

Intelligent Tour Planner and Recommender System

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Abstract:

Basically the project is having two parts namely the recommender system and the planner system. The tour recommender system firstly asks the user for logging in then he asks for the various details about his tour in order to recommend a perfect tour. The recommender system collects the information regarding the type of place, the travelling method the user would like to prefer and more importantly the cost which the user can afford. The collected data is sent to the recommender algorithm which processes the data and finds a perfect place with required specification from the system database. Three best results are displayed. Then the user selects one tour as per his choice. Next the planner system displays all the possible travelling and accommodation methods with their costs and offers. Then the user selects the services according to his convenience and enjoys the trip.

Keywords — **Bug triage, Instance Selection, Keyword Selection, Bug Report, Data Reduction, Text Classification.**

1. INTRODUCTION

When a person searches for tourist places, he gets a large number of results due to which it becomes difficult for him to decide which place to choose and what resources will be favourable.

This may not be suitable for users with different needs. For example, if a user is searching for a place with peaceful atmosphere he will get a large list of huge number of places which needs to be filtered for him. One way to filter the list is to provide basic information about the user needs. For example, if user wants a place with greenery at about 100kms away from him then this information will help to reduce the list. Current search engines such as Google or Yahoo! Do not contain such filter techniques. Also no proper application or webpage is available for such filtration process.

Memory based recommender system with x users and y items typically require $O(xy)$ space to store the information. In information-based collaborative filtering algorithms, the feature vector of each item measuring m , and it takes $O(m)$ time to compute the outputs suitable according to the given information. We proposed a framework for tour recommender which uses a clustering and grouping algorithms to filter the results of places for tourism which helps the user to appropriately choose a correct place according to his needs.

II. LITERATURE REVIEW

[1] These techniques are used in the earliest and most researched recommender systems. Often also referred to as social filtering, these algorithms focus on the behavior of users on items, which are to be recommended, rather than on

the internal nature of the items themselves. The social approach is the technical means, which most closely resembles the nature of real-life recommendations. We can assume that these algorithms have a semantic affinity to both the concept of collaborating individuals and the process of finding persons with similar interest.

[2] Content-based systems focus on the internal nature of items, or on the content of description files. These systems utilize two main classes of algorithms, either from the field of information retrieval or attribute-based filtering systems. A content-based approach favours the semantics of the content over social interactions or user behaviour. In some application domains, the content of an item may be crucial to every application. This means that systems with a severe focus on item content should use a content-based approach rather than a social approach (i.e. on the actual content, not on user interaction).

[3] These systems rely on an explicit representation of knowledge, usually as collections of statements, ontologies or other forms of rule systems. While the high performance and flexibility makes the knowledge-based approach suitable for most tasks, applications with a strong focus on content or social semantics can be realized more easily using the respective specialized approach. If an basic application requires reasoning or inference, choosing the knowledge-based approach allows the developers to benefit from the software components, knowledge representation and rules devised for the system in general.

[4] Hybrid systems can merge any combination of the above methods and metrics. Typically, hybrid recommender systems would compute ratings (or simply scores) from a number of internal algorithms, before combining these in a single metric to allow consistent ranking. In some cases, the preliminary

results of the internal algorithms are stored component-wise in a vector, before crafting a single-dimensional rating for ranking.

III. BACKGROUND

Recommender systems are currently being applied in many different domains. This paper focuses on their application in tourism. A comprehensive and thorough search of the smart e-Tourism recommenders reported in the Artificial Intelligence journals and conferences since 2008 has been made. The paper provides a detailed and up to date survey of the field, considering the different kinds of interfaces, the diversity of recommendation algorithms, the functionalities offered by these systems and their use of Artificial Intelligence techniques. The survey also provides some guidelines for the construction of tourism recommenders and outlines the most promising areas of work in the field for the next years. All this information may be particularly useful for those users who plan to visit an unknown destination. Information about travel destinations and their associated resources, such as accommodations, restaurants, museums or events, among others, is commonly searched for tourists in order to plan a trip. However, the list of possibilities offered by Web search engines (or even specialized tourism sites) may be overwhelming. The evaluation of this long list of options is very complex and time consuming for tourists in order to select the one that better with their needs. Personalization techniques aim to provide customized information to users based on their preferences, restrictions or tastes. They are particularly relevant in recommender systems, whose objective is to irrelevant options and to provide personalized and relevant information to each particular user. In the tourism field, travel recommender systems aim to match the characteristics of tourism and leisure resources or attractions with the user needs.

IV. PROPOSED SYSTEM

In current stage, entries in our data set are mainly domestic travelers, which may not be able to classify foreign visitors with satisfaction. If there are more entries in the data set of this system, the performance in terms of classification accuracy can be improved. Meanwhile, collecting more variables from questionnaire respondents may further improve this prototype system. The process of system development can be more efficient through this approach. So, basically we acquire the data and convert it into useful information. Once we have the required information we perform Data Pre-processing technique on it. Data pre-processing involves 2 steps 1) Data Cleaning 2) Data Filtering In Data Cleaning, duplicate values and noisy data is removed and besides this, the data is corrected if possible. In Data Filtering, the unwanted data is removed. Now, once data pre-processing is done, we move on to the next step i.e. Data Processing. Data Processing: The data that we get is from number of resources regarding various destinations. We will now synchronize the data from all the resources. In this way we get a proper structured data. This data includes the complete information

about places. We can also get detailed information about the transport and living. Main and reliable ways of transport to reach the destination.

V. SYSTEM ARCHITECTURE

A. USER

A user is the client i.e. the person who gives the input data i.e. the specifications of the tours like the type of place, mode of transport type of accomodation and also the total expense of the tour.

A. ANDROID APPLICATION

The user uses an android application which is installed in his smartphone as a GUI to interact with the server. The application contain various pages namely login page, data input page which contains all the questions regarding the tour and the planner page which shows various offers regarding the accomodation, travelling and cuisines.

B. WEB SERVER

The webserver is the interface between the android application used by the user and the admin server which serves the requests of the client. It helps in transferring the data through internet.

C. RECOMMENDER ALGORITHM

The Recommender Algorithm is the heart of this software. The algorithm intakes all the data obtained by the user through the application, process it, calculate the user requirements and then search the admin database for proper results and give the best three tour results as output along with their brief information.

D. DATABASE

The database is the admin database which can be only accessed by the admin and the recommender system. The Database stores the detailed information about various places and also the information of users which may be used for efficient recommending. We have used NoSQL database for storing the data.

E. ADMIN

The admin is the person who manages all the user accounts as well as the information of the places is also updated by him.

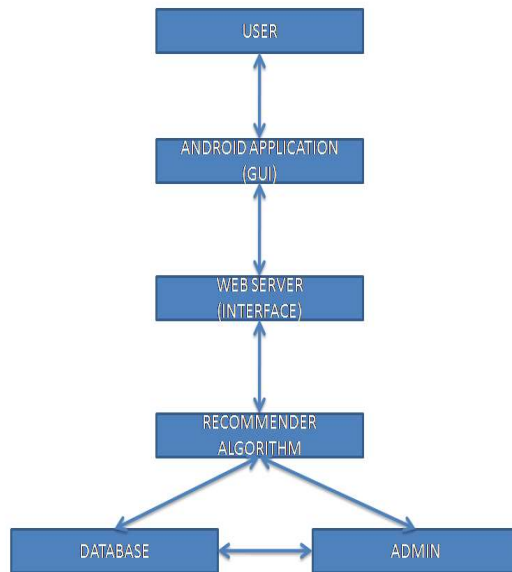


Fig. 2 System Architecture

VI. CONCLUSION

As the amount of information on the Web rapidly increases, it creates many new challenges for Web search. When a user searches for a tourist place, he gets a large number of results due to which it becomes difficult for him to decide which places to choose. This may not be suitable for users with different needs. For example, if a user is searching for a place with peaceful atmosphere he will get a large list of huge number of places which needs to be filtered for him. One way to filter this list is to provide basic information about the user needs. For example, if user wants a place with greenery at about 100kms away from him then this information will help to reduce the list. Current search engines such as Google or Yahoo! Do not contain such filter techniques. Current search engines such as Google or Yahoo! Dont have such filter techniques. Also no proper application or webpage is available for such filtration process. Our proposed system aims to recommend best 3 tours to user of application who searches for tour related with users need and also help to planning users trip by providing facilities. Recommendation of best tours will be based on travel , period, cost, category of user i.e. his age.

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