Project Proposal 1

**Topic**

Hotel rating based on customer review and classification & sentimental analysis of review.

**Team Members**

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**Motivation**

The goal is to find a good hotel and having an enjoyable vacation is everyone’s very basic expectation which will not be feasible without having customer feedback or review on the hotel. As we are living in a world where data plays an important role in the decision-making process for both customers and service/accommodation providers. We need a developed system based on customer reviews to make an unbiased rating of the hotel that not only helps the customer to choose the best one but also opens the opportunity to improve for the service provider. We need to have an effective system in place, we need to do the classification of review as well as sentimental analysis.

**Objectives**

The main objective of this project is to build a datacentric application that not only helps the customer but also identifies key areas to improve from the provider’s perspective. After completion of the project, we will have a solid understanding of NLP and how we use the concept in the practical field.

**Significance**

You can’t manage what you can’t measure. With the advancement of technology and the rise of the internet, now the world becomes a global village. The recent explosion of digital data opens the door to a new way of thinking, working, and living. Information is the key but managing information is important as making a critical business decision. For example, if anyone wants to travel to a new place and doesn’t have any knowledge about the vicinity, then the plan for vacation may not materialize. In this case, customer reviews will play a big role to make the marketing strategy successful. At the same time, if we have millions of reviews without labeling and sentimental analysis, no one will go for the review of millions of customers. So, managing customer reviews in an efficient manner are necessary to promote, improve, and flourish unseen opportunities into fruition.

**Features**

We will use the following NLP features: tagging, summarization, and sentiment analysis. Within hotel ratings, we mainly focus on the sentimental analysis of customers - positive, negative, or neutral feedback which can be measured on a scale of 1 to 5 where 1 is low and 5 is excellent.

We will tag and classify the review with labels. We will use features such as cost, crime history, amenities, flexibility, parking, indoor facility, room space, air-conditioning, and neighborhood to help classify the hotels.

On hotel recommendation, we will use labeled classified data based on sentimental analysis.

**Block Diagram:**

Sentiment Score

Evaluate Model

Training Model

Word Embedding

Data Preprocessing

Prediction

Data Labeling

Word Embedding

Data Preprocessing

New Review

Hotel Reviews

**Reference**

1. Sentimental Analysis: <https://www.kaggle.com/code/emirkocak/in-depth-series-sentiment-analysis-w-transformers>
2. Hotel Rating: <https://www.kaggle.com/code/nidhaypancholi/predicting-rating-from-reviews-trip-advisor>
3. Sentiment Analysis in Hotel Reviews: https://www.altexsoft.com/blog/sentiment-analysis-hotel-reviews/