POPULARITY BASED RECOMMENDER SYTSEM FOR GOOGLE MAPS

Kaladevi P[1], Renin Prince A[2], Sandhiya K[3], Soniyaa S[4]

[1]Assistant Professor, Department of Computer Science and Engineering, K.S.Rangasamy College of Technology, Tamilnadu, India*.*

[2,3,4]Student, Department of Computer Science and Engineering, K.S.Rangasamy College of Technology, Tamilnadu, India.

---***---

ABSTRACT:- In the past few years, with proliferation of mobile devices people are experiencing Frequent communication and information exchange. For instance, in context of people's visits, it is often the case that each person carries out a smart phone, to get information about nearby places. When one visit some location an application will recommend useful information according to its current location preferences, and past visit places. This new part of Google maps will learn from your personal preferences and give the suggestion what are the different places around them. This system would provide all the famous restaurants and sculptures, historical places, park, theatre, dance club etc.in and around the city. The use of popularity based filtering helps to give the users famous places around the vicinity. Using the various famous places on data sets. The machine is tuned using popularity based system and is visualized in Google maps this will provide users to find new places. This mainly drives out the use of the guide using frame work to get user inputs and with the help of Google maps API recommender system can be implemented using the known algorithms to give suggestion for the people. And the user is provided with few set of questions and based on their answer ratings are provided and suitable places is recommended to the users. In this paper we address the key features and development of popularity based recommender system. This application based on rating filtering. The basic purpose for this application is to provide an accurate recommendations for users. According to the users answering the questions. To check the ratings based on the dataset to display the suitable places for the users by using (popularity based recommender system). This approaches has its roots in information filtering.

Keywords: Machine learning, prediction, Algorithms (RMSE & ALV), User based collaborative filtering, Recommender System, User opinion, Location-based.

1. INTRODUCTION

Today the world is moving very fast and to be compete with this new era, the system has to be more efficient and more accurate. So we thought to redefine the world by making the most efficient part of the daily life "TRAVEL" with more efficiency. On the basis of the user dataset, we suggest places to people. Human need opinion for everything whatever they work or choose. People mostly like to wandering to visit new places. When an individual travels to a new city for vacation or business they don't have aware of new places. They are lack in someone to guide or recommended new places. That's why suggestion are preferred everywhere (known or unknown places) to help people new to something. This map helps to identify the user needs and analysis all the data set and recommend Places. The basic purpose of this project is to provide the accurate recommendation message for the parameter like Temple, park, Historical places, hospitals, beach and pub. The main aim to provide suggestion and it give opinion and satisfaction to people during their travel. So we build something unique we thought to suggest places by the basis of user dataset.

On the technical side, we used machine learning provides systems ability to automatically improve and learn from experience without being explicitly programmed. The process is begins with to learn observed the data, such as examples, direct experience in order to make better decision in the future examples that we provide. The primary data is to allowed maps to learn automatically without human intervention or assistance. The Supervised machine learning algorithms can apply which has been learned in the before data using examples to predict future data .Starting from the analysis of a known training dataset. The learning algorithm produces an inferred function make predictions about the values. The System is able to provide targets of any new input. The learning algorithms can also compare its output with the correct, intended output and find errors in order to modify the model

Unsupervised machine learning algorithms were used. The information used to train the data. Unsupervised learning studies how system can infer a function to describe a hidden structure from unlabeled data. The function does not figure to describe a hidden structure from labeled data. The system doesn't figure out the right output, but it explores the data and can draw inferences from datasets to describe hidden structures from labeled data.

When an individual user to a new city for vacation or business or in simply relocating to a fresh setting, the person needs a method to receive information on the routes to utilize and sites to see. In today's world tourists have also many options with

their mobile devices to receive recommendation about a city's attraction and sites as well as to navigate the routes to find the location of their interest. The purpose of this paper was to build an application for mobile devices that Google Maps with the ideas of recommendation parameters like theatre, historical places etc. According to users current location, preferences and past visit by using content collaborative filtering approach

We address the development and the key features of a map routing with a mobile application which is based on collaborative filtering. In popularity based recommender system are provide on the basis of user profile, description of items and keywords are used to describe the items in content based recommender systems. The architecture of popularity based recommender system is shown below:
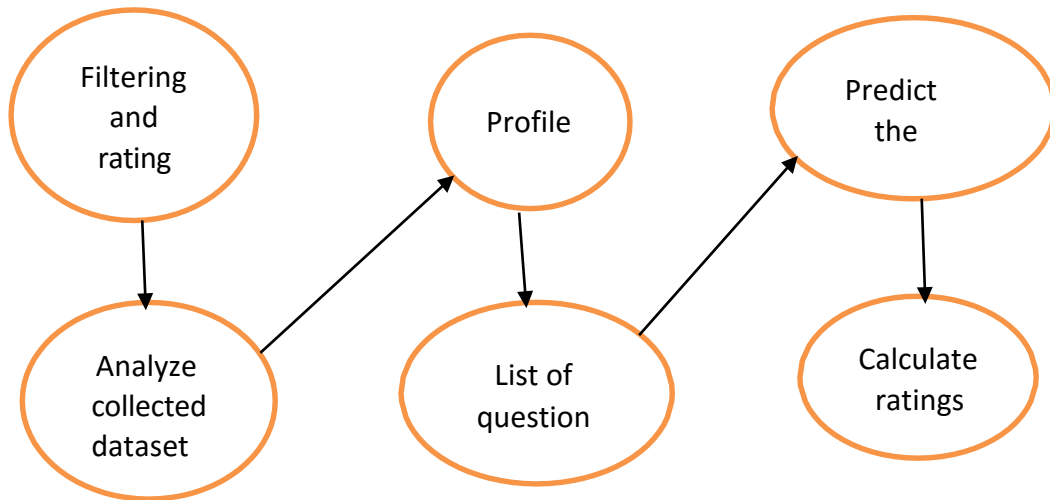

Fig 1.Framework for user opinion analysis

Set of terms to describe the content of each item, usually that occurs in the document. Recommendations are provided to the users according to their likings (when user profile matches with the terms).

The basic purpose of this application is to provide the accurate recommendations for the parameters like historical places, temples, resorts etc. in places by using popularity based recommender system in which previously selected item by user is shown in application and further recommendations are provided to user according to their interest. This system suggest places based on the both user's past actions and current location.

2. RELATED WORK

In this section, we briefly review the key features of recommendations system for Google maps.

Su Li proposed the method for building Thematic Map of GIS based on Google Maps API. To solve the problem actual that Google Maps API can't provide directly the function of building range thematic map of GIS, this paper builds indirectly range thematic map by means of the combination use of the other class and method provided by Google Maps API and Extensive and markup language technology, ArcGIS spatial data disposal technology and so on. The idea method are discussed it. To validate the idea and method proposed in the system we drew the range thematic map of permanent population density in 2004 year in 18 districts and countries of Beijing. The drawing result are better. The realization of the function can not only solve the problems encountered, to believe it is possible to provide a reference on the ideas for the readers who need to create thematic map based on Google maps API.

An and Shankar Tiara proposed about Efficient Tag based personalized Collaborative Movie Recommendation System. Recommender system is a programs and techniques used for predicting items or rating of items in which a user may be interested. The objectives of recommendations techniques are to access and mitigate the problem of information overload where a user is not able to receive clear result of his search. From these recommendations may help in various decision-making processes such as which items to buy, which music to listen, or which online news to read and which research paper to read etc. Introduce a new recommendations model which takes into considerations a user's information based on tagging. The proposed approach offers significant advantages in terms of improving the recommendation quality for movies.

Sung Take proposed about Novel Recommendations system on personal popularity tendency. Novel recommender systems have attracted attention in the new research community. Recommending popular items may not always satisfy users. For example, although most user likely prefer popular items, such items are often are not very surprising or novel because users may already know about the items. Also, the recommender systems hardly satisfy a group of users then prefer relatively obscure items. Existing novel recommender systems, however, still recommend mainly popular items or degrade the quality of recommendations. They do so because they do not consider the balance between novelty and preference-based recommendations. The proposes an efficient novel-recommendation method called personal popularity tendency matching. Which recommends novel items by considering an individual's personal popularity tendency (PPT). Considering PPT helps to diversify recommendations by reasonably personalizing popular items while improving the recommendation accuracy. Experimentally show that the proposed method, PPTM, is better than other methods in terms of both novelty and accuracy.

Neel am Malik proposed about predicting of final result and placement of students using classification algorithm. The quality education is required for growth and development of system. Professional education system is one of the pillars of new higher education. Data mining techniques aim to discover hidden system in existing educational data, predict future trends and use it for betterment of higher educational institutes as well as students. The objective of this study is to use prediction technique using data mining for producing knowledge about student of master of computer application course before admitting them to the course.

Heal Guaraní proposed about a review on machine learning based Recommendations system. Recommendations systems plays important role in internet world and used in many applications. System has created the collection of many application, created global village and growth for numerous information. The system represent the overview of approaches and techniques generated in recommendation system. The Recommendation system is categorized in three classes: Collaborative filtering, Content based and hybrid based approach. Classifies collaborative filtering in their two types: Memory based and Model based Recommendation. System elaporates these approaches and their techniques with their limitations. The survey shows the road map for research in this area.

Collaborative filtering tagging describes the process by which many users add the metadata in the form of keywords to shared content. The collaborative tagging has grown in popularity on the web on sites that allow users to tag bookmarks, photographs and other content. In this paper we analyze the structure of collaborative tagging systems as well as their dynamic aspects. Specially, we discovered regularities insure activity, tag frequencies, kinds of tags used, bursts of popularity in bookmarking and a remarkable stability in the relative proportions of tags within a given urn. The system also present a dynamic model of collaborative tagging that predicts these stable patterns and relates them to imitation and shared knowledge.

3. PROPOSEDSYSTEM

Each data in the structured data set is fixed with certain ratings according to the user search. A few set of questions are asked to users and then based on their answers rating is fixed. Based on the users rating the places are recommended with clear and suitable places for the users. To suggest one place out of ten different places from collaborative filtering as applied in map. This is discussed briefly here, new user: For the new user, the system requests to register him/her an account to gather his preferences. Map database: Collect the information for recommendations in map and analyses the ratings and predict the favorite places like art gallery, resorts, beaches etc., Information collected: Analyze the collected information by filtering component that whether it is likely to be interest to the active user by comparing data in the item representations to those items stored in the user profile. Place suggestion: This phase recommend and suggest a favorite place which users preferred most.
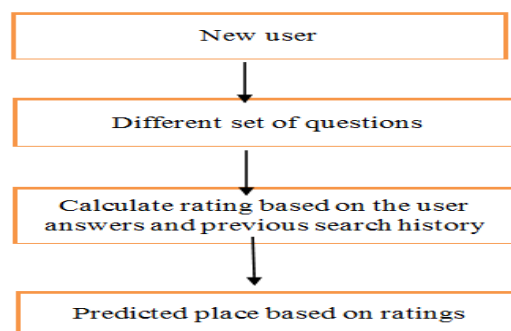

Fig 2. Flow Chart of Proposed Techniques

Let's say you are trying to find a food joint in a new place, or simply looking to discover what's new in your own locality. This will act like a social media feed for everything that's pulling in the crowds in the neighborhood you have chosen. To use recommended system to give suggestions during a travel. Machine learning algorithms are used for training the dataset and to give desired outputs for the users. Google maps are altered as needed to give the suggestion to the users. Web application helps in getting the user input and showing the map with suggestions to the users.

4. DISCUSSION AND FUTURE WORK

Data collection: Data is collected from the individual users. It recommend items that are similar to those that a user liked in the past. In particular, various candidate places are compared with places previously rated by user and the best matching places are recommended.

Data extraction: The semi structured data which is collected from the user dataset is converted into structured data. Each data in the structured data set is fixed with certain ratings according to the user search.

Data cleaning and exploration: A few set of questions are asked to users and then based on their answers rating is fixed. Based on the users rating the places are recommended with clear and suitable places for the users. For the new user, the system requests to register him/her an account to Gather their preferences. Collect the information for recommendations in map and analyses the ratings and predict the favorite places like art gallery, resorts, and beaches etc., Data analysis: Analyze the collected information by filtering component that whether it is likely to be interest to the active user by comparing features by high value ratings. This phase recommend and suggest a favorite place which users preferred most

System Analysis: Collect all the Google map search history from the individual user. Jingo is a python-based free and open source framework (front end) using HTML application. It encourage rapid development and clean pragmatic design. ALS recommender is a matrix factorization algorithm. It observed user to item ratings and tries to find a perfect place for users. Prediction task is modeled as classification task where our aim is to predict whether the place will be liked or disliked by the individual users. Use of filtering and clustering techniques to suggest places of interest of the users. Output obtained from the individual user based on their ratings (set to the answer).

Data Rating Prediction: Spark is the data processing tool using python. Using ALS (Alternating Least Squares).ALS is a matrix factorization algorithm then Predict the data. Evaluate by RMSE (Root Mean Square Deviation)RMSE is a frequently used measure of the difference between the values and predict the values.

Tools and Technologies:

1. Pythonv-3.6

2. Mongo DB

3. Jingo Web Framework

4. Google maps

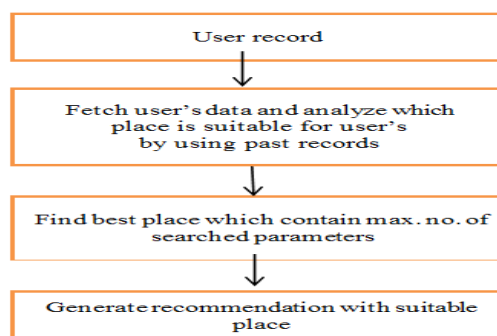5. Apache-spark

Flow chart for place suggestion:

Fig 3. Flowchart for Place Recommendation

5. CONCLUSION

As a conclusion, make people life convenient by not asking for any suggestion to unknown people using-filtering methods instead of classification to bring up suggestions. This works just as many online e-commerce sites but with the help of Google API's it can be used to give suggestions over the map. Using collaborative filtering methods instead of classification to bring up suggestions. People will have choices and know new places. This works just as many online e-commerce sites but with the help of Google API's it can be used to give suggestion over the map. This approach the data has its root in information retrieval and information filtering research. The system is functional as well as user-friendly and easy to use. The system becomes self-learning as more people use the system and gives their knowledge to the system.

ACKNOWLEDGEMENTS

6. REFERENCES

1) Raman than, L.p.Swarnalathat and G.D.Gopal(2014)Mining EducationalDatafor Student's placement Prediction using Sum of Difference Method. International Journal of Computer Applications99(18):36-39

2) Bishop, C.M. (2006) Pattern Recognition and MachineLearning.Springer.ISBN0-387-31073-8.

3) Nail, N. and S. Profit (2012) Prediction of Final Result and Placement of Students using Classification Algorithm. International Journal of Computer Applications(0975-8887)

4) Lu, J., et al., Recommender System application developments: a survey. Decision Support System,2015. 74:p. 12-32.)

5) Al Alcaic, M., G. Uchyigit, and R. Evans, A research paper recommender system using dynamic normalized tree of concepts model for user modeling.2017

6) Beal, J., Towards effective research-paper recommender system and user modeling based on mind maps. arXiv preprintarXiv:1703.09109,2017

7) Wei, J., He, J., Chen, K., Zhou, Y., & Tang, Z. (2017).Collaborative filtering and deep learning based recommendation system for cold start items. Experts systems withapplications,69,29-39.

8) Deng, S., Huang, L., Cu, G., Wu, X., & Wu, Z. (2016).On deep learning foratrust- aware recommendations in social networks. IEEE transactions on neural networks and learning systems.

9) Dong Yu, Li Deng Shenzhen Wang1 Microsoft Research University of California One Microsoft Way 405 Haggard Avenue Redmond, WA 98052 Los Angeles, CA 90095 {dungy, ding}@microsoft.com szwang@ee.ucla.edu Volume 56-No.12

10) Roach, L and O. Maim on (2008)Data mining with decision trees: theory and applications. World Scientific Pub Co Inc. ISBN 978-98127717711