GOA TravelMate: A Travel Based Recommendation System
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Abstract:
Tourism has numerous tangible and intangible elements. Major tangible elements include transportation, accommodation and other components of a hospitality industry. Major intangible elements relate to the purpose or motivation for becoming a tourist, such as rest, relaxation, the opportunity to meet new people and experience other cultures, or simply to do something different and have an adventure. It attracts tourists for its historical forts, palaces, art and culture. Tourism is vital for all countries, due to the income generated by the consumption of goods and services by tourists, the taxes levied on businesses in the tourism industry, and the opportunity for employment and economic advancement by working in the industry. Due to India's rich history, its cultural and geographical diversity, makes it international tourism. We present an easy way to make travelling enjoyable and pleasant. The project aims towards combining the concepts of Data Mining and Travel. Once a user ‘Checks-In’ into any popular tourist spot anywhere, depending upon the check-in a search would be carried out for more places that could be visited by the tourist within desired distance. These new spots would then be recommended to the user based on certain factors such as best time to visit, ease of access, tourist rating, connectivity, food and hotels nearby etc.

I. INTRODUCTION
One of the greatest dilemma faced by a traveler is the lack of knowledge about the places he/she can visit once they are in any city or any other place. Relying on local people’s opinion can be counted upon but that can get tough especially when their language is unknown to us. A solution to this is getting information well before you reach your destination and are ready to explore.

“GOA Travel-Mate, a travel based recommendation system using data-mining algorithm” is aimed at supporting the travel planning decisions that the traveler will face before travel. This system acquires the user’s needs and wants, and suggests various services like destinations to visit and points of interest. The main objective of “Travel based recommendation system using data-mining algorithm” is to ease the information search process of the traveler. The objectives to develop a web-based application which includes to provide details of all important places in vicinity, to provide a search platform where a tourist can find their tour places according to their choices, to promote responsible and interesting tourism so that people can enjoy their holidays at their favorable places, to develop tourism with different cultures so that they enrich their tourism experience.

The purpose of the project is to develop a web based application which includes:

> To provide best travelling services to the customers.

> To provide a search platform where a tourist can find their tour places according to their choices.

> To promote responsible and interesting tourism so that people can enjoy their holidays at their favorable places.

> To develop tourism with different cultures so that they enrich the tourism experience and build pride

> To create and promote forms of tourism that provide healthy interaction opportunities for tourists and locals and increase better understanding of different cultures, customs, lifestyles, traditional knowledge and believes.

> To provide a better way to connect with various events.

II. RELATED WORK
The development of an interactive travel recommendation service can often be challenging and prove too costly, especially for small and medium-sized e-tourism platforms or service providers. In particular, such highly-interactive applications require significant knowledge acquisition and maintenance efforts. Standard self-adapting recommendation systems based on collaborative filtering adapt their behavior automatically based on user feedback, are only applicable to websites with the broad user community. Also today's Tour and Travel Agencies do not provide its customers with Customized Package Services which is now-a-days is wanted by most of the customers.

The proposed web-application focuses on designing location-based web-system for users who want to plan their trip. With increasing amount of data available day by day, it is very important to mine and present only those data that are relevant to the user and thus in this project, we give the most suitable result to the user which improves and speeds up the decision making process of the user.

The main point is that our system is similar yet different from existing systems. All the existing systems have different drawbacks but one of them is common in all, which is all of them are bombarding the user will too much information. But this system saves the users time buy allowing the user to apply filter and receive relevant output only. It is also easy to use.

III. GOA TRAVELMATE: FUNCTIONALITES AND IMPLEMENTATION
In order to facilitate the travelers with a convenient travel planner, we have developed the GOA TravelMate: A Travel
Based Recommendation System that provides the following main functionalities:

- Allows the user to register, create a profile, update it and set his preferences (e.g. type of places, etc.)

- Ale package is lows the user to create as well as customize their own packages to explore it during their tour. This involves the users to click on the places they wish to visit followed by confirming the estimated cost associated with the package they created. On confirmation they can even book a cab to explore it.

- Allows the user to view information about the different places they can visit in GOA by automatically open the page containing the details on just a click. They can view them as per their convenience which means they can view them in category form or apply some filters and view them.

- Provides the users with the Events going in GOA and Activities that they can perform when in GOA.

- Ensures the travelers get the best Optimal Route to the desired location.

- Displays recommendation of places based on their preferences and previous searches.

The main functionalities of our system are shown in the use case diagram in Figure 1, along with entity relation diagram in Figure 2.

This project is based on the MVC architecture where the data, the view and the controller are separated. First a user makes a request to our application which is then routed to the controller. The controller if necessary makes a request to the model (database) to retrieve the data. On seeing the request form the controller, the model responds to it. The controller now merges the view and the data to form a response. This generated response is then sent to the original requester by the controller. Our system is a mashup of the following travel-related APIs: Google Maps API [1], Google Places API[10]. It is implemented using MEAN Stack where Angular was used as frontend, NodeJS and ExpressJS as middleware along with MongoDB as backend. Route calculation was based on Travelling Salesperson Algorithm [3].

The more detailed implementation of our system is provided below:

![Figure.1. Use cases that represent the functionalities of the GOA Travel Mate.](image1)

![Figure.2. System Block Diagram.](image2)

![Figure.3. Home Page of our system.](image3)
Similar to the Explore is the Activities page. Here we display all the activities we have in store for tourists. It consists of all the activities happening in Goa from Jet skiing to Body Massages.

**IV. CONCLUSION AND FUTURE WORK**

The project titled “GOA TRAVEL MATE: A TRAVEL BASED RECOMMENDATION SYSTEM” has been developed using Angular, NodeJS, ExpressJS, MongoDB and was implemented using HTML, CSS and Bootstrap programming language. The proposed web-application focuses on designing location-based web-system for users who want to plan their trip. With increasing amount of data available day by day, it is very important to mine and present only those data that are relevant to the user and thus in this project, we give the most suitable result to the user which improves and speeds up the decision making process of the user. The website will allow users to search places and will then recommend the users places based on the filters provided by them. The possibility of allowing users to filter their results as per their convenience has been hence achieved. This makes our system more user friendly. The main point is that our system is similar yet different from existing systems. All the existing systems have different drawbacks but one of them is common in all, which is all of them are bombarding the user will too much information. But this system saves the users time by allowing the user to apply filter and receive relevant output only. It is also easy to use. In future works, we consider using more automation in the application by providing our users with the facility to book cabs and taxis. Along with this we could also incorporate the feature of renting a car/bike. Not only this but also providing our clients with Efficient Booking Services with reasonable price. We also plan to provide Real Time Weather Conditions of each location in Goa in our web application, this feature will help to determine the best optimal route to the desired location.

In future we can also incorporate the feature of Bucket List/WishList where the traveler can bookmark the places they wish to visit on their travel.

**V. REFERENCES**


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