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Automated Tourist Travel Scheduling System to Enhance Tourism

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Abstract - *Nowadays people use mobile phones and other mobile devices. Most of us have a small computing device that is always with us. The main idea of this thesis was to design a system that will run on most of phones and palms and will be helpful when visiting some new places and cities. This system should be able to find a route using user criteria. Those criteria should be simple and natural, like for example: a list of museums, the most famous historical objects, restaurants to visit, constraints to travel by bus and by walking. The system should find a path that fulfils those criteria, show it on screen, show names of objects, some short descriptions and photos of them and possible entrance costs. It builds the relationships between the knowledge based system and the guide, so that it provides service for any visitor which meets their needs and the objective of gaining information of places. There are different modules, different path finding systems and shortest path finding algorithms of artificial intelligence in this thesis. The Shortest path finding algorithm should work efficiently and optimally in most of the cases. It should also be able to find distance, time and cost to travel particular destination.*

Key Words: **Recommendation technique, Heuristic Search Algorithm, A* algorithm, Intelligent tourist system, Quick Sort Algorithm, Comparison Algorithm (Using Control Statement).**

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 100 kms away from him then this information will help to reduce the list. Current search engines such as Google 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 iterating 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.

2. LITERATURE REVIEW

2.1 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 esembles 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.

2.2 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).

2.3 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.

2.4 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.

3. SYSTEM ARCHITECTURE

3.1 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.

3.2 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.

3.2 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.

3.4 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.

3.5 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.

3.6 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.

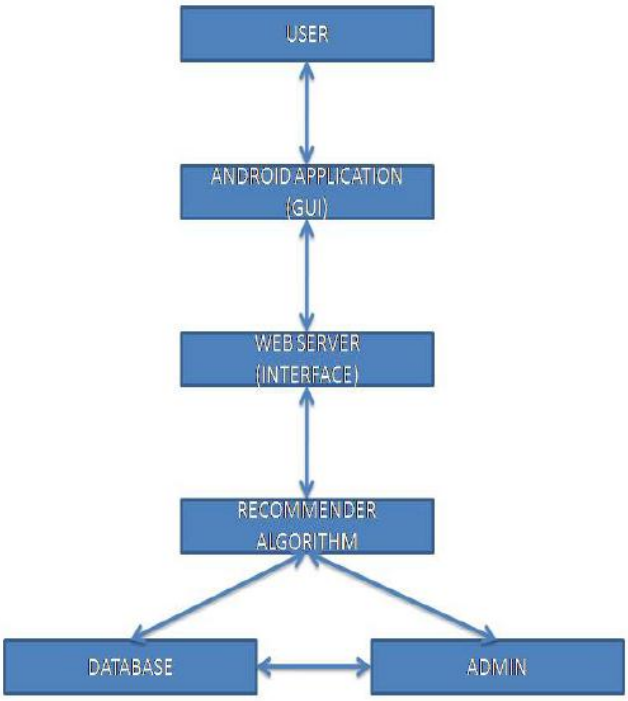

Fig. 1 System Architecture

4. CONCLUSIONS

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 100 kms away from him then this information will help to reduce the list. Current search engines such as Google do not contain 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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