

1. FUNCTIONAL DESIGN FOR BAGSENS DEVICE

We have included examples of functional design groups/categories, including Charging Capabilities and Energy Saving Functions.

1.1 FUNCTIONS/FEATURES

1.1.1 Requirement 1.0

The device will be designed to be charged with a mini USB input.

1.1.2 Requirement 2.0

A button connected to a wire on the device will enable a user to turn the device on and off.

1.1.3 Requirement 3.0

Attached to the button described in **Requirement 2.0** is a graphic representation of energy levels for this device. Like a power meter on a mobile phone, a number of bars will indicate how much power the device holds and whether or not the user needs to charge the device.

1.2 DATA CAPTURE, STORAGE AND EXCHANGE

Data collected from the device includes weight (in pounds) of the articles inside the bag. Manufacturers of bags will report the weight of the bag itself to the database that corresponds to the device through the Bagsens server. Individuals who bought the device will record their age, weight, height and gender.

1.2.1 Requirement 3.0

Users can download an application for iOS and Android mobile devices. The data that the App collects contributes to a database that returns bag weight recommendations to improve health and security. The following tables dictate the type and format of data collected:

Weight of...	Number Input Limit
Objects in bag	3
Bag itself	3

Table A

Profile Characteristics	Input
Age	3 (Input limit)
Weight (lbs)	3 (Input limit)
Height (feet, inches)	3 (Input limit)
Gender	Select Male or Female

Table B

1.3.1 Requirement 4.0

One major function of the data collected in **Requirement 3.0** is to help bag-makers improve their design of their bags.

2. FORM

Includes standard sizes, device customization, and material needed.

2.1.1 Requirement 5.0

Standard size of connected device is 6 inches by 6 inches (6" by 6").

Functional Design Document

2.1.2 Requirement 6.0

For luggage bags, the size of the connected device is 6 inches by 12 (6" by 12") to accommodate the larger structure.

2.1.3 Requirement 7.0

Device is designed to be customizable for various sizes of bags. A plug can connect between two devices for a larger bag through a wire.

2.1.4 Requirement 8.0

Device will be designed with black plastic sensor, a flexible yet durable material.

2.1.5 Requirement 9.0

The device has sensors that will detect and report weight of articles in the bag.

Sensor design elements (Components: two sensors and a data/power cable)

