Group: Gryffindor 2

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CSCI-45

Food Project Proposal: Calorie Tracker

Basic Description: This time around, we will be building an automatic calorie tracker. The 'test subject' (as we'll call them for now) will place a fruit (apple, orange, etc) and the machine will use computer vision to identify the fruit and display the average caloric value of said item.

More in-depth: We will be building (we haven't yet decided if we will be 3D printing or laser cutting some wood) a chassis that will have a camera (most likely a webcam) on top of a platform pointing down on a fruit and using Python/OpenCV to detect what fruit it is. We will use a linear actuator to push the fruit closer to the camera (mostly because it'd just look cool) and do the processing from there. Once the program has identified the fruit and its caloric value, it will display the information on a LCD screen. Due to the nature of the actuator being involved, relays (and most definitely an Ardunio) will be used to assist in the production of the project.

Roles:

Daniel Arias: Will be building the chassis

Andrew Chapman: Working on the computer vision side of things

Guillermo Prado: Making sure the actuator works as intended and is compatible with a Pi