Managing Household Food Waste with the FoodSaveShare Mobile App

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Abstract

In Europe, it is estimated that households are responsible for the largest portion of food waste generation, which contributes up to 16% of the CO_2 emissions of the food supply chain. Major reasons for household food waste generation are food spoilage, date label confusion, overbuying, and poor shopping planning (Gunders, 2017). Thus, food-waste prevention at the household level is largely an issue of optimizing food resources monitoring. Here we address this issue by designing and launching a decision support tool implemented in a smart phone application, the FoodSaveShare App. FoodSaveShare combines data from user input and supermarket loyalty schemes to take advantage of their combined shopping tracking features. The App features a shopping list functionality that allows either selection from a list of over 14,000 products as well as product barcode scanning and manual entry, and subsequent crossing-out during shopping. Shopping lists are linked with the loyalty account, thus allowing household members to create and share common lists. After purchase, tips are provided about optimal storage of purchased food items. Food products are assigned approximate expiration dates based on food and packaging type, drawing from a list of 597 possible types. Notifications offer reminders about eminent expiration dates and provide suggestions about the utilization of food items that are about to expire or are on the shelf, drawing from a list of over 7,000 recipes. Additional functionality allows users to identify products that have been consumed in time or had to be discarded. Statistics such as purchase history and resources spent versus resources saved allow for a better overview and provide incentives for better shopping and consumption habits. The FoodSaveShare App was launched during the A2UFood Project (Chroni et al., 2019) that includes food waste prevention actions at the household level. The App has been tested under real customer data and conditions and is scheduled to be adopted by the largest supermarket franchise of the Island of Crete, Greece.

Keywords: mobile app, household food waste management

References
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