

Smartphone Based Application For Driving Directions With Restaurants On The Way

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Abstract: Everyday lot of people take a road trip to travel between two points. Each road trip involves driving directions provided in some form by many applications but an essential component to that is food, which is sadly missing from all of those. The proposed system tries to encompass the food element into driving directions based on the driver's food preferences

Index Terms: Location based services, GPS, driving directions with eat outs, restaurants on my way, waypoints, geospatial.

1 INTRODUCTION

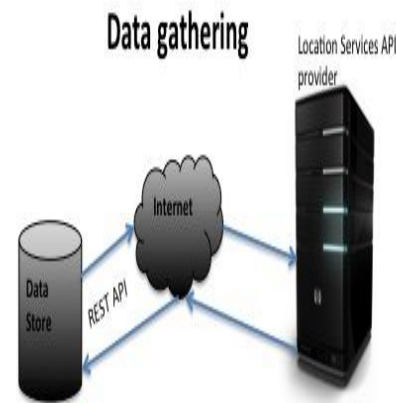
Road trips are essentially part of everyone's travel agenda. Each road trip starts with driving directions that are obtained from one of the many applications that are available on smartphones. However each road trip depending on the distance requires one to many stops that are mostly for food. But sadly none of the applications today offer a feature to also output the restaurants on the way based on the driver's eating preferences. Choosing of places to eat becomes a tedious task for the driver or passenger since one of them has either look for the restaurants on the way and then quickly decide based on the available choices. In today's era of smartphones the passenger has to search on the internet or available location based apps to find out a suitable place, input its address in the mapping application and change the route. Getting access to geo-location for restaurants is simple with many location-based services offering API's to access this data. The key to a successful solution is combining geo-location data with the route data to get an intersecting set of restaurants that fall on the proposed route.

2 PROPOSED SYSTEM

The proposed system consists of a smartphone application and a backend system for data gathering and crunching. The backend system uses location-based services API to get information about restaurants and stores their co-ordinates in a database as spatial types according to OpenGIS standards. The smartphone application allows the user to register with his food preferences. Once the user is registered he can input his start and end address to get directions. This information is sent to the backend that determines the route between the two points using the Directions API from maps provider like Google. Once this route is received as a collection of geo-coordinates, an intersection set is obtained by running a geospatial query on the database of restaurants. The locations in this set are used as waypoints to get an optimized route with stops from the Directions API. The user is presented with the final route and options to delete any restaurants since there maybe more than one matching restaurants for his tastes. Once the user finalizes his selections, the route is optimized and can be used by the user to travel to his final destination.

Additionally if the user deviates from the set route his GPS location is resent from the application to the backend that computes the route and intersection set of waypoints again thereby ensuring that the user in never short on options for food.

3 FIGURES



4 CONCLUSION

With such applications in the market any road trip will be a more pleasurable journey for both the driver and passengers. An additional benefit is free promotion for local businesses since busy routes would drive more customers to these establishments.

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