

**APPLICATION OF POWERLINE COMMUNICATION TO WLAN SECURITY  
CAMERA SYSTEM**

By

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FINAL PROJECT REPORT

Submitted to the Department of Electrical & Electronic Engineering  
in Partial Fulfilment of the Requirements  
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# **CERTIFICATION OF APPROVAL**

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Approved:

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2012

## **CERTIFICATION OF ORIGINALITY**

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

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Wan AfiedatulSyamimi Bt. Wan Ishak

## **ABSTRACT**

Security camera system at public areas, such as car parks, housing estates, buildings and town centers is increasingly commonplace. It is important to have a good security camera system in order to detect incident and to coordinate police responses. Besides that it will be used as evidence and to inform investigation. For this project, the main focus will be on the security of the Building 22 in UniversitiTeknologiPetronas. The building consists of several Communication Labs which equipped with expensive tools and equipments. The chances for the equipments to get stolen are high since there is no security camera system is implemented in the labs. However, most of the current security camera system in the market uses wireless communication. Because of its drawbacks in security and reliability, another alternative of networking is introduced. In this project, Power line Communication (PLC) is used. The power line communication technology uses existing in-building power distribution wires for data communication. It reduces re-wiring and it is much more affordable compared to the security camera system in the market. The project will outline the connections for all equipment used and the architecture of the system. The report consists of an introduction, problem statement, objectives, literature review and methodology used.

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## LIST OF ABBREVIATION

MAC	Medium Access Control
PLC	Power Line Communication
PHY	Physical layer of the OSI model
IPoP	Internet Point of Presence
FTP	File Transfer Protocol
IP	Internet Protocol
CCTV	Closed Circuit Television
DVR	Digital Video Recorder