

0.1 AI assisting with the picking of a place to eat

0.2. Team member names and e-mail addresses

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1. Why component (20 points)

A great deal of time is wasted when a group of people are trying to decide on where to go eat for lunch. Everyone has individual tastes and preferences for a budget, genre, location, etc. If a program could compile all the data for the individuals in the group and make a suggestion for that group to choose, less time would be spent standing around wondering where to go. In the Canyon/Amarillo area alone there are more than 70 places to choose from which can be overwhelming for one person to decide let alone a group of people who are trying to make the majority happy with a suggestion. This program could assist an individual or a group of people that feel like they are in a rut, just have no idea where to eat, or are new to the area and don't know what is available to choose from.

2. What component (20 points)

The idea of this program is to provide an independent suggestion of where to eat that the group can then decide to agree or disagree with and see another suggestion if needed. There will also be the added benefit of suggesting a place that a person might have forgotten about or was unaware of. This could have benefits for local restaurants as well where people are discovering new places to eat.

3. How component (20 points)

We will start with a database of all known restaurants in the Canyon/Amarillo area. Next we will think of several reasons that people use to choose a restaurant to eat at. We can describe the restaurants using these features such as: Price Point, Location, Type of Food, if it is a Sit Down or Drive-Thru, etc. We will then collect information about a persons preference for these features. We are thinking about using the Naive-Bayes classifier to generate the probability of a person liking each of the restaurants in the list. Based on the results of the algorithm we hope to generate a list of the top recommended restaurants for each person. We could then possibly compare these lists for each person in a group and see where the most common choice falls and then suggest that restaurant as the place to pick for the group to eat.

4. How does your project fit into this course (20 points)

An ontology will be created for all qualities of a given restaurant and preferences of a person. Relationships are created for these qualities and we will evaluate at least one learning algorithm (Naive-Bayes). It will be used to generate the suggestions based on the individual/group preferences because it is easy to build and has a reputation for being a top performing algorithm especially for large data sets. It performs well when dealing with categories versus numerical data or making predictions in real time.

5. What do you expect to learn from this project (20 points)

We expect to learn more about the processes involved in creating a tool that uses machine learning to solve a given problem. We want to know how much of what we have learned so far can be applied to this particular project. We also expect to become more familiar with the use of Python as well as have a better understanding of the Naive-Bayes classifier and other related concepts.