Diet Logger Product Design Specifications

I. Problem Statement

Obesity is the fastest growing expense in the United States healthcare system. The condition can cause problems in nearly every organ system in the body. Often individuals are advised to keep a log of their diet as part of a nutritional study or to better appreciate what and how much they are eating. But self-administered logs, particularly written logs, are notoriously inaccurate, cumbersome, and difficult to maintain for a significant period of time. The inadequacy of current diet logging methods can be seen in the amount of dieters who fail to reach their weight loss goals. In this project we will design a system for use by a younger audience, ages 18-25 that will make diet logging fast and easy, as well as focus less on the exact amount of food eaten and more on diet trends.

II. Client Requirements
    a. Develop a diet-logging program, different from what is available, that helps people to see what they are eating and make their own judgments, rather than force them to subscribe to a dieting program.
        i. Push toward smaller portions
        ii. Less processed food and more plants
    b. Focus on categorized food groups, rather than quantitative amounts.
    c. Focus on college-aged young adults—ages 18-25.
    d. Make it easily accessible to the demographic, method such as:
        i. Smartphone application
        ii. Web-based program
        iii. Computer software program

III. Design Requirements
    a. Physical and Operation Characteristics:
        i. Performance Requirements
            1. Minimum System Requirements
                a. Smartphone with camera and touchscreen
                b. Platform compatible with chosen development platform
                c. Minimum screen resolution must be 240x320, smaller resolutions may work but may not be supported
                d. Other requirements dependent on platform
            2. Accessibility
                a. Application intended for research, further accessibility concerns will be addressed if application goes commercial
                b. Basic computer/smartphone literacy of user expected
        ii. Security
            1. Software safe from viruses and hacks.
            2. Privacy policy will be provided by researchers
        iii. Accuracy and Reliability
            1. Software code must be reviewed to ensure that it is error-free and logs the correct diet
            2. Software will be tested to prevent crashes and bugs

3. Quantity estimation and categorization can be corrected by researcher upon review

iv. Life in Service
1. Limited to client/user use
2. Ultimate lifetime limited by hardware

v. Aesthetics
1. Device must be visually appealing to the demographic
2. Interface will be easy to learn and use

b. Production Characteristics

i. Quantity
1. Limited by size of research study
2. Ultimately limited by distribution method and hardware distribution

ii. Target Production Cost
1. Development and design cost and time
2. Estimated total cost of approximately $5,000 (including labor)

iii. Testing Procedure
1. Goal is to test the product on the developer team
2. IRB approval will be required to test the device on other college students at the university

IV. Miscellaneous

a. Competition

As Americans become heavier and heavier, it is no surprise that the dieting industry continues to become larger and larger. Numerous competitors already exist in the diet-logging market, from online websites to traditional written journals. Many implement a calorie counting method. Often times the user is required to know how many grams of the food they ate which is tedious or confusing. Some are free and others require a paid subscription. Examples of diet logging websites include: www.fitday.com, www.my-calorie-counter.com, www.caloriecount.about.com, and www.calorieking.com. Programs that are not web based that can be used on small electronics such as smartphones also exist.