Problem Background:

There are several different types of dietary restrictions that restaurant patrons may have, ranging from religious restrictions, allergies, ethical, or other concerns. The material present in their food might cause injury of some type, so it is of high importance to have high confidence that no harmful ingredients are present. Restaurants may be legally obligated to show which lists of ingredients they use for each dish, but it's possible that due to improper hygienic practices or inconsistencies, even trace amounts of contamination is present in the food of a patron with a dietary restriction, an undesired result.

Target:

- Restaurant patrons have a clear idea about which restaurants they can attend and have safe options that fulfill their restrictions.
- Restaurant patrons can choose these restaurants and attend them easily.
- If a patron has unsatisfactory service at a restaurant involving inaccurate information about ingredients, they have a way to report this information to others.

Causes:

Restaurant patrons with dietary restrictions might be served food that violates those restrictions.

Why?
The ingredients listed by the restaurant are not fully accurate, or some mistake is committed during preparation that contaminates the food.

Why?
The information the restaurant gathers about the ingredients does not reflect every possible circumstance under which the food is served.

Why?
Information about the food being served is usually gathered under ideal conditions.
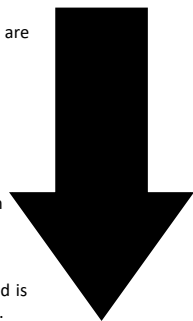
Why?
The patron went to a restaurant that has no option that suits their dietary restriction.

Why?
The patron did not have information about the options the restaurant offered.

Why?
The information was not available ahead of time.

Counter Measures:

- Deploy an online system for crowdsourcing information regarding the availability of options of foods safe for people with various dietary restrictions in each restaurant in their area. This system will gather information from registered users about each restaurant, under various fields for various restrictions. These may include (but aren't limited to) Kosher, Halal, nut free, seafood free, vegetarian, or vegan options at each restaurant. Then any user will be able to access this information.
- The system will have a map embed with the location of each restaurant, facilitating access.
- The system will show the confidence level for each entry depending on how many data points it has, in order to prevent false positives or negatives.
- The system will start with restaurants in the Puerto Rico area.

Check/Evaluate:

- The number of incidences of food allergic reactions in Puerto Rico will decrease.
- The system will include a special field for reporting that a user received erroneous information about a restaurant, e.g., the system showed that a restaurant had vegan options, but they only had vegetarian options. The system will take special consideration of this and compensate by giving more weight to that data point.

Act/Standardize:

- Act/Standardize:
- Gather more information to expand further than just the domain of conventional restaurants, that is, include food trucks, kiosks, or other gastronomic services.
- Expand the list of dietary restrictions.
- Implement more user roles, including moderators that could verify and remove anomalous data (astroturfing, botting).
- Implement a system to give registered users who tend to review restaurants accurately higher weight in their future reviews.