 90's which is fast and cheap to send information and communicate worldwide but the postal system using mailbox is still required.

Most of the important and official documents are sent by the conventional way. This electronic wireless mailbox system using wireless radio frequency (RF) module is designed to give a better service for busy users, the disabled and the old folks. Wireless RF module is a low cost alternative in wireless communication. It is a radio-frequency with rates of oscillation in the ranges of 30 kHz to 300 GHz which respond to the frequency of radio waves [1]. RF is usually refers to the electrical rather than mechanical. This project presents a new and low cost electronics mailbox that uses the latest technology which will alert users when a mail is received and the user is notified via liquid crystal display (LCD).