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Re: SmartPlate Evaluation Study

To whom it may concern,

Please accept this letter as summary of a protocol I independently designed and conducted at the Children's Hospital of Philadelphia (CHOP) on May 2, 2018. The aim of the study was to determine the accuracy and efficiency of the *SmartPlate App* and *SmartPlate TopView* device developed by Fitly, Inc. I recruited the adult test subjects and provided the food samples and testing space. The summary of the results are presented below. Harry Du, head of operations at Fitly Inc. was on standby to provide technical support in case of device malfunction, of which there was none. No other Fitly team member was involved in the design or conduct of the study.

**Test procedure:**

--A research quality food scale and SmartPlate were tested for 'weight accuracy in grams' using two laboratory grade brass calibration weights. Each of the three SmartPlate sections was tested independently.

--Two adult volunteer subjects were directed to determine the calories, protein, carbohydrate, fat content of a variety of twenty single and mixed food items using the two methods in a random order:

- A research quality food scale was used to measure the food weight in grams and then the participant looked-up nutritional composition information using the web site <https://www.nutritionix.com/database>;
- The SmartPlate TopView device were used to measure the food weight in grams and then the SmartPlate app was used to provide the nutritional composition information.
- One participant use MyFitnessPal app to determine the caloric content of the food items.
- The time to complete the task of weighing and obtaining nutritional composition for each food item was collected.

**The test results included:**

- a. SmartPlate TopView device had a mean of 99% weight accuracy compared with calibrated weights.

- b. SmartPlate TopView device and app resulted in acceptable accuracy of nutrition information shown below.
  - i. Calorie  $\pm$  10 kcal
  - ii. Protein  $\pm$  0.3 g
  - iii. Carbs  $\pm$  1.5 g
  - iv. Fat  $\pm$  0.5 g
- c. Using SmartPlate TopView device to measure the same food combination (three food items tested) took users 45 seconds on average, while using the alternative method using the website took users an average of 173 seconds. A difference of 128 seconds or 2 minutes and 8 seconds, or much more efficient than an existing solution (~400%).
- d. The caloric intake derived from MyFitnessPal app over or under estimated the caloric composition by 28%.

If you have any questions, I will be happy to discuss the testing and results.



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