

## Project 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 relative amounts of 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. Phone runs with Google Android operating system
      - c. Minimum screen resolution must be 240x320, smaller resolutions may work but may not be supported
    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 tested to ensure that it accurately tracks the selected areas
  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. Product must be visually appealing (appropriate use of color and layout)
    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 time
    2. \$25 developer registration fee
    3. \$400 phone for use by development team in testing
  - iii. Testing Procedure
    1. Goal is to test the product on the developer team
    2. IRB approval will be required to test the product on other college students at the university.