TOURIST REVIEW ANALYZER BY USING ML

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ABSTRACT: This paper's primary goal is to make vacation planning easier by automating the review and analysis process. We are aware of the difficulties of manually reviewing a large number of reviews, which can be biased and time-consuming. In order to help consumers make well-informed decisions, our solution uses a sentiment analysis model that graphically depicts the general opinions of traveler evaluations for a place. The outcome, which shows the percentage of neutral, negative, and positive feelings connected to the chosen location, is shown to the user as a visual analysis. We also present a function that lets users enter coordinates so the algorithm can recommend the most efficient route. This function streamlines the planning process and offers effective routes for exploration by optimizing travel routes. In conclusion, by automating review analysis and providing an optimized path suggestion option, we hope to save users time, lessen bias, and improve the entire travel planning experience.

KEYWORDS: Tourist, Review, Travel, Destination.

I.INTRODUCTION: World tourism is considered as a significant factor in the economy of many nations. Today tourism related infrastructure in various parts of the country has improved the quality of life of the local people and helped to promote local arts and crafts. Tourism has contributed to increase awareness about conservation of the environment and the cultural heritage. Tourism is the fastest growing industry in modern world. People have always travelled to distant parts of the world to see monuments, arts and culture, taste new cuisine etc. The term tourist was firstly used as official term in 1937 by the League of Nations. Tourism was defined as people travelling abroad for period of over 24 hours.

Global Tourism is one of the most profitable sectors of the world economy. Around 1.5 billion international tourist arrivals were recorded in 2019. The number of international travels is expected to increase by 3.3% per year between 2010 and 2030. So, international tourist arrivals will reach 1.9 billion till 2030. Understanding of travel

behaviour and activity pattern of tourist plays a significant role in effective tourism management. Insights regarding travel behaviour, especially the spatial behaviour and movement pattern of tourism are a fundamental information to learn. They can be used to develop management strategies including activity and route development, attraction package, attraction planning, and using to make attraction or trip recommender system. These empower tourism practitioners to serve traveler in a more satisfactory manner. A Design artifact is a method designed to process and analyzes social media big data, such as geotagged photos, together with their associated personal and meta-data, to support destination management organizations (DMO's) strategic decision-making within the context of Tourist destination management. The proposed work included four combinational techniques: textual metadata processing, geographical data clustering, representative photo identification and time series modeling. Also, they used geotagged photo data publicly available on the photo-sharing website, Flickr.

II.EXISTING SYSTEM: Tourists share online reviews, and businesses make travel bookings easy online. While these advancements enhance user convenience, the process still requires users to manually sift through numerous reviews to determine the best destinations among the extensive options available. The proposed app solves this by automatically analyzing multiple reviews, providing a faster way for users to make informed decisions about tourist places.

III.PROPOSED SYSTEM: To overcome the drawbacks of existing system, the proposed system streamlines the selection of tourist places by employing machine learning to analyze and classify sentiment in reviews. This efficient process enhances decision-making accuracy and presenting results precisely. Our system compares algorithms like Gaussian Naive Bayes, Random Forest, and Support Vector Machine, selecting the most suitable for performance. Utilizing TF-IDF Vectorization extracts key features, ensuring a simplified destination selection process and improving the likelihood of a positive travel experience**.**

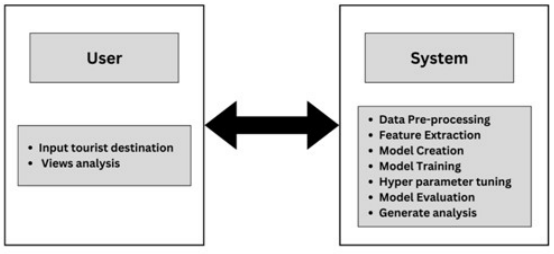


Fig 3.1Software architecture

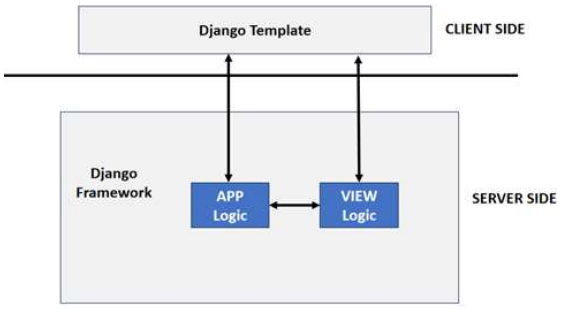


Fig 3.2Technical architecture

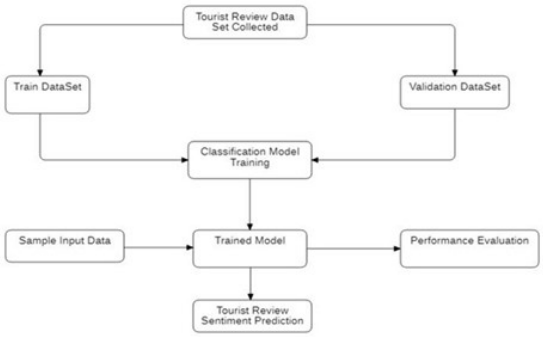


Fig 3.3Data flow diagram

Performance metrics in machine learning are quantitative measures used to evaluate the performance and effectiveness of a machine learning model in solving a particular task, such as classification, regression, clustering, or recommendation. These metrics provide insights into how well the model is performing and help in assessing its accuracy, reliability, and generalization capabilities. Performance metrics vary depending on the type of machine learning task. The following are the performance metrics used for classification

3.3.1 Precision

Precision measures the accuracy of positive predictions made by the classifier. It calculates the ratio of correctly predicted positive instances (True Positives, TP) to the total instances predicted as positive (True Positives + False Positives, FP). Precision assesses the classifier's ability to avoid false positive classifications. For instance, in sentiment analysis, precision indicates the proportion of correctly identified positive reviews out of all reviews classified as positive.

$$\text{Precision} = \frac{TP}{TP + FP}$$

3.3.2 Recall

Recall, also known as sensitivity or true positive rate, evaluates the classifier's ability to identify all positive instances correctly. It calculates the ratio of correctly predicted positive instances (TP) to the total actual positive instances (True Positives + False Negatives, FN). Recall measures the classifier's completeness in capturing positive instances, identifying how many actual positives were classified correctly. In sentiment analysis, recall indicates the proportion of correctly identified positive reviews out of all actual positive reviews.

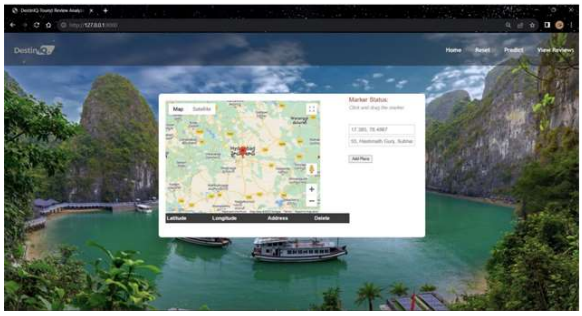
$$\text{Recall} = \frac{TP}{TP + FN}$$

3.3.3 Accuracy

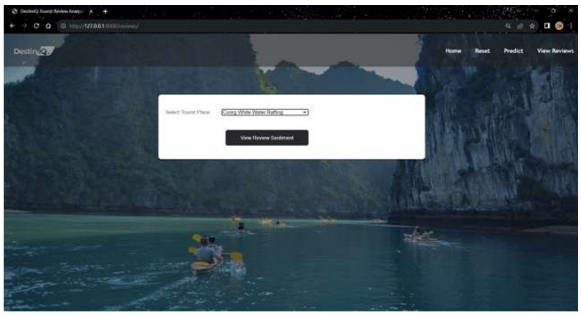
Accuracy gauges the overall correctness of the classifier's predictions. It calculates the ratio of correctly predicted instances (True Positives + True Negatives, TP + TN) to the total number of instances (TP + FP + TN + FN). Accuracy provides an overall view of the classifier's performance by considering both correctly identified positives and negatives. It signifies the proportion of all correctly classified reviews—both positive and negative—out of the total number of reviews.

$$\text{Accuracy} = \frac{TP + TN}{TP + TN + FP + FN}$$

IV.RESULTS:

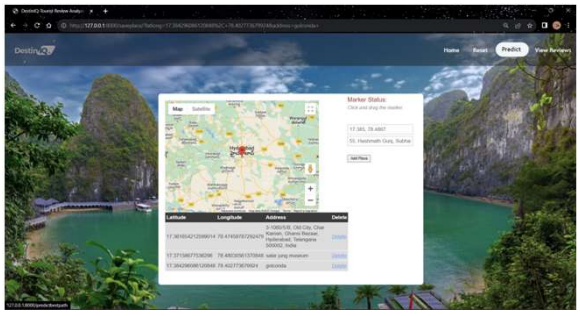


4.1 HOME PAGE

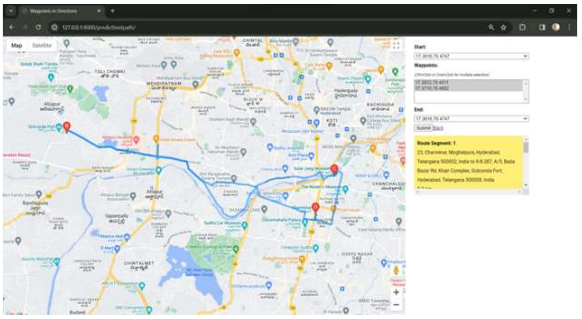


4.2 REVIERS PAGE

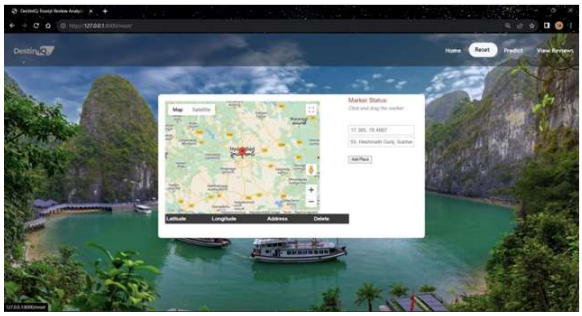
4.3 GRAPHICAL REVIEWS REPRESENTATION



4.4 Mark Places near the destination to obtain Shortest Path



4.5 Shortest Path among the selected places will be displayed in Predict page



4.6 Reset page will redirect to refreshed Home page

V.CONCLUSION: To improve user experiences, aid in decision-making, and offer insightful information to stakeholders in the tourism sector, the system thoroughly analyzes evaluations. It provides stakeholders with actionable intelligence and customizes suggestions for users based on patterns, attitudes, and user preferences. The industry is able to improve marketing tactics, enhance offerings, and increase the allure of travel destinations thanks to this data-driven strategy.

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