An Advanced Intelligent Tourist Guide

R.H.Joshi[1*], B.D. Deshpande[2], D.M. Gohane[3], R.S. Gautam[4]

[1,2,3,4]Dept. of Information Technology, Shri Ramdeobaba College of Engineering and Management, Nagpur, India

Corresponding Author: joshirh@rknec.edu Tel.: 9766948002

Abstract— A recommendation system is more important and helpful in both research and industry. This paper first examines the method of travel sequence recommendation. The proposed methodology is to design a system based on user's point of interests. The whole procedure comprise of following: Pages are accessible to the users based on Google API. Based on the point of interest, all the results are retrieved. The proposed methodology is implemented using Google API keys to find places according to user's point of interests. Three places API used here are place search, place text search and place details API. The technique is tried on self-made database comprising of user information, user's feedback, country, state and city, spot and spot types. In this website, user can give feedback for the previously visited places.

Keywords— Google API, Point of Interest, Recommendation.

I. INTRODUCTION

A recommendation system is progressively significant and important in both research and industry. In this busy world our everyday life is getting more digital and social. All our day by day need items can be ordered online and the items are conveyed at your doorstep. In our proposed framework we attempt to take care of the challenging issues, for example, suggesting the best places for travelling at that area where user want to travel. We additionally suggest the best season, time, ratings, reviews. Our framework is useful to user since they don't have to look through increasingly about the spots on various websites. We also prescribe the way to visit the area with Google map as an option point in our system. In our proposed system, first the user need to registered with his personal information and submit all the information about the places and location that he previously visited.

The paper is organized as follows: Introduction is given in section I, we introduce the related work of our system in section II, then we describe how we do the implementation and proposed methodology in section III. Results and discussion of the implemented work are given in section IV, conclusion and future scope of improvement is described in section V.

II. RELATED WORK

It consists of many methods which have been used previously for recommending travel spots. Some of the previously published research papers are:

Collaboration and activity recommendation
It uses collaborative filtering for making recommendation. Activities are being suggested based on past GPS history data [1].

Trip miming and recommendation
In paper [2], use is made of searching and ranking algorithms. Flickr is used for getting data for using the geo-tagged images.

Travel guide by automatic landmark ranking
It uses selection, filtering, refining, ranking and view generation. Landmark places are picked from the geo-tagged images which are identified and recommended. Most popular and tagged landmarks are taken from them noisy ones are deleted and the best is suggested [5].

Recommendation from local experience blog entries
It uses association rule mining. It uses blog entries for extracting the blog experience and location. Blog growth and blog behavior is being taken from the blog watcher and time graph [7].

III. METHODOLOGY

The methodology includes six steps to find places where user wants to travel:

1. First user have to create their account by filling all the details such as first name, last name, mobile number, email, password, age, gender.
2. After successful registration, user can login into dashboard by entering valid email and password.
3. In dashboard, there are two entities search location and search places.
4. Through search location, user can give feedback and rating of their visited places and they can also view other user's feedback.
5. In search places, user can search place where they want to visit by selecting country, state, city and the place type (Water Park, amusement park, garden, lake and malls).

6. After searching the best places, user can logout from the system.
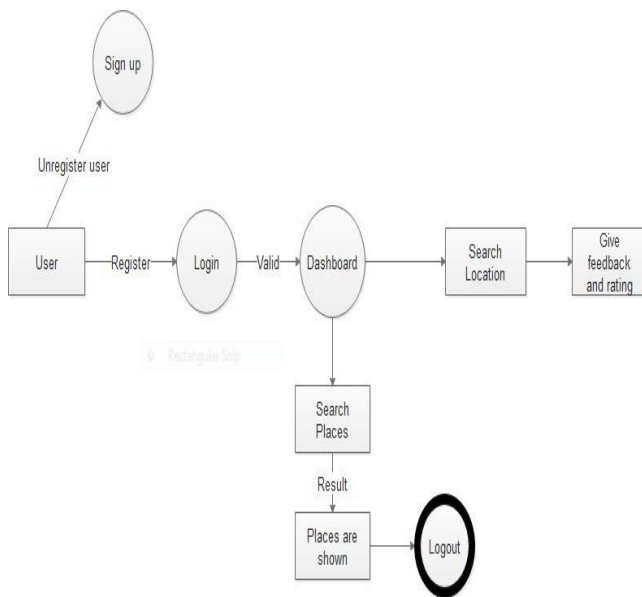

Figure 1. Data Flow Diagram

The proposed methodology is implemented using Google API keys to find places according to user's point of interest. Here we have used three Places API. They are:
1. Place Search API
2. Place Text Search API
3. Place Details API

The Places API is a service that returns information about places using HTTP requests. Places are defined within this API as establishments, geographic locations, or prominent points of interest.

A Place Search returns a list of places along with summary information about each place; additional information is available via a Place Details query. A Find Place request takes a text input, and returns a place. The text input can be any kind of Places data, for example, a name, address, or phone number.

The Google Places API Text Search Service is a web service that returns information about a set of places based on a string. The service is especially useful for making ambiguous address queries in an automated system, and non-address components of the string may match businesses as well as addresses. Examples of ambiguous address queries are incomplete addresses, poorly formatted addresses, or a request that includes non-address components such as business names.

The search response will include a list of places. You can send a Place Details request for more information about any of the places in the response.

Once you have a place-id from a Place Search, you can request more details about a particular establishment or point of interest by initiating a Place Details request. A

Place Details request returns more comprehensive information about the indicated place such as its complete address, phone number, user rating and reviews.

XAMPP tool is used here for implementing proposed methodology. XAMPP is a free and open-source cross-platform web server solution stack bundle created by Apache Friends. XAMPP is accessible in both the bundles full and lite. Full bundle has the wide array of tools utilized for advancement and the lite form is a little bundle containing Apache HTTP (Hypertext Transfer Protocol) Server, PHP, MySQL, PhpMyAdmin, openssl, and SQLite.

PhpMyAdmin has several features. It has the web interface which is easy to utilize and support the SQL features such as creating the database, views, fields and indexes. The PhpMyAdmin has the capacity of managing stored procedure and triggers also can import and export the database from SQL.

The languages used here are PHP and html. PHP is called as hypertext preprocessor. PHP is an open-scripting language which is freely accessible on the internet. PHP utilized in everywhere throughout the world. It is very simple, open-source, efficient, secure, freely type, adaptable and platform independent language. HTML stands for Hypertext Markup Language. HTML describes the structure of a web page.

IV. RESULTS AND DISCUSSION

First of all user should register into the system by filling details such as name, age, email id, password, mobile number, gender. Figure 2 shows the login page from where the user can login into the system.
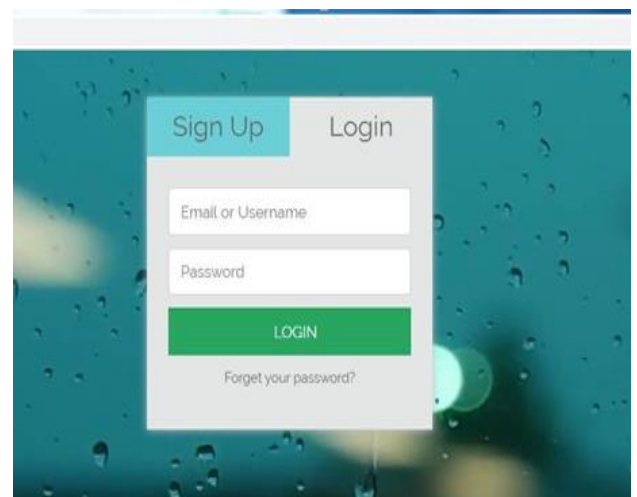

Figure 2. Login Window

The following figure 3 shows the dashboard window. Here the user search for the location he/she wants to travel. Users have to fill the fields such as Country, State, City and the place where user want to travel.
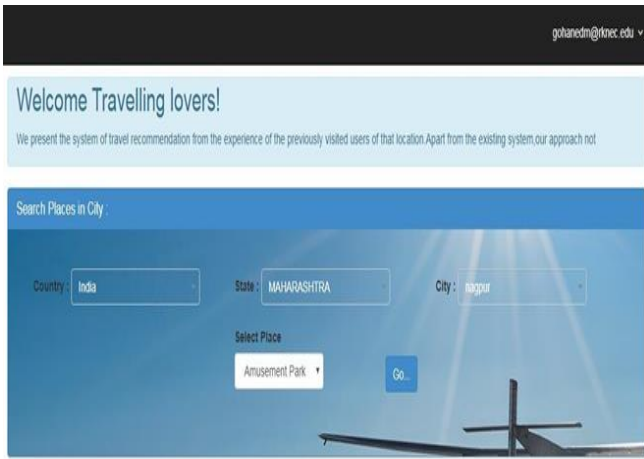
Figure 3. Dashboard Window

User can give the feedback for the visited place in the form of ratings and reviews as shown in figure 4. User can share his/her experience by giving his/her comment for the places at the location he/she previously visited.
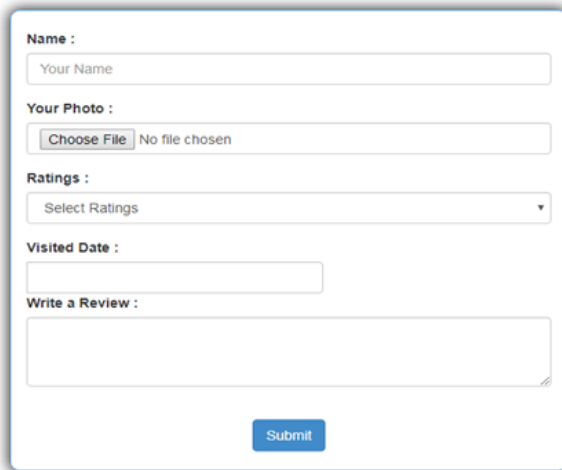

Figure 4. Feedback Window

Result Window: Google API is implemented and the user is able to visit the places in that location.
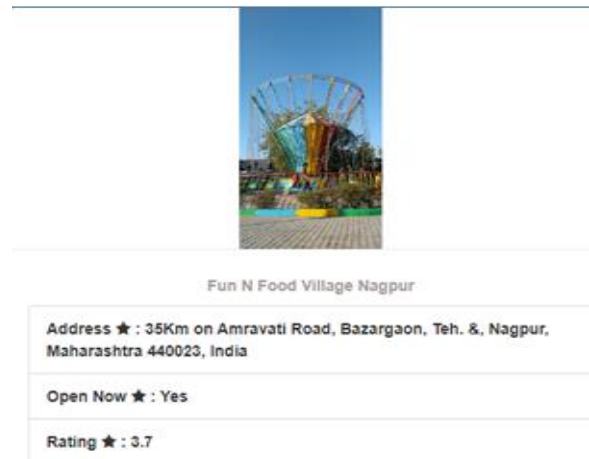

Figure 5. Result Window

Figure 6. Result Window

Web Crawler Output: The following figure shows the web crawler output in array form

Figure 7. Web Crawler Output

Page Rank Algorithm Implementation: Here, we have implemented page rank algorithm considering graph of nodes. Figure 8 shows the page rank algorithm implementation.

Figure 8. Output of Page Rank Algorithm considering Graph of Node

V. CONCLUSION AND FUTURE SCOPE

In this paper, we propose a system which gives best places to travel according to user's point of interest. It gives most exact places on the basis of ratings. The users can also give their feedback in the form of ratings of the visited place. User's feedback is helpful for other user to select place they want to travel.

This will use for getting correct and accurate places to visit. In future it can also be used for recommending the hospitality, accommodation facility, restaurants and vehicle facility.

REFERENCES

[1] V. W. Zheng, Y. Zheng, X. Xie, and Q. Yang, "Collaborative location and activity recommendations with GPS history data," in Proc. 19th Int. Conf. World Wide Web , **2010**, pp. **1029–1038. ,https://doi.org/10.1145/1772690.1772795.**

[2] H. Yin, C. Wang, N. Yu, and L. Zhang, "Trip mining and recommendation from geo-tagged photos," in Proc. IEEE Int. Conf. Multimedia Expo Workshops, 2012, pp. **540–545.**

[3] AkshithaSivakumar and B Prabadevi, "Tour Recommendation Guide- Personalized travel sequence recommendation" in IOP Con- ference Series: Material Science and Engineering, vol. **263,** Com- putation and Information Technology, **2017.**

[4] Zahra Farzanyar and Nick Cercone, "Trip Pattern Mining Using Large Scale Geo-tagged Photos" in International Conference on Computer and Information Science and Technology, Paper no. **113, May 12, 2015.**

[5] Y.Gao, J. Tang, R. Hong, Q. Dai, T. Chua, and R. Jain, "W2go: A travel guidance system by automatic landmark ranking," in Proc. Int.Conf. Multimedia, **2010, pp. 123-132.**

[6] Quan Yuan, Gao Cong, Aixin Sun School Of Computer Engineering, Nanyang Technological University, **Singapore** 639798, "Graph-based Point-of-interest Recommendation with Geographical and Temporal Influences".

[7] T. Kurashima, T. Tezuka, and K. Tanaka, "Mining and visualizing local experiences from blog entries," in Database and Expert Sys- tems Applications. New York, NY, USA: Springer, **2006,** pp. **213– 222.**

[8] Shuhui Jiang, XuemingQian, Member, IEEE, Tao Mei, Senior Member, IEEE and Yun Fu, Senior Member, IEEE "Personalized Travel Sequence Recommendation on Multi-Source Big Social Media" IEEE TRANSACTIONS ON BIG DATA, VOL. **2**, NO. **1**, JANUARY-MARCH **2016.**

[9] H. Huang and G. Gartner, "Using trajectories for collaborative fil- tering–based POI recommendation," Int. J. Data Mining, Modelling Manage., vol. **6**, no. **4**, pp. **333–346, 2014.**

[10] P. Lou, G. Zhao, X. Qian, H. Wang, and X. Hou, "Schedule a rich sentimental travel via sentimental POI mining and recommenda-tion," in Proc. 20th ACM Int. Conf. Multimedia Big Data, **2016,** pp.**33–40.**

[11] Jie Bao, Yu Zheng, David Wilkie and Mohamed Mokbel "Recommendations in Location-based Social Networks: A Survey, Geoinformatica, 6 February **2015.**

[12] Jiang Shuhui, Qian Xueming, Shen Jialie, Fu Yun and Mei Tao **2015**, "Model- Based Collaborative Filtering for Personalized POI Recommendations" IEEE Trans. Multimedia **17 907-918.**

Authors Profile

Rohini H. Joshi pursed Bachelor of Engineering from Raipur University in 2007 and Master of Technology from Nagpur University in year 2015. She is currently working as Assistant Professor in Department of Information Technology at Shri Ramdeobaba College of Engineering and Management,Nagpur,India.She has published 6 research papers in reputed international journals and conferences including IEEE.Her research work focuses on Web Technology,Image Processing and Machine Learning.

Bhagyashree D. Deshpande is currently a final year student pursing Bachelors of Engineering in Information Technology from Shir Ramdeobaba Colloege of Engineering and Management,Nagpur,India.Her area of interest is Web Technology and Information Retrieval.

Dhanashri M. Gohane is currently a final year student pursing Bachelors of Engineering in Information Technology from Shir Ramdeobaba Colloege of Engineering and Management,Nagpur,India.Her area of interest is Web Technology and Information Retrieval.

Renuka S. Gautam is currently a final year student pursing Bachelors of Engineering in Information Technology from Shir Ramdeobaba Colloege of Engineering and Management,Nagpur,India.Her area of interest is Web Technology and Information Retrieval.