

Vegetable Scales With A Mind Of Their Own

August 14 2008



The intelligent self-service scales automatically recognize which type of fruit or vegetable has been placed on them. (c) Fraunhofer IITB

What was the number you were supposed to enter for the chili-pepper on the self-service scales? Was it 67 or 76? And the number for the bananas? The latest self-service scales automatically recognize what the customer has placed on them.

A quick stop at the supermarket: Balancing bananas, peppers and tomatoes in your arms, you rush from the vegetable counter to the self-service scales in order to print out the respective price label. But what was that number again, the one you had to enter for the tomatoes?

There will soon be an end to this constant running back and forth between the vegetable counter and the scales. Working on behalf of the industrial weighing company Mettler-Toledo, researchers at the Fraunhofer Institute for Information and Data Processing IITB in

Karlsruhe have developed a webcam module for self-service scales.

"The scales automatically recognize which fruit or vegetables are to be weighed and ask the customer to choose between only those icons that are relevant – such as tomatoes, vine-ripened tomatoes and beefsteak tomatoes," states IITB scientist Sascha Voth. Customers can confirm the correct variety on a touch screen.

But how do the scales know whether the customer has placed a pepper, a tomato or a kiwi fruit on them? "The goods are registered by a camera integrated in the scales. An image evaluation algorithm compares the image with stored data and thus automatically recognizes which type of fruit this is," says Voth. Even the cloudy plastic bags in which the fruit may be packaged at the counter are no problem for the scales – the image evaluation system recognizes the various types of fruit and vegetable anyway.

However, though this initially sounds straightforward, it actually involves a number of challenges: Many types of fruit are a different color depending how ripe they are. Bananas, for instance, range from a uniform green to yellow or even spotted brown. Other types of fruit such as apples and pears come in numerous varieties that can likewise vary widely in color. "The new scales are very tolerant to fluctuations in color and brightness. The module can be employed under many different kinds of illumination and with different kinds of camera. Supermarket employees can of course extend the selection of fruit recognized by the scales to make it include new varieties," says Voth. The scales are currently being tested in about 300 supermarkets across Europe.

Source: Fraunhofer-Gesellschaft

Citation: Vegetable Scales With A Mind Of Their Own (2008, August 14) retrieved 25 April 2024 from <https://phys.org/news/2008-08-vegetable-scales-mind.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.