

Social Media with Travel Planner

Aditi Patil¹, Archit Ropalekar², Kirtiraj Patil³, Tejas Rahane⁴, Prof D.N. Patil*

¹²³⁴B.E (Computer Engineering), Sinhgad College of Engineering, Pune, Maharashtra, India

*Professor, Dept. of Computer Engineering, Sinhgad College of Engineering, Pune, Maharashtra, India

Abstract - Tour planning is one of the most essential part of the trip. Travel plan creation before the trip is an issue as many of the people forget to take important items such as passport, hotel booking number, tickets etc. People are unaware about the actual weather condition of place to be visited. The current tour planning applications lack proper integration with social media, precision in suggesting nearby visiting place. The same reason leads us in developing our tour planner application which overcomes these difficulties. Our main goal is to create a social media platform which will allow users to have friends and check where they have traveled. Using this data the new places to be visited will be suggested to the user. It will include a planner module which will provide accurate planning for the trip and using the weather condition of the place will be conveyed to the users.

Key Words: social media, travel planner, geolocation, Django, React Native

1. INTRODUCTION

Social media is the best way to communicate and to gain access to user's information. Things which are found to be beneficial are recommended to other friends in community, as a result social media is found to be base in our application. The tourism industries have adopted information technology to boost their operation potency and improve service quality and client expertise. Commercial enterprise companies usually use the net as a channel of communication with the targeted customers. Due to enhancement of mobile chipset and advancement in internet generation the consumer are more comfortable to use mobile devices rather than desktop computer which has led us to develop mobile application which included a social media and tour planner. We need to be aware of some concepts related to web development such as front-end, back-end, REST and technologies such as React Native and Django. Front-end web development, deals with HTML, CSS and JavaScript which provides dynamic content to user while they interact with the application. The backend included an application which interacts with the server which has an SQL based database. REST protocol web services is a way of providing interoperability between computers on the World Wide Web. React Native is JavaScript framework for modelling real, natively rendering mobile application for iOS, Android and Universal Windows platform. It is written over the React JS which is Facebook's JavaScript library for building user interfaces. Django is a free and open source python framework used for creating web application.

2 Motivation

The main aim of the project is to create a social media platform and tour planner application which assists the user in every possible way. Social media platform allows users to fraternize with like-minded people by sending them friend request, sharing with them photos and videos of the tour. Tour planner is to facilitate people with accurate tour planning which is currently not available, it enable tracking of people travelling together which create a sense of security and unity. The purpose of this paper is make people aware of this application which reinforces the tour planning experience and induce joy in their journey.

3. RELATED WORK

Route planning is most essential while tour is being decided [1] discusses a Keyword-aware Representative Travel Route (KRTR) framework to retrieve several recommended routes where keyword means the personalized requirements that users have for the trip. A Place of Interest (POI) is selected and its features are extracted using the tags that are associated with it. These tags are analyzed to determine the semantic meaning of the keywords, which are classified into Geo-specific keywords, temporal keywords, and Attribute keywords according to their characteristics. Using these keywords, the POI is given a feature score. Tour is enjoyed with like-minded people are included, [2] a semantic based trust recommendation system is proposed which recommend trust companion having high similarities in message sharing. Positive and negative approaches towards the shared posts or links can be determined by likes and dislikes and also consider the opinions towards comments. Message analysis, cluster analysis and user analysis provide a way to group the people having similar interests. Message analysis analyses messages in form of posts and links. Cluster analysis uses clustering algorithm to organize users in clusters with similar keywords. As a result, the semantic based recommendation system maintains virtual group of trust people having similar interest. [3] Uses a three dimensional user-time-spot matrix to suggest friends. This method is dependent on the real world check behaviors of users. This method analyzes the check-in history as well as current checked-in location to suggest friends nearby. A specific time interval is considered and people who are checked in at that place during that interval, are suggested to the user as friend recommendation. Much of people traits are found out by the content they search on the internet. [5] Proposes a method which tries to find a traveler's interests from search behavior. It focuses on the travelers which

prefer a mobile a device as a tool to search for travel destination choices such as accommodation, tourist attractions spots, things to do, etc. The method uses questionnaire as a research tool to collect data which provides a content validity. Method collects travelers' profile and behavior from questionnaire and executes those transactions by Rapidminer program with association rule technique. The result generated relationship rules of traveler behavior which called knowledge discovery in database (KDD). [4] Considers parameters like life-style, interest, education, similarity or common things, mutual friends are considered for recommending friends. This method is called friends space. For development of Friend-Space application four algorithms are implemented and used in system. K-Means, Apriori, Ranking and Recommendation algorithms are developed for Friend-Space Application. This method checks user profiles for similarities and assigns the priorities to users as friend recommendation and arranges them in descending order. The output is displayed till a minimum priority

4. METHODOLOGY

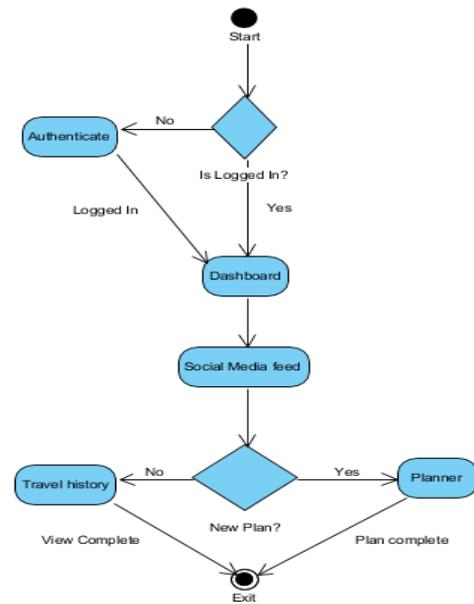


Figure 1: System Overview Diagram

The Social media with Travel planner system is separated into various modules for the implementation. The system introduce with User registration view where user input their email id and create a password. The user receive a 6 digit verification code on his email for user verification, user has also given option to reset their password if they forget it. Next module is crucial part of tour planning the travel manager. The travel manager allow us to plan a vacation by recommending places on the route of the destination. The system integrates group of people by allowing us to track them while they travel together and feature of group chat has been provided. A provision of adding sub location to system has made available. Item recommendation has also been provide which suggest things to be carried out according to season etc.

Social media module allows a way to fraternize. It provides us with user information section providing information on user detail, follower following etc. The inclusion of friend system allow to befriend other user of this system it provides option such as block, block and report, followed etc. The chat system allow two user to chat amongst themselves. Option for posting image have been made available with caption and commenting and likes are allowed. After all the steps survey module is used for reviewing and rating system. The review are given by the system of user based on 4 sections UI, Social media, travel planner and overall rating. Figure 1 show the flow of the system.

Hardware Interfaces: The two main parts of hardware are the server and client android smartphone. The android devices supported will need to have OS version 4.4+.

Table -1: Application features set 1

| Name | Geolocation tracking | Track Document Information | Real time weather | Suggest Nearby Places |
|--------------|----------------------|----------------------------|-------------------|-----------------------|
| Trell | X | X | X | ✓ |
| Google Trip | X | ✓ | X | ✓ |
| Holidify | X | X | X | ✓ |
| Minube | X | X | X | ✓ |
| Trip Planner | ✓ | ✓ | ✓ | ✓ |

Table- 2: Application features set 2

| Name | Friend system | Location review system | Offline map saving | Location information and suggestion |
|--------------|---------------|------------------------|--------------------|-------------------------------------|
| Trell | ✓ | X | X | X |
| Google Trip | X | ✓ | ✓ | ✓ |
| Holidify | X | X | X | X |
| Minube | ✓ | ✓ | ✓ | X |
| Trip Planner | ✓ | ✓ | ✓ | ✓ |

By analyzing the tables above, most application lack the geolocation tracking, location review system. So our project motivates us to properly integrate these missing system with social media to enhance user experience.

Software Interfaces: The back-end is composed of Django framework. The framework uses relational database PostgreSQL. The frontend is created using React Native which is taken from ReactJS itself. The communication between the front-end and back-end is done using the industry standard REST API system.

Communication Interfaces: The communication standard will be HTTP. The other form of communication will be email which will be used during the two step verification of user account.

3.1 PROPOSED METHOD

• APRIORI ITEM SUGGESTION

1. Start
2. Get input location in variable `current_location`.
3. Fetch all the entries in the table `item_suggestion` using following query.
4. Add these data objects to a list variable called `all_similar_loc`.
5. Let minimum support be `min_supp`. Which will be set to 50% using formula
 - a. $min_supp = (\text{length}(\text{all_similar_loc}))/2$
6. Set minimum confidence to be 60%. i.e. `min_conf = 0.6`. Also let `iter_count = 1`.
7. Consider a set with list of all items in `all_similar_loc`. Let it be called `item_set`.
8. For item in `item_set`,
 - a. Count number of occurrences of item from `all_similar_loc` list.
 - b. Map each of the count to respective item
 - c. Check if `count > min_supp`. If true continue else go to next item.
 - d. Append the `item_name` to `new_item_set` list variable.
9. Now let `item_set = new_item_set`,
 - a. Using combinations, combine each element to form a subset of length `iter_count+1`
 - b. If no possible subset can be created then go to 10. Else go to 8.
10. Now for each `item` in `item_set`,
 - a. Using association rule, consider association between the elements inside `item_set`
 - b. Calculate confidence for each of the items using formula,
 - i. $confidence_item = \text{item_supp} / \text{total_occurrences}$
 - c. Check if `confidence_item > min_conf`. If true append the rule in list variable called `item_rules`. Else skip that item and go to next item in `item_set`.
11. Using the values inside `item_rules`. Display suggestions of 5 such items (if they exists).
12. Stop

• LOCATION RECOMMENDATION

1. Start
2. Add first location to visit.
3. Check if that location exists in our location database. If no go to 11 else continue
4. Fetch the entry from the database for the location and update `search_count` attribute by 1 of that location by using POST method
5. Check which city/town it is related to. Fetch the data using GET method to find what general location is the selected location from
6. Store this data in variable called `found_locations` as a list of data objects
7. Sort the data using quicksort based on the 3 database values namely: `search_count`, `visit_count`, `last_updated`
8. Use the `search_count` and `visit_count` together to sort values in descending order, for first 25(if existing) maximum of its value store each of that data object of database in variable named `avg_counter` which is a list.
9. if length of `avg_counter` ≤ 10 display the suggestions else consider `last_updated` value. If its value has not been updated for over 2 years do not display it in suggestions. Consider, the next value in the `avg_counter` if it exists.
10. Get input if another location is to be added. If true go to 2. Else go to 12
11. Get the location value as input as per user request. Add the location address to database locations. Go to 5.
12. Stop

4. RESULT

Following are environmental setup condition, platform through which user can provide feedback is being provided by Survey module present in the project. The survey discussed in this chapter is based on is based on group of 25 people who have thoroughly understood and used the app

for travel planning and used social media feature. Following are the environmental parameters. Geo-location tracking system to track people with us, real time weather, suggest nearby places, friend system (social media platform), location review system, location information and suggestion. Evaluation method is as follow, for each module the user has option to rate it on scale of 0 - 5. Classification of response is considered positive when users rates it above 3 on scale of 5 units and negative if users rate it below 3 on a scale of 5 units.

Table-3: Response from Users

| Application module | Positive response | Negative response |
|--------------------|-------------------|-------------------|
| Tour Planner | 80% | 20% |
| Social Media | 75% | 25% |
| User Interface | 70% | 30% |
| Application Rating | 81% | 19% |

With the reference to table 3 the rating for overall application result to 81%. From the user interface survey we come to know user has certain taste in our user interface. Tour planner shows it precision in planning tour as user express a response of 80%. One third of users like the social media platform.

4. CONCLUSIONS

As per the abstract the system has implemented all the modules in homogeneous way. The system provides various features by combining attributes of social media, tour planner and review and rating module into a perfect application. It allows an individual to fraternize with other people making it friendlier while travelling. This give people a sense of security when exploring new area which they are unaware about, making it a perfect travel companion.

5. FUTURE WORK

The application can be further improved by implementing following changes in each of the module. In social media module we can provide user with ability to upload videos, support for sharing post using URL and providing filtering for images. In chat system support for image and video sharing can be made available along with deletion of previously send message. For travel manager support for document saving, suggesting hotels and booking ticket for transportation depending on location can be made available.

REFERENCES

[1] 1. Yu-Ting Wen, Jinyoung Yeo, Wen-Chih Peng, Member, IEEE, and Seung-Won Hwang, "Efficient Keyword-Aware Representative Travel Route Recommendation", IEEE TRANSACTIONS ON

KNOWLEDGE AND DATA ENGINEERING, VOL. 29, NO. 8, AUGUST 2017

- [2] Reshma M, Raji R Pillai, "Semantic Based Trust Recommendation System for Social Networks using Virtual Groups", International Conference on Next Generation Intelligent Systems (ICNGIS), 2016
- [3] Md Shad Akhtar, Ayush Kumar, Asif Ekbal, Pushpak Bhattacharyya, "Recommending Nearby Strangers Instantly Based on Similar Check-In Behaviors", IEEE TRANSACTIONS ON AUTOMATION SCIENCE AND ENGINEERING, VOL.12, NO.3, JULY 2015.
- [4] Pooja Tasgave, Ajay Dani, "Friend-Space: Cluster-Based Users Similar Post Friend Recommendation Technique In Social Networks", International Conference on Information Processing (ICIP), 2015.
- [5] Pairaya Juwattanasamran, Sarawut Supattranuwong, Sukree Sinthupinyo, "Applying Data Mining to Analyze Travel Pattern in Searching Travel Destination Choices", The International Journal Of Engineering And Science (IJES), 2013.