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WEE CHEF

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Abstract

Nowadays, people find no time to prepare food at home so they are running towards consuming fast food despite of knowing there are many health issues .In the existing system, a prototype was designed to enable a person to cook at multiple locations via radio frequency which might result in serious health problems. To bring a solution for this problem, the WEE CHEF acts as an self-regulating device which allows a person to automatically cooks south Indian recipes at multiple locations as it is portable and also has an option for sharing the recipes to another person via Bluetooth and wifi.

Keywords: Automatic-Bluetooth-Wifi-portable-intervention- Radio Frequency- Bluetooth-inexpensive food-health disease- wee chef.

Introduction

Embedded system is the process of attaching one thing with another thing. Embedded system is generally a combination of both hardware and software in which the software will be embedded into the hardware. It mainly deals with the microcontroller and microprocessor.
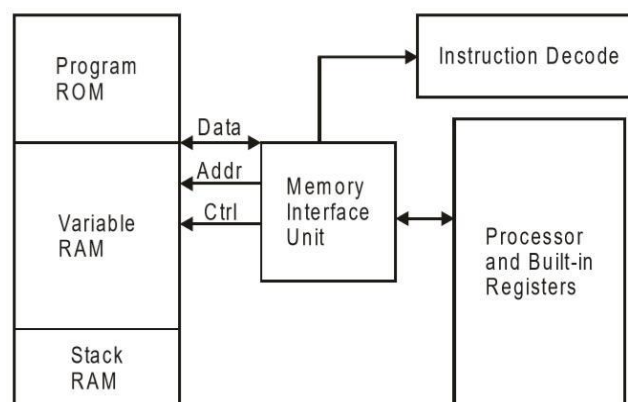
In India, till now there is no automatic cooking machine invented. People who migrate from their hometown in search of job, the major problem these people face is

food which makes them to get attracted towards inexpensive food served quickly that is fast food. This motivated to develop the product (WEE CHEF) which instantly cooks food to one's personal sour. The paper organizes as follows by related work, research direction, discussion about drawbacks and the references.

Related work

[1] Antonio Bono-Nuez, "Applications of Machine Learning in Induction Cooking", Department of Electronic Engineering and Communications, University of Zaragoza,has proposed to identify cooking recipient and estimate the size of recipient. In order to know the exact power needed, the size of recipient was estimated. The drawback is that to identify this,they are combining digital signal processing and algorithm which is a tedious process. To overcome this issue,ARM7 process is been used which enables low power consumption.
[2] S.R. Patil, RaveenaChavan, "Intelligent Cooking Providing Automatic Time and Temperature Setting Using Image Processing With Wide Range of Recipes for Microwave Ovens", Department of Computer Engineering, Pune University, Pune, India. received on December, 2013.In this, accurate automatic cooking is done using Image Processing. Automatic cooking means time and temperature will be set automatically at fly time. It involves comparing images of cooked food and food currently being cooked. Component detection algorithms and Image processing algorithms will be used. Input and output will be images like photographs or frames of video. Images will be treated as 2D signals and signal processing techniques will be applied. The drawback is that feedback from oven are taken into a webcam and videos will be converted into frames of images at runtime. It is not efficient in time and speed.

[3].Pradip Kumar Sadhu*,"Review of Microwave Oven-a Health Hazardous Tool for Cooking as Compared to Induction Cooker*" Department of Electrical Engineering, Indian School of Mines (under MHRD, Govt of India) Dhanbad, Jharkhand, India, has proposed that microwave oven is hazardous device when compared to induction stove. Inside the microwave oven, a magneton tube will be present inside the microwave oven which changes the molecular structure of food particles. The drawback is that it releases toxic molecules which causes cancer and some other diseases. They are also using RF for transmitting data. To overcome this, induction stove is used which accepts any resistivity vessel.

Research direction

Large number of sensors has been used. It would be compact if limited number of sensors is used.The use of radio frequency to transmit the data to another medium may cause hazardous diseases. It would be much safe if bluetooth is used to share data.Sharing the recipes which was cooked according to one's sour was not possible. The users would have been satisfied if this is made possible.The size of the machine is too large in one case whereas it was just a prototype model in another case. It would be useful for the people if the machine was implemented in real time.
The mechanism for building the machine was too complex and it also occupy huge amount of space and so it is not portable to the place where we want.

Discussion

The major drawback in the existing systems is the use of more number of sensors which makes the system more complex. If any error has been occurred it will be very difficult to identify where the problem has been raised. So, to overcome this problem

limited number of sensors can be used. Radio frequency waves are been used which will definitely result in serious health problems. With the help of bluetooth module, this problem can be resolved. In order to determine the size of the recipes and to know how much power to supply, digital signal processing and algorithm had been combined which requires the use of ADC converter to estimate the waveforms. So ARM7 processor can be used since it consumes low power.Using image processing,the exact output may or may not be obtained, so the user might be unsatisfied. To overcome this, RTC (Real Time Clock) is used.When compared to oven, induction stove is much better as the temperature can be controlled. Oven also causes many hazardous diseases like cancer due to presence of magnetron tube inside the oven.Although the induction stove has been used still the temperature is controlled manually, this problem can be resolved by controlling the induction stove via microcontroller automatically. In the existing system, there was no option to share the recipes by which the user fails to share the delicious dishes prepared by them with their neighbours. So the appetite of people .Android application can be used to fulfil the requirements of the user. It was just designed as a prototype and not yet implemented; the prototype will be useful if it is implemented as an automated device in the real time.

Conclusion

With the aid of Wee Chef,80% of work and time spent on cooking will be reduced as it does not require much of human intervention. It is also portable so that one can carry it to places wherever they want. As it is cost efficient people can afford to buy it. Wee Chef occupies only little space and it is compatible when compared to the existing system. Since RF is used in the existing system which produces some health hazards, to overcome this we switched to Bluetooth module to transmit data from one medium to another medium which is also cost less. As the world is moving towards automation, people's appetite towards automatic products has been increased. In the existing system, they just designed a prototype but it will be useful if it is developed as a product. Instead of using Bluetooth, wifi shield can be used in future.

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