**Group Members:**

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**Application Name:** GlucoImager

**General Description:**

Currently, there exists a colorimetric assay which changes color based on glucose concentration, used by diabetics in measuring blood glucose level. However, this color change is poorly recognized by the naked eye, and is hence very inaccurate.

Our application idea is an iPhone application which takes a picture of this colorimetric assay, then uses image processing to analyze the picture in order to output a more accurate and precise blood glucose reading. Additionally, this application will allow the user to make an account which stores the glucose readings taken over time, indicating the trend over a period of time.

**Feature List:**

* Access to Camera: ability to use iPhone camera to take a picture of “litmus paper” used to measure blood sugar levels.
* Analyze Color Samples: ability to compare color samples from the image to a predefined RGB value.
* Visual Data Representation: Graph results over time, so users can track their blood glucose level trends.
* Data Tracker: Create an account using an email and password to save their tracked data
* Reminder Alerts: reminds the user to check their glucose levels
* White Balance Calibration: adjusts for different lighting conditions by using a white portion of the strip as control.

**Target Audience:**

Our Target audience includes diabetics with access to an iPhone.

* This application would reduce the cost of being a diabetic patient, since it is much less expensive to use colorimetric assays with an iPhone rather than having the buy the more expensive standard glucometer strips on top of the glucometer itself
* This application streamlines the process of collecting blood glucose levels over a span of time, rather than manually having to take note of them.
* This application gets rid of the need for a glucometer device itself; diabetics will only need to carry their cell phone with them.

**Development Plan:**

Alpha:

* Registration/Login Screen
* Access to Camera
* Data Tracker

Beta:

* Visual Data Representation
* Reminder Alerts
* White Balance Calibration
* Analyze Color Samples

Final:

* Analyze Color Samples
* Settings