
Project Title: Internet-based & Wireless Intelligent Home

Supervisor: Dr. Peter W. Tse, Associate Professor and the Director of SAM (Room Y6623)

Introduction
One of the goals in the development of science is to bring mankind to a more comfortable and safe living. As technology advances, home becomes more automatic and electronic. To implement a home automation system, the key element is an integrated controller that is capable to control and monitor all the lighting, communication equipment, appliances and audio-video systems. This controller should be able to turn on or off the lights at desired time; open or close the windows and blinds according to the sunlight intensity or outdoor temperature; perform security check at night or when nobody home; remote control all the home appliances via phone or Internet; transmit all video-audio signals from the main A/V distribution system installed at sitting room to other rooms; manage the energy usage by controlling the air, water coolers and heaters; prepare food or drinks using kitchen appliances in advance; control the sprinkler system or other garden equipment for fertilizing the plants; and feed the pets and fishes at desired intervals etc. Research in developing such integrated home automation system has been substantially investigated by world leading companies, such as General Electric, Toshiba, National etc. In this project, we expected all the controls will come from either wireless control at home or remote control via Internet.

Goal
The goal of this project is to develop the Internet-based and intelligent home automation system. This system should include the tasks of security checking, motorizing windows, drapes and blinds, controlling all the A/V equipment and automating some cleaning and kitchen works.

Objectives of the Design Project
(a) develop creativity and application skills within the subject areas related to product design;
(b) learn how to break up a complex project into sub-tasks which can be tackled individually;
(c) develop teamwork and inter-personal skills through group activities;
(d) gain experience in the area of conceptual design.

Category: In-house project

Number of Students Required: 3