FDGA Research Grant Final Report

***Meal for Monsters*: User-Generated and Evaluated Meal Photos
as a Benchmark for Nutritional Decisions**

      The purpose of this study was to generate insights on human behaviors, specifically related to increasing one's nutritional knowledge and making nutritional decisions through the playing of a mobile game, Meals for Monsters. The app has four monsters, each having five unique rounds. To help the user relate to the monster avatar, and to encourage the user's desire to help, the user can choose their own monster. Then, each of the five rounds consists of two parts. First, a user is given four pictures of meals, along with descriptions. They select which one best fits the nutritional goal of their monster. They are then asked to explain the reason behind their decision. Second, the user is shown a community-board of data on why other users have selected each of the four meals. After seeing this information, the user can either keep their initial meal selection or change it to one of the other three meal choices. Again, they are asked to provide their reasoning. After each round, the user will see how their monster's condition improves or worsens based on their meal choice.

      In Phase 1 of our study, participants, Turkers from Amazon Mechanical Turk (AMT), were assigned a monster and asked to complete the first part of the app. They also completed surveys before and after the task to establish a baseline knowledge of nutrition and assess any applied learning. The primary goal of Phase 1 was to collect user-generated responses from the general public to serve as the community-board in Phase 2. However, Phase 1 also acted as an informative trial of our data collection methods, and served to provide initial insights. Through preliminary data analysis, we have found a surprising number of users to be highly proficient in estimating the amount of fiber in meals (which is notoriously the most difficult macronutrient to estimate for, based on the existing literature), based only on meal photographs and short descriptions. However, by no means were all of our participants nutritionally literate. We received a wide variety of responses as to why users picked certain meals over others. We will use these reasons to create the community board aspect of the game. By analyzing the data collected in Phase 2, we are going to be looking at how users are impacted by the responses of others. We expect to see users being persuaded by what they perceive as the popular opinion. In scenarios where users are swayed by the community board and then shown to be incorrect, we anticipate seeing a reluctancy in users in future rounds to trust the opinions of others over their own instincts. However, this will most likely change when the community board helped users find the correct answer, in which case it will probably be common to see users trusting the opinions of others in the future.