Wearable Health Manager for Monitoring Diet and Activity

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Technology description

Invention Summary

The invention combines the functionality of monitoring heart-rate, daily exercise activity, nutritional or dietary intake, and sleep patterns using a device similar to a wristwatch. Automatic classification of food consumed and determining calorie intake is a daunting task and can only be done using expert systems. The invention captures the food consumed, determines the different types of food and portions of food, and estimates the quantity. Based on the users input on the type of food and fat content intake, the calories will be estimated. As a result, the invention provides a device and method that enables diabetics—and other weight watchers—to monitor their exercise activities, sleep patterns, and food/calorie intake more efficiently and non-intrusively. The device can be interfaced with application software for extracting and visualizing collected data.

Market Opportunity

Revenues in wearable technologies are expected to increase 40% over the next five years. One in ten adults in the United States now owns a fitness tracker. Smart phone companies are jumping on the trend as it compliments their products and data streaming services. The wearable technology movement is gaining speed at home and in the workplace, changing the shape of how we track our fitness and well-being, and how companies access consumer information.

Features

The device is equipped with a camera to capture dietary intake, low power Bluetooth module for communication, and a micro USB interface for battery charging and configuration.

Advantages

The application will provide information on exercise, sleep, nutritional information on food intake, and a dietary analysis. All self-report methods are challenging because people do not commonly attend to the foods they have eaten nor remember everything consumed. They often do not know the contents of the foods eaten and cannot estimate portion sizes accurately or consistently. Because many people with obesity or chronic diseases such as diabetes require monitoring of exercise and intake, this device will improve the accuracy of measurement as well as resolve some of the problems with constant data input required by other means, such as daily logs.

Institution

University of Nevada, Las Vegas

Inventors

Venkatesan Muthukumar
Mohamed Trabia
Associate Dean/Professor
Mechanical Engineering
Jillian Inouye
Professor and Associate Dean for Research
School of Nursing