CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)	Project Number
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Project Title

TrackBar: Tracking Food Expiration to Reduce Wastage

Abstract

Objectives/Goals

According to the United Nations Environment Programme (UNEP), one third of the food produced in the world for human consumption every year is wasted. Wasting food also wastes resources such as water and energy used to produce this food.

I believe that one of the primary reasons for food wastage in the US is that people are unaware of the expiration dates of the food in their refrigerator and pantry. My project explores a novel solution to reduce food wastage in homes by tracking the expiration dates and alerting consumers before the food expires.

Methods/Materials

My solution is to encode product#s UPC code and expiration date in a QR code that can be part of the product labeling, and then use a smartphone application to scan the QR code and track expiration dates. The design criteria for my app were: input data quickly, allow users to edit the data manually, and alert users of the expiration states of products visually.

I created an Android smartphone application using Android Studio, Java and the Android SDK. My app uses the ZXing library to scan QR codes using the smartphone#s camera, SQLite to persist the items, and RecyclerViews, Activities and layouts to render the UI.

Results

My app, TrackBar, worked in accordance with the design criteria # it is quick and easy to use and alerts consumers before food expires. While testing at home, my app warned us of items about to expire, allowing my mom to use the items before expiration.

Conclusions/Discussion

In conclusion, my goal of reducing food wastage by alerting people to the expiration dates of food in the refrigerator and pantry was validated by my solution. I believe that my app will help in reducing food wastage and help save money and the environment.

Summary Statement

I created a smartphone based solution to track food expiration dates to reduce food wastage.

Help Received

I wish to thank Mr.Sagar Waghmare who guided me with Android programming, and my science teacher Mrs. D#Souza for her help and guidance throughout this project.

Ap2/16