

# A11-149

作品名稱	<b>3C智慧型冰箱</b> <b>3C Intelligent Refrigerator</b>
隊伍名稱	<b>狗與貓 Dogs and cats</b>
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## 作品摘要

我們希望以冰箱作為廚房的控制核心，可以藉由冰箱內的感應機制，偵測冰箱內食品是否低於餘絀量。家中的主人可透過視覺觀看冰箱上掛載的嵌入式平台PXA300 之觸控螢幕以視覺方式查詢冰箱內部食物之餘絀量，可完全一次了解目前冰箱內部所有食品存量及家電控制狀態，並可以觸控方式操控智慧型家電控制，當食品存量單位為預設最低單位為『一』時，低於最低單位時，則會透過藍牙主控端傳送相對應食品採購代碼，藉由電話網路系統撥打使用者預設電話號碼至使用者，使用者接通電話時可於話筒內部聽到語音播放之食品存量不足，貼心提醒使用者訂購。除此，我們賦予冰箱智慧化的功能，使用者可於戶外透過一般市話、隨身手機撥打家中電話號碼即可進入電話控制家電系統，並透過藍牙無線模組遙控家電。

功能總項目為物品自動偵測系統、GIS 監控系統、藉由電話網路控制藍牙無線模組遙控家電。

## ABSTRACT

Abstract—This study is a creative and initial work focused on designing an intelligently automatic detecting and sensor system for home appliances being smartly interactive with mankind with speech in the living space. There are so many home appliances in our living space, and how to make them intelligent so as to let our life more safety, convenient, and comfortable will be a challenge to our knowledge. In this study, some technique and skills especially related 3C (computer, communication, content) were developed to make our home appliances intelligent such as radio remote control, sensors invented by researchers, auto-dialing system, and image analysis with CCD (charged-coupled device) image-fetched. Through linking the sub-systems' function, the main function of the home appliance worked smartly—in this case, we use a refrigerator as the center of all home appliances in a family, the refrigerator could sense the lack of the food, drinks, even irregular shape fruits through all designed sensors and CCD images analysis system, and it also could auto-dial the vendors to deliver the thing those were sensed insufficient. In addition to detect capability, the refrigerator could assign works to other appliance through inter-net or wireless radio remote control system.

Index Terms—3C, Intelligent Home Appliance, CCD, DSP