

# Tourist Destination Recommendation System Based on User Facebook Profile

MSc Cloud Computing  
Research Project

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# Tourist Destination Recommendation System Based on User Facebook Profile

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MSc Cloud Computing in Research Project

16th September 2017

## Abstract

Technology is finding its feet in the travel industry in last few years. This advancement in the field of technology has led to endless sources of tourism related information. Social media like Facebook is one of such sources. People share their experience and reviews on Facebook on a daily basis. This paper proposes a system which automates the dreaming stage, i.e., suggesting a destination to the tourist. Our main contribution is suggesting destination to the tourist by studying his Facebook profile. A separate recommendation system is designed which suggests destination using collaborative filtering i.e. based on other tourist's experience. The user profile is then compared with other tourist profiles. The recommendation is provided based on choices made by the other user whose profile matches with the target user.

## 1 Introduction

Human beings are fond of traveling. They love exploring new places for recreation or as a passion. With the growth of technology, the earth has become a small place. One gets multiple and easy options to travel all over the world with improved travel options. Also, the rise of the internet has helped people explore new options and come across places which they may not have heard of. This has lead to a problem of plenty where people have lots to choose from which may create a problem of singling out a destination.

Social media has become an integral part of our life. Facebook has gained popularity in last decade and has registered 2 billion monthly users in Jun 2017 <sup>1</sup>. It provides the user with a wide ranged platform where one can share his experiences, likes, and dislikes. The significant impact of Facebook can be seen in almost every field. Tourism is one such field where social media has a huge impact. People share their travel experiences, reviews, and ratings. Facebook allows people to check in at specific places which help people share their tour details. Photos inspire people to travel to new locations.

People nowadays avoid the traditional way of going to the travel company and want a more flexible plan. A tourist prefers having multiple options or a la carte where he can choose where he wants to visit. Online bookings and planning tour according to user's

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<sup>1</sup><https://techcrunch.com/2017/06/27/facebook-2-billion-users/>

liking and preferences are trending in the market. Social networking has changed the way of planning trips, decision-making, and sharing experiences. When a person decides to plan a tour, there are various issues that he comes across. The first and foremost question that arises is where does he wish to visit? Data available on the internet is in huge amount which only confuses tourist. The Internet provides a tremendous amount of information, in such situation extracting relevant and required information is of utmost importance and equally challenging. There are lots of online sources like Trip-Adviser, Expedia, and triplynr. These applications took tourist destination as input and based on the destination provide an itinerary. The aim of these sources is to provide additional information related to tourism. These applications narrow down the information for the tourist.

Even though itinerary is provided by above online sources, still deciding destination is a challenge for tourist. It is human nature to get attracted to things that our friends or family possess or have experienced. Thus a tourist might decide to visit some city or country because his friend or relative had visited. The interests may not always match, and one may not enjoy those places that his friend enjoyed. Hence, there is need of a solution which will overcome this issue. A Solution which will suggest not only POI but also destination will be of real use. This is where social networking sites like Facebook comes into the scene. People are using Facebook all the time, during their travel and even after travel. They share their reviews and rating which can be used to understand travelers behavior, likes, and preferences. Later this tourist information can be used to suggest next destination he would love to visit. The most used part of Facebook is “like”. According to Facebook *“Like is a way to give positive feedback or to connect with things you care about on Facebook. You can like content that your friends post to give them feedback or like a Page that you want to connect with on Facebook”*<sup>2</sup>.

***“Can a user Facebook profile information be used to recommend tourist destination by comparing user profiles with other Facebook profiles?”***

By leveraging tourist data from the Facebook profile of a user and comparing it with the tourist who has already been there, will help a user get a tailor made destination list. Based on the similarities between 2 travellers destination can be suggested. By comparing things like age, language, nationality, types of point of interest tourist like most can be used to provide a better result(Gaete-Villegas et al.; 2012).

In this paper, we will discuss all above solutions in details. Section 2 focuses on comparing and contrasting the existing solutions. Section 3 gives an overview of the Methodology proposed. Section 4 include implementation and Section 5 describes each evaluation done.

## 2 Related Work

Nowadays, the internet has become the backbone of every technology and is making its way in every field. Planning a trip is not a new concept, but the way of planning tour has changed over the period. An earlier tourist uses to visit tour company and pay them to plan his trip. Now with the increasing popularity of online web sources, tour planning is just few click away from tourist. Development of the tourism has led to increase in the

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<sup>2</sup><https://blog.bufferapp.com/psychology-of-facebook>

travel related data. Hence, online web sources like Tripadvisor, Expedia, Google Trips and much more makes planning easier for tourist. According to Leal et al. (2017) travel, the cycle consists of 4 stages dreaming, researching, booking, experiencing and sharing. Tour planning starts with dreaming stage means user starts looking for places he wishes to visit and moves to next stage which is researching for options. Once the destination is decided, he looks for several things like hotels, Point of Interest(POI) visit and much more. Once tourist is all set to go, he experiences everything and accordingly shares his views on POI and hotels and general experience(Leal et al.; 2017).

Literature review here is divided into three subsections Recommender System 2.1 and Social Network in Tourism 2.2.

## 2.1 Recommender Systems

The Internet is a vast source of information. Whenever any person dreams of planning a tour for himself first thing, he does look for the destination on the web he faces problems like extensive information and has no idea which information is reliable and which is not. The introduction of digitization in the field of Tourism has led to the collection of massive tourism related data. This big data is complicated to process using conventional tools. The data and information are an integral part of any field as it helps in understanding recent trend and patterns. Hence, there is need of a system which will overcome this problem(Yetis et al.; 2016).

A recommender system is used widely to narrow down the information and provide appropriate recommendations to the target user. Recommender system uses a filtering system to narrow down the information based on user preferences and ratings given by the user for particular item (Gavalas et al.; 2014). Recommendation systems can be classified in following categories:

- ***Collaborative recommendations:*** In collaborative recommendation, profiles of people with similar taste are used to recommend any item (Adomavicius and Tuzhilin; 2005).
- ***Content-based recommendations:*** In this type, recommendations are given based on user's history i.e what preferences user made in past (Adomavicius and Tuzhilin; 2005).
- ***Hybrid recommendations:*** This a combination of both collaborative and content-based recommendation system (Adomavicius and Tuzhilin; 2005).

To provide an efficient recommendation to the user, it is of prime importance to understand the user. What are his likings or preferences and much more? Social media plays a significant role in understanding user. Social media is a great platform to understand user preferences using which recommendations can be provided. This will ultimately lead to user satisfaction. Miah et al. (2016) introduces a system which extracts user data from web sources like Flickr and provides recommendation. Photos uploaded by the user are geotagged. This information can help system in understanding what type of places user likes to visit, how much he wants to stay at that places and much more(Miah et al.; 2016). In recent year, recommendation system has emerged in the tourism field. There are several applications currently using RSs to provide suggestions(Gavalas et al.; 2014).

- **TripAdvisor** advises trips, locations and poi where tourist can visit. It also allows the user to share his views, comments and reviews about(Gavalas et al.; 2014).
- **DieToRecs** allows user to select hotels, POI he wants to visit. It also helps user to build his travel bag. (Gavalas et al.; 2014).
- **Heracles** uses user related data from social network and suggest trip using content-based filtering(Gavalas et al.; 2014).
- **TripSay** suggest trips using collaborative filter where recommendations are given based what other user's with similar taste have chosen(Gavalas et al.; 2014).

There are different types of tour planning systems which provided a solution for handling big data and providing appropriate solutions. De Choudhury et al. (2010) developed a system which provides which provide travel itinerary to the tourist. Once tourist provides the destination, this system fetches profile of other tourists who have already been to that place. Then it compares these profiles to the profile of target user. Then it takes profiles of those tourists who have the same taste as the target user. Then based on profiles of tourist who has visited that destination itinerary is designed for the target user. Here, the popularity of POI, time spent by the tourist on that spot, where exactly it is situated and transit time between two POI is considered (De Choudhury et al.; 2010).

Media sharing site Flickr was used to collect tourist data. Flickr provides the option of adding geotagged photos and time added to it. These photos can be utilized for mapping of POI by geographical meta-data. All information is then collected and used to design itinerary for target user(De Choudhury et al.; 2010). The only problem with this system was it cannot handle multiple types of venues and suggestions are given based on choices and experience of tourist from the pastGionis et al. (2014).

Gionis et al. (2014) introduced system which provides personalised venue selection. It presents an itinerary to the target user considering budget, which destination he wants to visit. Gionis et al. (2014) introduced two types of recommendation systems

- **AdditiveTour** takes tourist budget, time and preferences into consideration(Gionis et al.; 2014).
- **CoveringTour** focuses more on covering maximum number of Point of InterestGionis et al. (2014).

Even though this system provides better result compared to the previous one, the problem here is that it covers all the points which are near to the user's location. Hence, it might happen that tourist might miss few important point of interests. Also, few point of interest of each type into the consideration and user has no control over it(Gionis et al.; 2014).

Orienteering Problem overcomes this issue. The Orienteering Problem takes a set of vertices which in this case will be the point of interest. Then it gives a score to each vertex. Here, the aim is to visit the maximum point of interest to increase score (Van-steenwegen et al.; 2011). Several systems are introduced which use Orienteering Problem to design an itinerary for tourist. PERSTOUR(Lim et al.; 2016),Alghamdi et al. (2016) developed Balanced Orienteering Problem to overcome Orienteering Problem limitations. Orienteering problem was not precise as it is NP-Hard and have no polynomial time algorithm to solve the problem. Hence, is time consuming(Gionis et al.; 2014).

All systems mentioned above provide itinerary based on either user location or by taking destination from the user. Hence, dreaming stage is carried out by the user itself, and the system performs remaining stages. Leal et al. (2017) introduced a system which automates dreaming stage. This system uses Expedia crowd-sourced hotel textual reviews and machine learning technique to suggest a destination to the tourist. Leal et al. (2017) first created a cluster of frequently used words in reviews with their meanings. Then this cluster is used with reviews received from Expedia. This system uses content-based filtering to provide personalised recommendation(Leal et al.; 2017). Social media plays important role in every field. Getting anyone’s location has become very easy. Yu et al. (2016) took advantage of this provision.

Yu et al. (2016) developed a prototype based on location based social network. It allows the user to share their location and reviews which can be used for recommending travel packages. This system uses the collaborative filter to suggest a destination to the tourist. It collects information from Location based social networks(LBSNs). Then evaluates it and suggest preferred destination to the tourist. It first collects all point of interest considering user preferences and then ranks them. After this stage, it evaluates user preferences and point of interest popularity considering spatiotemporal features in check-in records. Then based on this result, it suggests a destination to the user(Yu et al.; 2016).

## 2.2 Social Media in Tourism

Social media sites have gained tremendous importance in a decade. Data available on social media can be used for various purpose like for recommendation system for e-commerce where data of the user and his friend is extracted and based on purchase history recommendations are given(Ashraf et al.; 2014).

Faryal et al. (2015) have explained the usage of Social Media Facebook to recommend books to the user. In this application, collaborative filtering was used to suggest the book to the user. Information of user’s friends and which books they have liked is retrieved and compared to the target user. Based on the evaluation, books are suggested(Faryal et al.; 2015).

According to Xiang and Gretzel (2010) analysis of search result depicts that whenever any user searches for travel related things, they are most likely to be directed towards social media sites as it constitutes a substantial part of the search result. Hence, this indicates growing influence of social media in tourism.

People share their feelings, photos maintaining a personal profile, contacts with friends and much more. This provides an opportunity to understand the user. With the help of a person’s profile, it is easy to understand that person. What does he like? What he prefers? Where has he travelled? What type of point of interest he likes to visit and much more. This information can be utilised to provide recommendations to that person(Faryal et al.; 2015).

## 2.3 Contribution

In this paper, a system is proposed which uses Collaborative filtering and user’s Facebook profile to suggest destination. Systems available today either take destination as user input or used content-based filter and suggested destination based on textual reviews (Leal et al.; 2017). Table below gives an overview about the existing systems and the system

that is proposed in this paper.

**Table 1: Comparison between Recommendation systems**

System	Recommendation	Destination	Itinerary Design
Gionis et al. (2014)	Constraint-based	Tourist Input	Yes
Lim et al. (2016)	knowledge-based	Tourist Input	Yes
Alghamdi et al. (2016)	Collaborative	Tourist Input	Yes
Yu et al. (2016)	Collaborative	Tourist Input	Yes
Leal et al. (2017)	Content-based	System Recommended	Yes
<b>Dalal et al. (2017)</b>	<b>Collaborative</b>	<b>System Recommended</b>	<b>Yes</b>

**Table 2: Comparison between Recommendation system Techniques**

System	Technique Used
Gionis et al. (2014)	<b>AdditiveTour:</b> Focuses more on benefit of each point of interest. Benefit could be user satisfaction. <b>Covering Tour:</b> Focus more on covering maximum POI. Destination is taken as input from User.
Lim et al. (2016)	Uses orienteering problem(OP). OP considers each POI as node with a value. Each node is processed separately and aim is to score maximum. Destination is user input.
Alghamdi et al. (2016)	Uses Balanced OP where cluster of POI is created and each cluster is processed separately. Instead of node, clusters are given score. Destination is taken as input from user.
Yu et al. (2016)	People share there location and review about POI and later it provide travel packages to other user based on crowd-sourced user footprints. Start time, end time and start location is provided by user.
Leal et al. (2017)	Provide destination suggestion using Textual reviews from Expedia and to identify relevant recommendation. Uses data mining on the crowd-sourced tourism information
<b>Dalal et al. (2017)</b>	<b>Tourist destination is suggested on the basis of user’s Facebook profile. This system uses collaborative filtering. User’s profile is compared with other user profile.</b>



## 3 Methodology

For any person, selecting a destination is a challenging task. The amount of information available on the Internet is enormous which leaves that person confused. In this project, the system takes care of this problem by suggesting an appropriate destination to the individual. It analyses the person's profile and provides personalized recommendations. This system has four parts:

1. Data Collection.
2. Profile Analysis.
3. Predicting destination.
4. Design Itinerary.

### 3.1 Data Collection

The aim of this project is to automate dreaming stage where the destination will be suggested to the user. To provide a personalized recommendation of destination, the system needs to understand that person. What is the liking of this person? Where has he already been? Which destination would he like to visit? To make this attempt of recommending destination fruitful and satisfactory, it is important that system should understand that person. In this project, we used user data from Facebook to analyse a person. Facebook provides graph API(<https://developers.facebook.com/docs/graph-api>) which provides facility using which system can access user's data. For this project, user's information like name, email, current location, Facebook id, information tagged with photos is used. User's travel history can provide you lot of information about user's travel pattern. Photo information received from Facebook consists of time, location, latitude, longitude, the name of the point of interest. Using this information, it is easy to analyse user.

After receiving user data from Facebook, user's profile is created and stored in the database. This profile is then used for comparison. Recommendations are given based on profiles with similar taste as of target user. In this system, for testing purpose, dummy data is created. Separate Java code is written using Google Places API, REST countries API and Locale and data factory packages in java.

To get the information of country, city or point of interest Google Places API is used(<https://developers.google.com/places/>). Google Places API provides a feature where on submission of the name of country, city or point of interest returns you all the information related to it.

### 3.2 Profile Analysis

To recommend the destination to the user, this system uses collaborative filtering. In collaborative filtering, target user's profile is analysed and compared with the set of users. User profile with similar taste are selected and based on their previous experience, the recommendation is given to the target user. In this system, After receiving target user's information from Facebook, the profile is created and analysed to understand the user. Then Countries visited by target user is compared to the user profile stored in the database. User profiles with maximum similarity are taken into consideration. User to

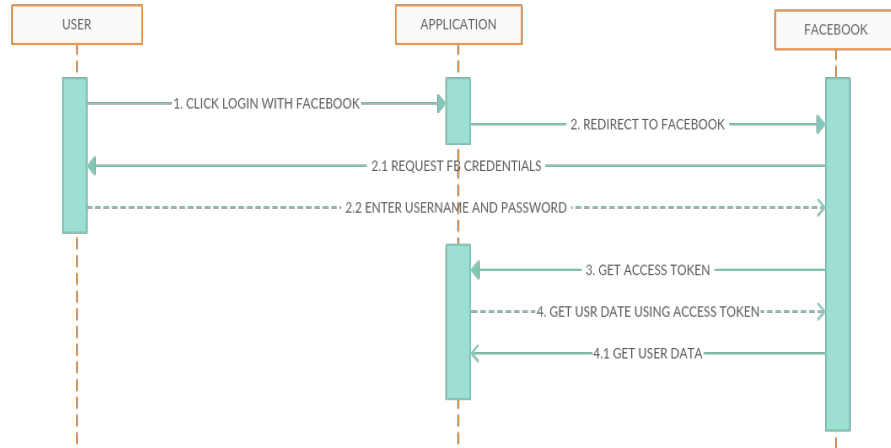


Figure 1: GET user data from Facebook

have the highest count of common countries with target user are selected. Then these profiles are used to recommend the destination. Once profiles with similar countries are found, it looks for the user who is currently living in the same country where target user is living. After this stage, final profile list is found.

### 3.3 Predicting Destination

Once the system gets profiles with similar taste, these profiles are taken into consideration. If there is just one country which is not common in the old user profile and target user, then that country is selected. But if there are more than one different countries, it will retrieve latitude and longitude of the country and will check which country is closer to the country where target user is living. The country which is closer is then selected.

Once the country is selected, then the system starts looking for the cities in that country. These cities are fetched from same old user's city list. After receiving cities, the point of interest is fetched using Google Places API to create an itinerary.

### 3.4 Android Application

The client side of this system is an android application. Further, for processing of data and providing destination recommendation, REST web service is developed. In this application, user log-in with Facebook and receives user information from Facebook. The Android application extracts data and passes it to the REST web service. The result or the itinerary is then received by android application from REST web service. The application then extracts required information from the JSON result. Obtained information, i.e., the itinerary is then displayed in list format. Here, the point of interests are sorted by ratings of the point of interest. The point of interest with high ratings will be displayed first.

As discussed above, the system has four parts data collection, Profile analysis, predicting destination and Android application. Algorithm 1 gives an idea of working of recommendation system. Recommendation takes target user's profile and other profiles which are present in system data base. These profiles are then analysed to provide an appropriate suggestion of the destination.

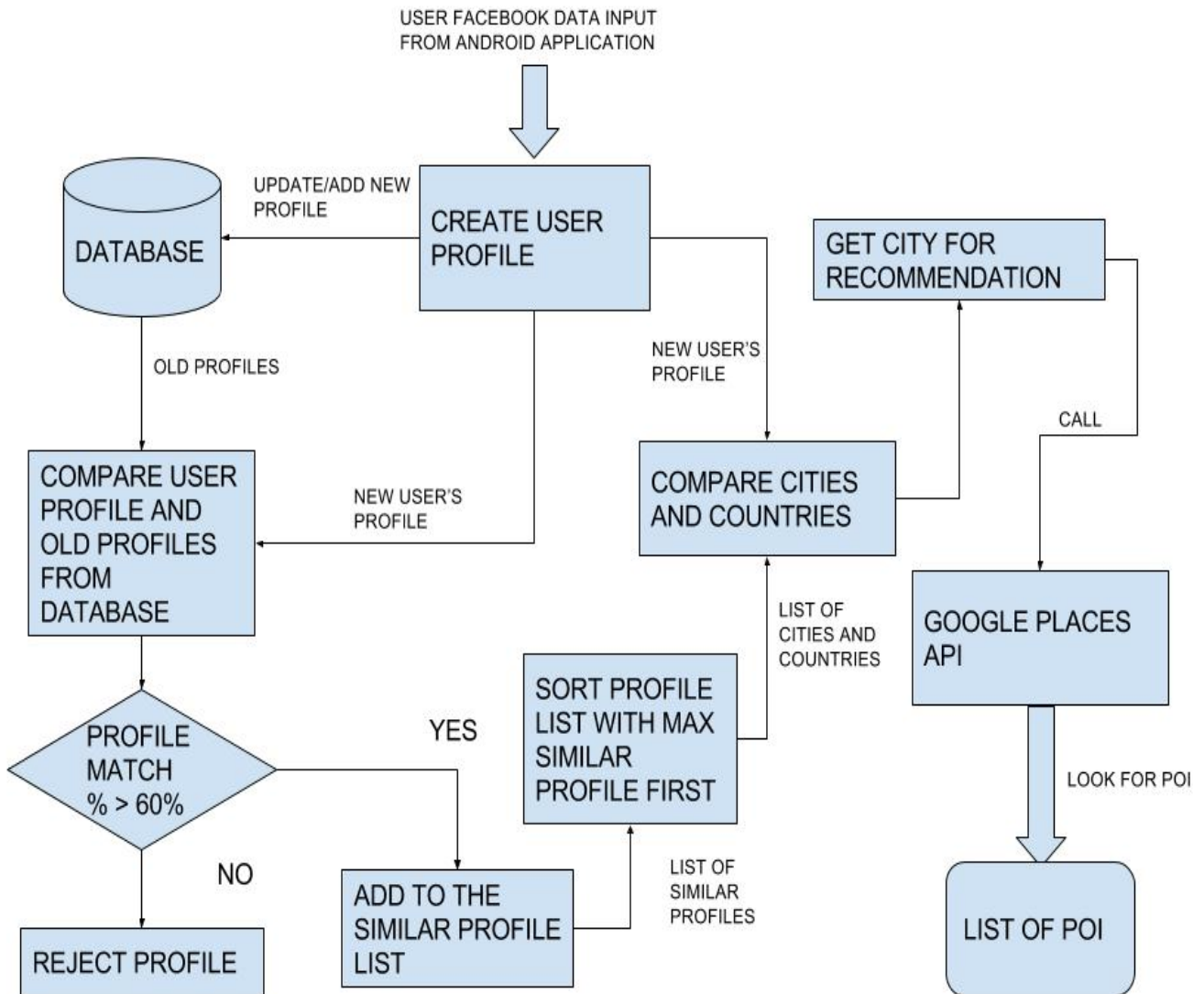


Figure 2: Destination Recommender System

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1 Input:  $NewUser \rightarrow U_{new}(\langle CurrentLoc\ l_{new}, VisitedLoc\ loc_{new}, FacebookId\ fb_{new} \rangle)$ 
2  $OldUserList \rightarrow U_{old}(\langle CurrentLoc\ l_{old}, VisitedLoc\ loc_{old}, FacebookId\ fb_{old} \rangle)$ 

   Result:  $Destinationandlistofplacestovisit$ 
3 // STEP 1
4 for ( $int\ i = 0; i < u_{old}; i++$ ) do
5 |    $CommonCountries_u, DifferentCountries_u \leftarrow GetCountryList()$ 
6 end
7 // STEP 2
8 for ( $int\ i = 0; i < u_{old}; i++$ ) do
9 |    $(FinalList \leftarrow (l_{new} == l_{old})) \leftarrow GetFinalList()$ 
10 end
11  $SortMaxCommonCountries(FinalList)$ 
12 // STEP 3
13 for ( $int\ i = 0; i < FinalList; i++$ ) do
14 |    $DifferentCountriesList \leftarrow FinalList.countryList\ FinalCountry \leftarrow$ 
15 |    $GetCountry(closeTo\ l_{new})$ 
16 end
17 // STEP 4
18 for ( $int\ i = 0; i < DifferentCountriesList; i++$ ) do
19 |    $city \leftarrow GetCity(FinalCountry)$ 
20 end
21  $POIList \leftarrow GetPOI(city)$ 

```

**Algorithm 1:** Tourist Destination Recommendation System

In this application, user details are received from Facebook when user log-in with Facebook. Collected data is then sent to the REST web service.

**STEP 1:** In the first step, new user profile and old users profiles are compared. The old user list is iterated, and each old user's countries visited are compared to new user's visited countries. If the country is present in both old and new user's list, this country is added to the common country list. If the country in old user's list is not found in new user's list, the country is added to the different country list.

**STEP 2:** After creating a list of common and different countries, next step is to check which one of the old user currently lives in a country where the new user is living. Here, the old user list is further filtered. Once final old user list is ready, it is sorted according to the maximum number of common countries.

**STEP 3:** Now, the old user with maximum common countries are taken into consideration. The list of different countries is taken, and those countries are suggested to the new user. Here, if there is just one country different between the old user and new user, it directly takes this country and starts fetching cities of this country. But, if there are more than one countries then, in this case, latitude and longitude of new user's current location and those countries are compared. The country closer to the new user's

current location is suggested.

**STEP 4:** Once destination country is finalised, the system will start looking into old user's cities. Then it will pick cities of that country and will fetch point of interest of that city. To fetch point of interest, the system will use Google places API.

**RESULT:** Destination and list of point of interest will be suggested to the new user.

## 4 Implementation

To demonstrate the concept of proposed algorithm, we have developed

1. **Client side (Android Application):** Android application requests for the user data from Facebook and on receiving the data, pass that data to the REST web service.
2. **REST web service:** Web service receives data passed by android application and processes that data further to provide the required result, i.e., destination and list of places to visit.

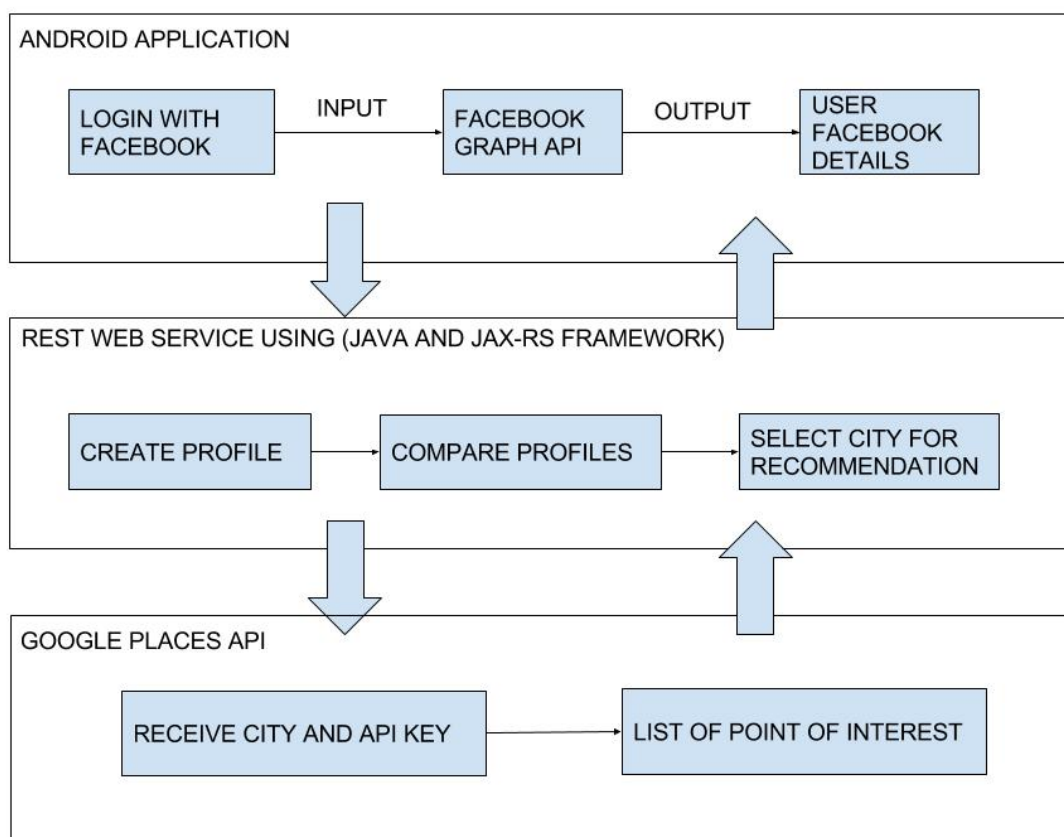


Figure 3: System Overview

## 4.1 REST web service:

The main aim of this system is to suggest destination and places to visit the user. For recommender system, separate web service is developed. This web service is a REST web service. The process of analysing Facebook profiles and comparing with other user's profile is implemented in this web service. This web service also updates the user profile.

### 4.1.1 Facebook Graph API:

To get the information of the user, Facebook Graph API is used. Facebook is one of the largest social media sites. People are highly active on Facebook. For this system, user uploaded photos, tagged photos, user personal information is used. Tagged photos and uploaded photos provide details like created time, name, the point of interest, the location of the point of interest. This information can be used to analyse where user have already been?

### 4.1.2 Google Place API:

Google Places API provides detailed information about the place. Each service is accessed as HTTP request and returns the result in JSON or XML format. In this system, Google Places API is used to get a list of places to visit. Once the destination is selected, the point of interest of the destination can be received.

## 5 Evaluation

The evaluation of the system is done by taking random real-life trips or log-in with Facebook in the system as the different user and allowing the system to predict destination for the user.

Dummy data was created for evaluation. Separate Java code was written using Locale class of java.util package. Locale provides a list of countries with several variations like asking data of English speaking countries and much more. Data factory jar allows generating test data easily. It provides data like name, birth date, address, email Id, phone number and much more.

Android Studio was used to develop an application as it provides SDK and tools, emulator system image. It also consists of several system images used for testing the application. For this application development, Nexus 5 with Android 6.0, i.e., Marshmallow and 2 GB RAM is used.

The recommender system is developed in Java language using Jersey/JAX-RS framework. JAX-RS makes web service development much easier and is a part of JavaEE. Web service is deployed on Openstack. An instance is created with 4GB RAM, 2VCPU and 40GB hard disk.

### 5.1 Case Study 1

Core and important part of this system is matching profiles of target user with existing users. Graph below gives an overview of level of similarity that can be achieved using this system.

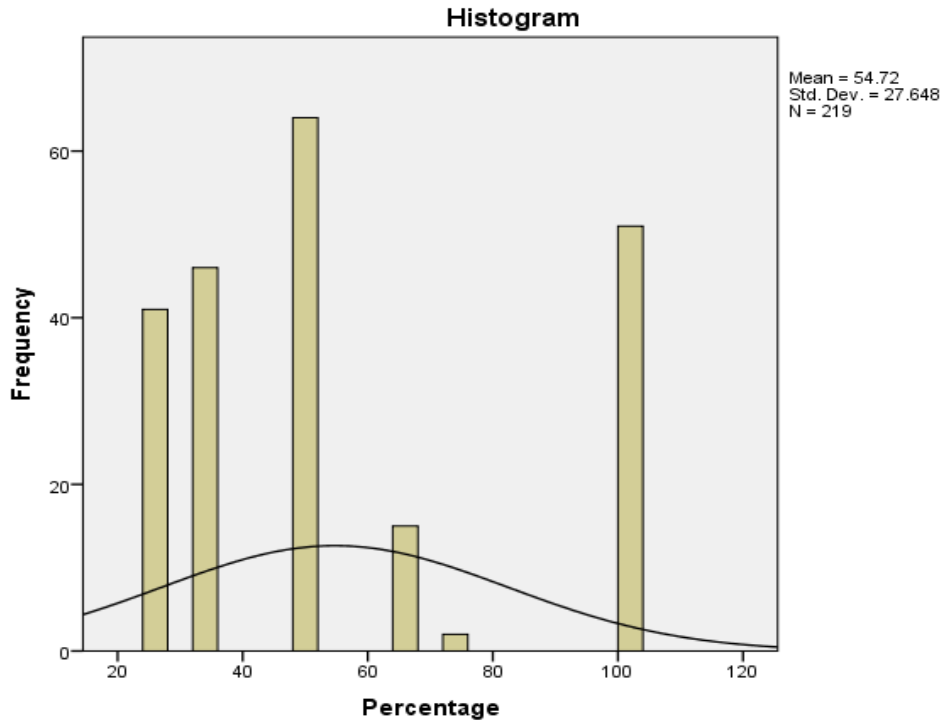


Figure 4: User Profile comparison with Other Users

To evaluate the similarity between each profile a table was generated which showed the highest similarity for each profile. Most similar profile for each profile in the database was determined. The given diagram shows the frequency distribution of highest similarity. It was observed that for 219 profile the mean highest similarity was 54.72%. A standard deviation of 27.648 was observed. Every profile had at least a similarity of 25%. From this fact, we can identify that the built system will always have a suggested destination country for your user profile. As the number of profiles was less, a normal distribution could not achieve.

In above diagram, it can be observed that for few profiles the match is 100%. This situation can arise when places visited by that person matches exactly. For example, Ankita's profile matches exactly with her sister Shivani. Being family, it is possible that both of them have visited all the places together. In such case, the system will look for next similar profile for destination suggestion. As we can see, the curve is not exact bell-shaped. This is mainly because dummy data is created to test the application.

Due to strict Facebook policy, it was not possible to evaluate with many users. Facebook didn't give access to the system. Hence, only developer was able to access Facebook data of her own and test user's created. This system required profiles to compare with the target user. Hence, the code was written to create dummy data. As dummy data was created, there were few limitation. List class of java.util was used to get countries and cities visited. Hence, country name visited were not tourism specific and hence profile comparison was not effective as this system is capable of.

## 5.2 Case Study 2

Above case study gives an overview of about how similarity comparison of the system works? In this section overall working of the system is evaluated. This system is tested

with the Facebook account of Ankita Dalal, i.e., myself. The system has been evaluated with author's Facebook account and few test user.

After login with Facebook, Ankita's profile was compared to the 1000 existing profiles. After comparison, three profiles were maximum similar to Ankita's profile. Akash who have visited Ireland, India, Belgium and United Kingdom, Shivani who have visited India, UAE and Sukruti who have visited India, Ireland, Singapore. Ankita has visited Ireland, India and United Kingdom. According to above data, similarity percentage can be seen below:

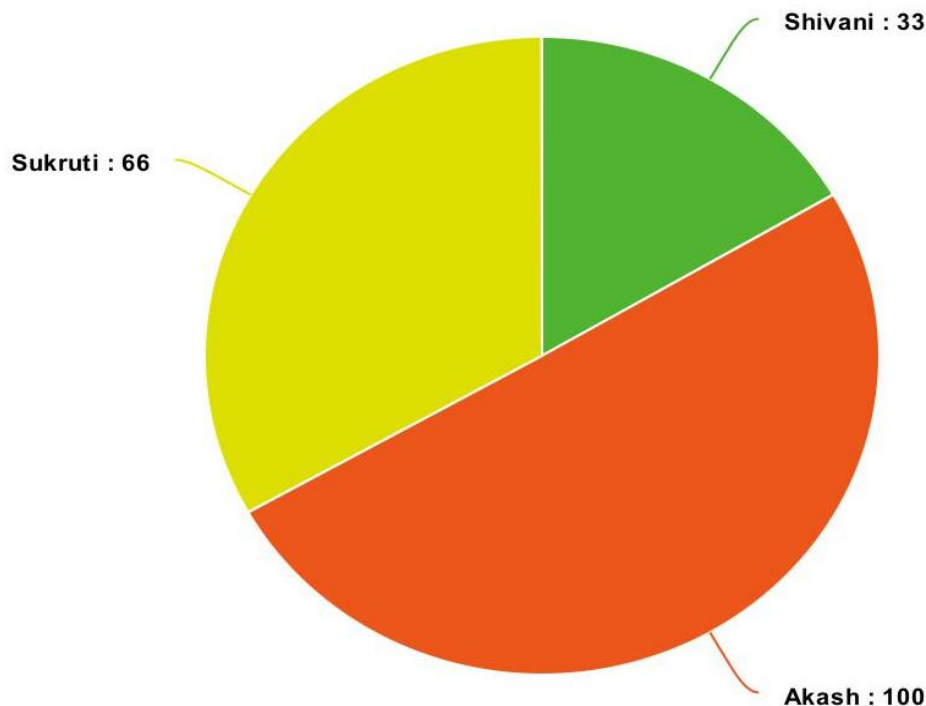


Figure 5: User Profile comparison with other similar profiles

In above diagram, Akash's profile matches 100% to Ankita's profile. This means that all the countries which Ankita have visited are visited by Akash as well. This depicts that Ankita's likings and Akash's likings are quite similar so Belgium could be the place where Ankita would like to visit. Hence, the city of Belgium visited by Akash will be recommended as a destination to Ankita.

### 5.3 Discussion

The above case studies give an overview of how the system will work. A lot of work has already been done in the tourism sector. The only problem is that they suggest the only itinerary. The user himself has to think of some destination. In short, we can say that dreaming stage is not automated in these systems. Tourist has to go through a lot of research to decide the destination. Mostly, a tourist gets influenced by their friends. But it may happen that liking of two friends are different. Our system automates the dreaming stage. All the research that tourist has to do by himself in previous systems is carried out by this system.

Facebook is an excellent platform to understand tourist. Once the system recognizes tourist preferences, guessing destination for them can be done. Till now, the systems



offering destination suggestion worked using content-based filtering. Our system uses collaborative filtering. This system not only suggest destination based on user's liking but also considers the experience of the previous tourist. The suggestion here is provided based on other user's experience.

This system is a prototype which can be enhanced further in future. In future when this system will receive permission to access other user's profile, many efficient results can be achieved.

## 6 Conclusion and Future Work

It has become a trend that whenever any person travels, he updates that on the Facebook. The experience of old tourist can be used to make travel searches easy for a new user. Information shared by a person on the Facebook can be utilized for the benefit of his own. Information shared on Facebook can depict a lot more than what we think. It gives you a great view into the user's life.

In this paper, the system uses the person's Facebook profile to suggest him his next tour destination. This paper proposes a process which will automate initial phase of planning trip. Suggesting destination to the user is not a difficult task. But suggesting destination considering his preferences is difficult. Every person is different. It sometimes happens that we get along with some person because of same thought process. This can happen with anyone. Our system works on this theory. The destination is suggested to the user on (i) Preferences of the user which can be analysed using his Facebook profile. (ii) Searching for a profile that matches new user's profile. In short looking for a person's profile with an almost same thought process as of new user's. A destination is suggested considering all these factors.

In future, this system can be enhanced by (i) Taking large data to handle big data problem in tourism. (ii) With destination, other facilities can be provided like recommending hotels and flights.

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# **A First Appendix Section**

Source code of this project can be found on <https://github.com/dalalankita/Research>.