The Tourist Guide App

Introduction:

The tourist guide app as the name suggests guides the user of the application while searching for details about the country he/she wants to visit or wants to get an idea about. Consider a tourist who is planning a trip to some foreign country, he/she wants to know some details related to current exchange rate between his source country and destination country, details about how to speak the native language and basic information about banks, hospitals etc. The application developed, provides these functionalities and thus serves as a tourist guide for the users. The application is developed in Java with the help of Restful API's.

Functionalities and Design:

1. Users can select source country and destination country from a dropdown
2. After Clicking the button "Get Details", details about the source county and destination country are returned which include details such as Currency type and Language (certain details such as language, will be mentioned only for destination country)
3. Clicking on the currency exchange rate button i.e. "Get exchange Rate" will display the current exchange rate between the two countries.
4. For Language translation, a Text Area is provided wherein the tourist can type what they wish to say in English. After this once the Translate button is clicked it will be translated into the native languages (note that there can different dialects of the native language and all of them will be present in drop down menu to select).This translated text will be displayed in another Text area field.
5. Tourists can type in the location in a Text Field and choose from selections such as local eateries, hospitals, banks, restaurants that they are searching for nearby to that location
6. The Application will return the name of the places and the link of that location for google map. With the help of this users can easily navigate to that location using any web browser

API's Used:

1. **To get the details about the country**

   To get the details about the country as mentioned above, the following Restful API was used, https://restcountries.eu/rest/v1/name/, which takes the input parameter in the form of a country name E.g.https://restcountries.eu/rest/v1/name/Australia and returns details about the country in the form of JSON object.
   This API makes a HTTP GET request call.
   The JSON Object contains details about, country name, capital of the country, Currency used in that country, language spoken etc., but among them only name, currency, language are used in this application the currency and language will be the input to the next API given below

2. **To get The Current exchange rate**

To get the current exchange rate between two countries following Restful API is used
http://apilayer.net/api/live?access_key=acf2da50fbb6484ab933a5c5f56bcc00
This API makes a HTTP GET request call.
Here we need to pass the API key in the parameter and the response will provide the Exchange rate for all countries relative to USA and this can be used further to get the exchange rate between any two countries.
Eg.
{"USDAED":3.67315,"USDAFN":69.139999,"USDALL":124.984497,"USDAMD":494.73999,…..
Response is in JSON format

3. **To translate the Text**

To translate the text between English to any other language following Restful API was used,

```
https://translate.yandex.net/api/v1.5/tr/translate?key=trnsl.1.1.20160220T003605Z.5abc9a5d0c01ad1e.8b191f8218d9af3087273e871eea2fb178b778f1&text="
                        + textFrom
                        + ""
                        + "&lang="
                        + languageFrom
                        + "-"
                        + languageTo
                                + "&[format=plain]";
```

This API makes a HTTP GET request.
It takes four inputs such as API key, text to be translated, source language and destination language (destination language returned from first Api). The API will return the response in the form of XML which consists of the translated text.

4. **To get the Details about the location**

The Restful API to get the details of the location entered is as follows,

```
"http://maps.googleapis.com/maps/api/geocode/json?address="
                        + location + "&sensor=true"
```

This API makes a HTTP GET request call.
Location is taken as an input parameter and the API returns the details of the address such as geometric Details, Vicinity, Longitude and Latitude and other details in JSON format. Out of this only Longitude and Latitude will be used as an input to the next API mentioned below.

5. **To get the Details about the Nearby Location depending upon the type**

To get details about Nearby Places following API is used,

```
"https://maps.googleapis.com/maps/api/place/nearbysearch/json?location="
                        + location
                        + "&radius=500&types="
                        + type
                                +
      "&key=AIzaSyCOGFEo6K74co0IlpuHpGdIjYrY5Vxj0dI";
```

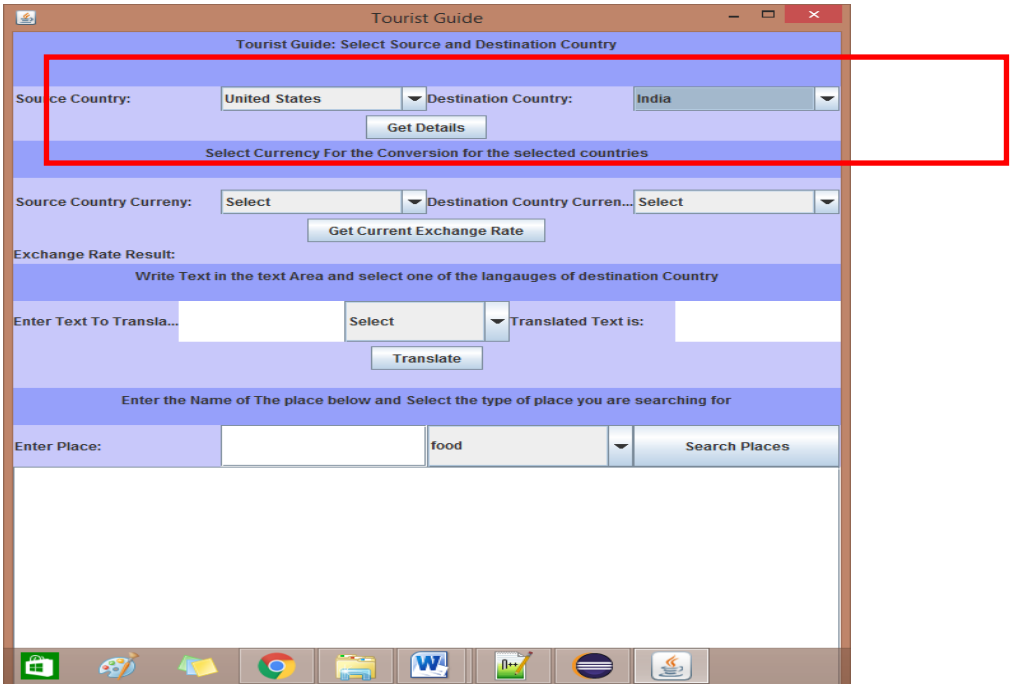
This API makes a HTTP GET request call.

The API takes location input in the form of longitude and latitude as an input which are retuned by above APi (4th) call's output and also selection type (i.e. restaurants, hospitals etc.) and API

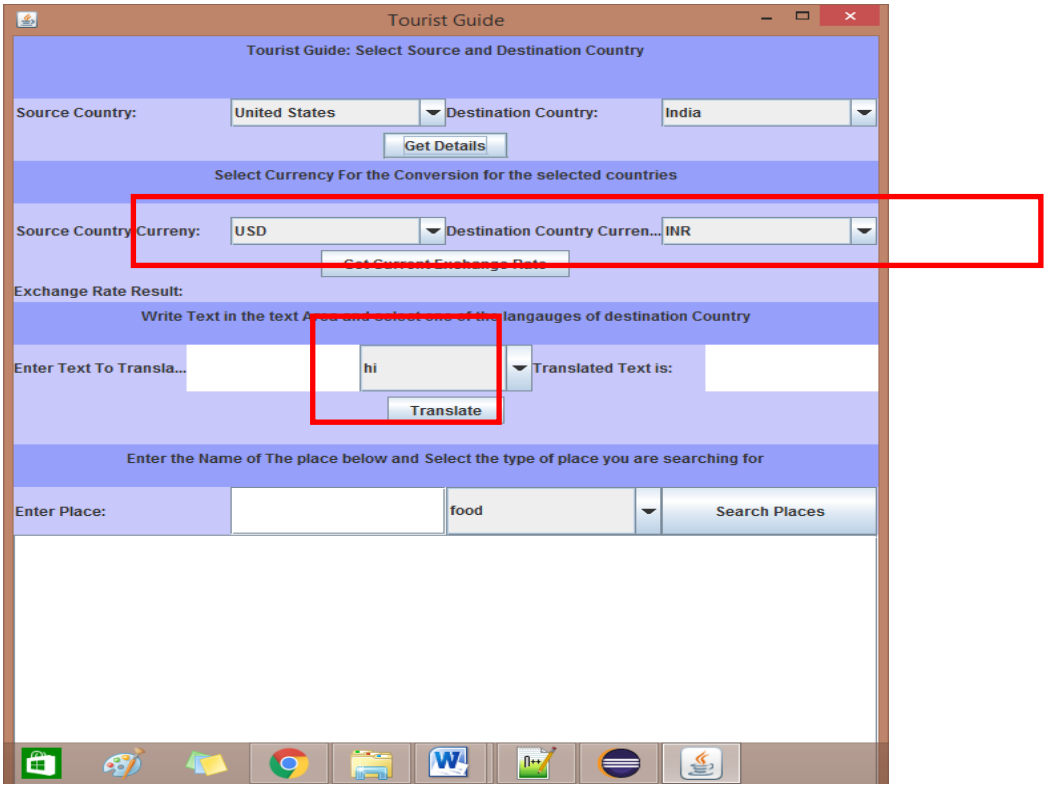
Key returns more specific details about nearby places in that location's radius in the form of JSON Object.

Screen Shots of running Application:

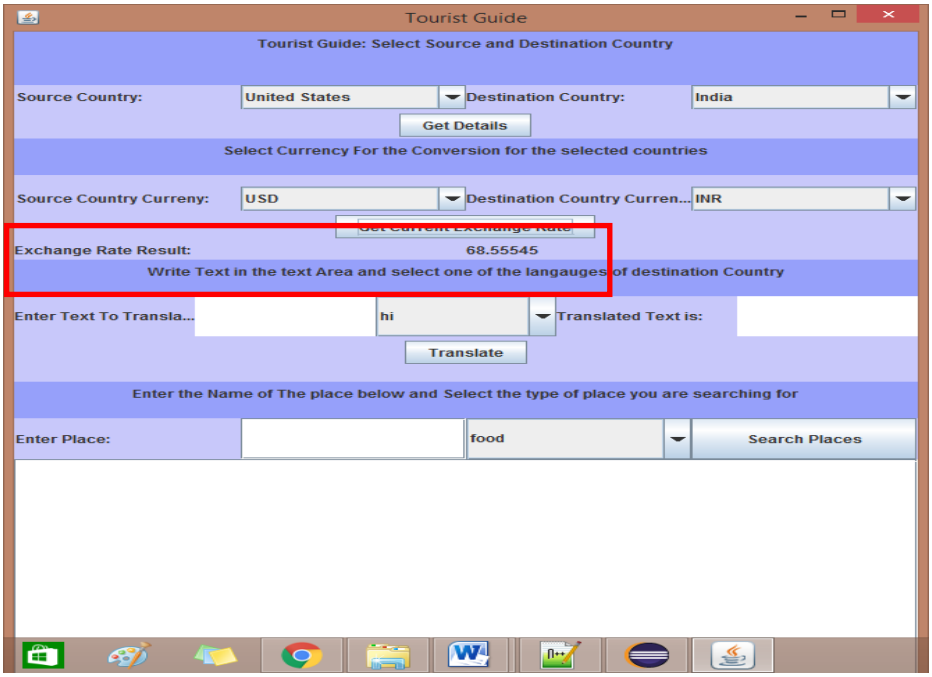
1. Select Source and Destination country and click on "Get Details" Button



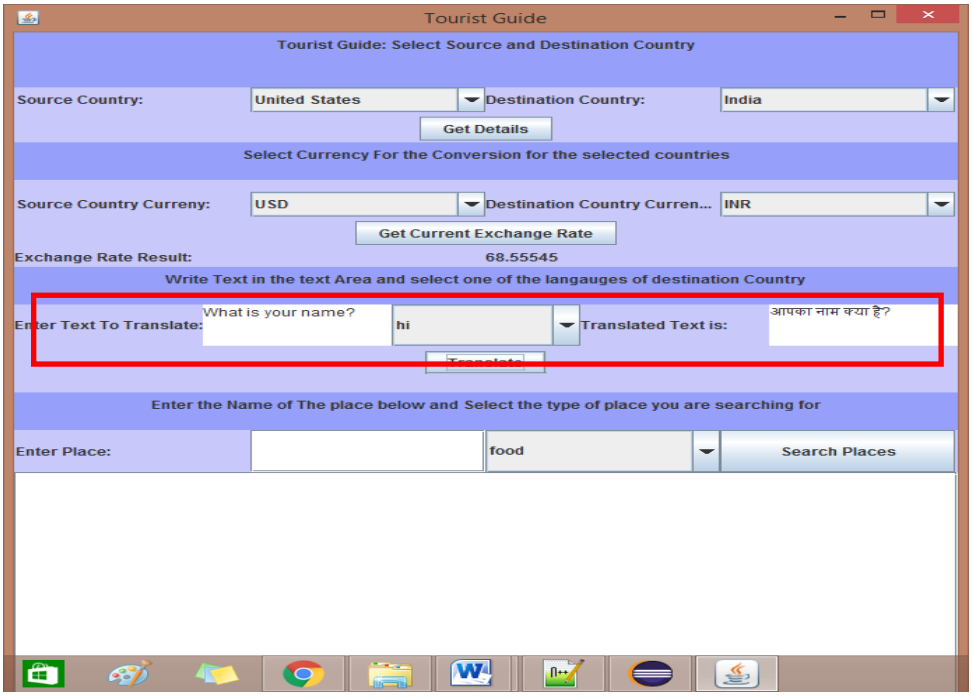
2. Details such as Currency and Language of the destination Country are displayed



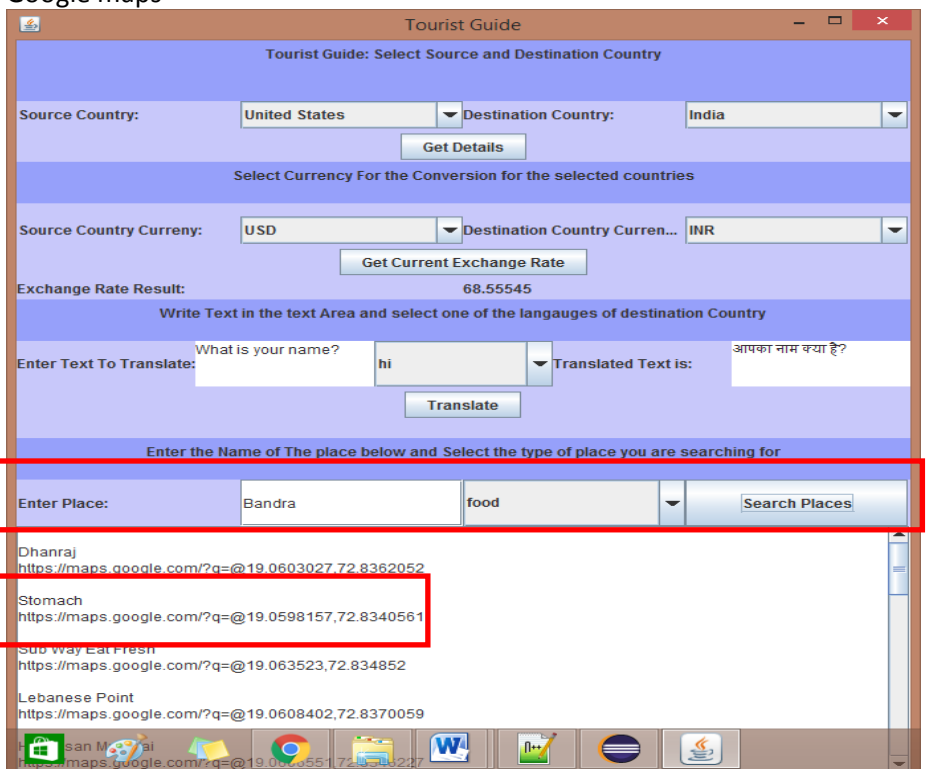
3. Get the current exchange rate between two selected currencies (note: more than one destination country can be selected) by clicking on “Get Current Exchange Rate” button and the exchange rate will be returned and displayed.



4. Translate the text into native language of the destination country



5. Enter the location name in text field and click on Search Places and the details of nearby places around that location will be return in the form of Name and URL that points to that location on Google maps



6. If you search the above mentioned URL link on an external browser it will return the exact location of that place on Google maps