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Process:

Until 11/2, we have already finished the data collection and RDF model building. We started web UI design in advance. However, we have some troubles on information extraction on user reviews. This task is expected to be finished in this week.

Challenges:

- 1.Dataset size (Solved): We used Spark to process the data. Finally, we finished our data collection and have built our RDF model.
- 2.Information extraction: As we talked before, there is no function to extract noun and adj word. Therefore, we are still trying to modify the snorkel code. We also have an alternative method. Label words manually to build training set. This task is expected to be finished in this week.
- 3.Entity resolution: We have already built a knowledge graph of food recipe. We also build an entity resolution model based on a small size of data. However, due to the delay of information extraction, the validation of our entity resolution is expected to be finished in this week.
- 4.Frontend display: We already start the UI design of our project. Currently, the task is fine.

New Challenges:

When we use food recipe knowledge graph to find the food name entity, we don't know whether the recipe of these two entities is the same. It might have many different recipes for a BBQ chicken pizza. Currently, the food extracted from restaurant reviews is considered to use the most popular recipe in knowledge graph.

Novel:

We added a knowledge graph embedding module for our project since it can find potential relation between entities, for example, how can we compare the correlations between two different restaurants or how can we be confident to say that some cuisines are similar not only by their ingredient but by the reviews.

Our QA would make a prediction of food based on the description of users. For example, the system would consider the query, pizza with pineapple, is the food, Hawaiian Pizza. Furthermore, different from the traditional food recipe knowledge graph, our system would provide some recommendation restaurant whose Hawaiian Pizza has many favorable comments. Our system can help user to find their favorite restaurants based on their special requirement. For example, the users can specify how to cook chicken, and choose the most similar recipe to find the restaurant.

Evaluation:

We would use some random picked user review to estimate our system. Check whether the predicted food and the true food is the same to estimate the NLP of our QA.

Furthermore, we will also check whether our recommendation restaurants contain the true restaurant from reviews to estimate the accuracy of our Knowledge graph.