IMPLEMENTING A SOFTWARE SOLUTION TO CONTROL MULTIPLE DEVICES USING WAP TECHNOLOGY

By

Michael A. Alexandersen
Russell J. Aprecia
Beverly R. Paqueo

School of Arts and Sciences
Ateneo de Davao University

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ABSTRACT

Due to the advent of WAP (Wireless Access Protocol), mobile phones and PCs (Personal Computers) can now communicate with the use of the internet, thus creating new horizons for possible applications. WAP technology extends its application to controlling all sorts of devices with the use of microcontroller that manages multiple devices connected to it. This study is concerned with an implementation of a cost-effective and efficient software solution to control multiple devices using WAP Technology.

CHAPTER I

INTRODUCTION

1.1 Background of the Study

In the year 2000, studies began recognizing the power that wireless technologies offer in making things better and improve the way people do things. If the use of the Personal Computer (PC) and Internet was slow in the country, the mobile phone reached the stage of pervasive computing sooner as more and more Filipinos use it in their daily lives.

Wireless Access Protocol (WAP) developers are now creating applications for online viewing, Internet surfing, and database access and remote connection to any device. However, hardware solutions solve most of the device management issues such as multiple device connection. One is by providing a separate microcontroller to manage these devices. Microcontrollers are usually programmed using a low-level language such as assembly language that is tiresome to begin with and it does not interoperate easily with Internet related technologies such as WAP. This makes the system inefficient and besides they cost higher.

This study finds a software solution using a high-level language that can interoperate easily with WAP technology. Moreover, the software solution should also work well with a cost-effective hardware connectivity design.

1.2 Statement of the Problem

This study seeks to answer the general problem: How can a software solution to control multiple devices be implemented using WAP technology?

Specifically it seeks to answer the following questions:

- What existing interface ports does a multiple connectivity design use?
- What is a cost-effective multiple connectivity design that allows control of devices?
- How do existing software solutions control multiple devices?
- How can a software solution control multiple devices using WAP technology?

1.3 Objectives

The general objective of this research is to provide a software solution to control multiple devices using WAP technology.

The specific objectives are:

- To identify existing interface ports that are used for multiple connectivity design
- To make a comparison among the different existing interface ports
- To identify a cost-effective multiple connectivity design for controlling multiple devices
- To evaluate the different strategies that existing software solutions use to control multiple devices
- To design a framework based on the results of the evaluation
- To develop and test a WAP application to control multiple devices

1.4 Scope and Limitation of the Study

This study is on developing a software solution to control multiple devices using the remote connection provided by WAP technology. It identifies and compares different existing interface ports for multiple connectivity design. In addition, it compares six existing software applications designed to control multiple devices that helped the proponents to come up with an enhanced software solution.

The study is limited to controlling customized devices configured at home for the designed software solution. Moreover, it is limited to the study of interface ports that provide multiple connectivity, networking devices (Switch, Hub) and wireless channels (Bluetooth, Infrared).

1.5 Significance of the Study

This study is significant to all those who have personal computers at home and those who would like to have remote automation of household electrical appliances by using their mobile phones. This maximizes the usage of Personal Computer that is most of the time left idle at home.

For WAP Application Developers, since the research is implementing an enhanced software-based solution for multiple device connectivity, it will give an idea for creating WAP applications that can remotely control any device.

Moreover, this study contributes to WAP technology because it addresses the expansion and functionality of a typical WAP application.