Assignment 2 Project Name: 'ScaNut'

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Description of Project:

We spend a lot of time checking product ingredients for the presence of allergens, in particular all forms of nuts for which all of our children are allergic to. This is a necessary task in avoiding the risk of anaphylactic shock and the use of EpiPens in response.

I would like to develop a simple scanning mechanism that will provide a clear and instant response as follows:

- Red – Warning: Contains Nuts
- Amber – Warning: Contains Traces
- Green – Safe to Eat

While initially as a prototype in the home through the use of a raspberry pi, an eventual rollout to a mobile device would be a crucial next step to develop the project for use outside the home and abroad which can be particularly challenging with language translations.

Tools, Technologies, and Equipment:

I propose to utilise a Raspberry Pi programmed through Visual Studio Code with Python. With a connected (usb/wireless) barcode scanner, it will analyse the barcode against a product database (API database or prepopulated test products) to return product ingredients via HTTP request/response. This is further analysed with predetermined search criteria to return a traffic light response, via the LED sensehat and/or in conjunction with the Blynk IoT platform. This will provide visual feedback and act with notifications to mobile devices.

Project Repository:

A project repository is set up here -> https://github.com/ianhurley/CSN-Assignment2 <- and will be updated through the course of the project.