A Survey on Existing Food Recommendation Systems

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Abstract

Applications based on android system appeared in all aspects of human life. At present application of android about hotel management have emerged, but there are still many shortcomings. Selecting an good and appropriate hotel consisting best food for any event is a common problem for most of the people. Existing applications are recommending on the basis of frequently purchased patterns and user ratings. We are proposing an intelligent android application which will help customers to search nearby hotels, rate dishes, view recommendations of dishes on the basis of their age, gender and profession. In this application, we are using data mining techniques and android platform. The system has very strong practical value and significance.
Keywords: Data Mining, Artificial Neural Network, Android, Feed-Forward Network, Back-Propagation Network

I. INTRODUCTION

Humans make decisions on regular basis. “Which film must I see?”, “Which metropolis must I go to?”, “What ought to I eat?” etc. There are too many picks and a touch time to explore them all. Advice systems assist people to make selections in these complex facts spaces. Recommendation structures are a form of facts filtering that offers lists of objects (meals, greens, songs, books, motion pictures, snap shots, products, net pages) which might be in all likelihood of consumer hobby. Absolutely the applications or food recommendation compare consumer interest received from his/her profile with some reference traits and predict the score that the person would provide. Those characteristics might also be from the item records or the consumer's social profile (collaborative filtering approach). We are focusing on the query “What must I eat?” within the scope of this project. Our device makes use of content-based totally recommendation approach for generating food recommendation system primarily based on records. Basically, We are proposing a new application that will help customers to search nearby hotels, rate the dishes, view recommendation of dishes on the basis of their age, gender and profession and buy the dishes.

Food is the basic need of man, hence recommendation in food system is most important thing. In 1998, the site for ordering food has already begun. One of the most famous is the Opentable, which has successfully transformed into an online ordering platform provider (Software-as-a-Service), and sold software to hotels and restaurants and charged a fee[1]. There are other similar websites like Menu Pages, GrubHub, LivingSocial, etc. Now-a-days, the use of information technology has very broad prospect in the catering industry. The software has been developed from traditional Browser/Server (B/S) mode to Client/Server (C/S) mode that include mobile phone terminal[1]. The users communicate with server with the mobile phone app. By making the comprehensive study of dynamical and international development, some of the problems should be solved related to these problems. With the far-ranging application of Android phone, new intelligent platforms should be developed to adapt to the new demands of the mobile information and big-data. Also, Data mining is the extraction of hidden patterns from huge datasets[4]. In respond to this, an intelligent catering platform was developed and implemented.

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II. RELATED WORK

A. An Intelligent Catering System

Food ordering system has begun since 1998. It has been successfully running but the server provides the incomplete management of food. A catering system has been proposed before[1].An order management should be able to provide statistics and analysis on the order. Single take-out can't come close to meeting demand. With the far-ranging application of apps of Android intelligent phone, new intelligent platforms should be designed to adapt to the new demand of mobile information.

B. Situation-based Food Recommendation System

Situation-based recommendation of food has also been proposed successfully[2]. It gives recommendation of food which yields good result. They constructed a model in which they considers the tweets regarding the food. Hence, in their model they avoided the bad results. Also it recommends the food which has good yields along with their evidences.

C. Weather Forecasting using ANN

A weather data mining was implemented before using ANN[3]. In this paper, they constructed a model using ANN which was based on meteorological data. On the historical dataset mining was done using Back Propagation Neural network and Hopfield network modeling. On that basis a future atmospheric conditions were predicted.

D. Food Processing using ANN

Maintaining accurate control and modeling of food is necessary for good results and efficiency. A food processing using ANN was proposed before[4]. ANN is highly scalable and is able of parallel processing. In food processing, they used ANN for Classification and assessment of raw materials. Also to discriminate the varieties of fruits using ANN has been proposed.

E. Contextual Recommendation of Restaurant

While choosing a hotel for a function or any other events, people gets confuse. Along with the features of the restaurants, it is essential to consider the diner's feedback about that particular restaurant. This system refers the ordering logs or records of the customers to suggest the restaurant[5].

III. SYSTEM ARCHITECTURE

A. Platform Framework

An intelligent android application has been developed for online recommendation. This system is divided into two parts viz., client and server [1].

Android client consists of:

1) Login and authentication
2) Ordering/Managing
3) Food recommendation.

Server includes of:

1) Realization of Android terminal and
2) Web terminal

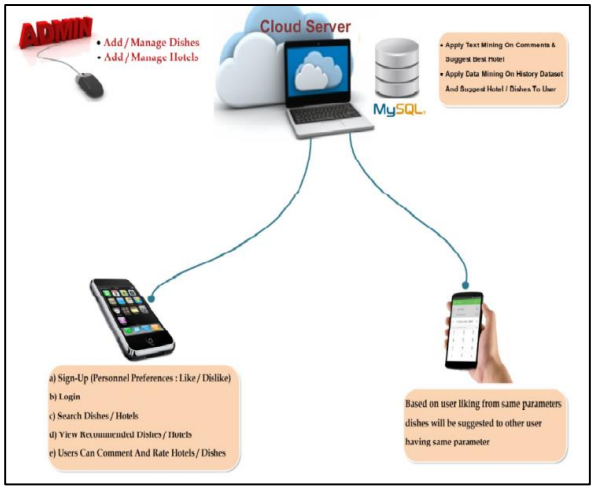

Fig. 1: Architect of agricultural based information system for villagers

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Also, existing recommendation system only focuses on "who chooses what?" or which dish/food is liked the most. Hence, people are more likely to purchase the dish which is liked most. But at every level of age, every person differs in the taste. Teenagers may like some of the spicy and hot dishes while middle age may like some of them, and on the other hand age group above 50 would like some mild or less spicy dishes. So, it is necessary to consider the choice of person according to their age group and profession. Recommending according will help the most to them, so they can be known which dish is liked the most in Artificial Neural Network.

In above architecture we are proposing intelligent system, which is based on android. System includes client-server architecture, MYSQL database.

1) Admin

This module is the main part in the system architecture. It provides username and password to the hotel owner and the customers. It gives the access to hotel owners to add and manage their dish information. Also, it allows client to access the information of hotels. The admin part provides registration interface to the new users. It can add and manage hotels as well as dishes.

2) Client

Client need to install android application on their mobile. The client needs to sign-up with their personal details name, age, profession and gender. User can search the dishes according to the recommendations. Also, user can rate the dishes/hotels.

3) Database

The database used in this system is MySQL database. Admin, Owner and client access the data from this database. Data mining is applied on history dataset and better suggestions are given to the users. The food database may contain information about restaurants, food categories (spicy, dessert, sweet etc.).This database can be accessed from an app.

IV. CONCLUSION AND FUTURE SCOPE

We are proposing a new application that will help customers to search nearby hotels, rate the dishes, view recommendation of dishes on the basis of their age, gender and profession and buy the dishes. Since previous systems were recommending on the basis of ratings and likes, through this it will recommend you according to your age, gender and ratings. Hence, customers will find out quickly a good hotel and good dish according to their choice.

Food ordering system based on interest can be developed. Prior reservation of tables for hotels can be done. Also similar idea can be used for product recommendation system.

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