

# AUTOMATIC ELECTRICAL FAILURE DETECTION

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# **AUTOMATIC ELECTRICAL FAILURE DETECTION**

By

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Report submitted in partial fulfillment  
Of the requirements for the degree  
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## **Approval and Declaration Sheet**

This project report titled Automatic Electrical Failure Detection was prepared and submitted by **Chua Ee Yuan (Matrix Number: 041080091)** and has been found satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the Bachelor of Engineering (Communication Engineering) in University Malaysia Perlis (UniMAP)

**Check and Approved by**

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**(Mr. Zulkifli Bin Husin)**

**Project Supervisor**

**School of Computer & Communication Engineering**

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## **ABSTRACT**

The title of this project is Automatic Electrical Failure Detection. This project enables to design a Radio Frequency (RF) communication system that will be able to link from some place to PC as monitoring system. However one of the greatest challenges to design a system is dealing with unexpected situations that will cause electrical devices fail to function and cutoff the over current. In particular it is very difficult for a developer to decide how to detect current and handle it. The current detect by sensor will send back to the computer using the RF communication. The current will be analyzed by current level in microcontroller than easy to control the switching from place A to place B by using RF communication system. This project is actually a prototype project that enables to build a fully Automatic Electrical Failure Detection that can be easy to control the switch by using a RF communication system. The system will auto cutoff current if over the current setting spec and avoidance system prevent collisions. The ultimate goal is to monitor and auto cutoff over current to protect the electrical devices.

## **ABSTRAK**

Tajuk projek ini ialah pengesanan kegagalan bekalan elektrik secara automatik. Projek ini, membolehkan merekabentuk sebuah sistem frekuensi radio (RF) komunikasi yang dapat menghubungkan dari satu tempat ke komputer sebagai sistem mengawal. Walaupun begitu salah satu cabaran utama dalam membina sistem ini berhadapan dengan keadaan-keadaan yang tidak dijangka akan menyebabkan peralatan elektrik rosak dan memutuskan arus berlebihan. Secara amnya, ia merupakan satu masalah kepada perekaipita mengesan dan mengawal arus elektrik. Arus elektrik akan dikesan oleh pengesan dan hantar ke komputer dengan menggunakan isyarat RF. Arus elektrik akan dianalisis mengikut paras arus dalam pengawal mikro dan senang untuk mengawal suis dari tempat A ke tempat B dengan menggunakan isyarat RF. Projek ini sebenarnya ialah sebuah projek prototaip yang membolehkan pembangunan pengesanan kegagalan bekalan elektrik secara automatik boleh digunakan untuk menyenangkan pengawalan suis dengan menggunakan isyarat RF. Sistem ini akan memutuskan arus elektrik secara automatik jika berlaku berlebihan arus dan seterusnya mengelakkan peralatan elektrik mengalami kerosakkan. Pencapaian utama yang cuba diperolehi melalui projek ini ialah mengawal dan memutuskan arus berlebihan untuk melindungi peralatan elektrik.