

IMPROVING EFFICIENCY OF FOODTRUCK USING GPS FUNCTIONALITY

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Abstract : As we all know the farmers and small scale sellers sell their product through food trucks and handcarts on roads which is difficult for them as it is a time consuming job also as they sell their products at very cheap rate so it is not efficient for them to do it this way, and we all know that the customers want to buy from this people as they are selling it at very cheap rate. This System is used track and find out the locations of these framers and small scale traders which in turn will help the customers in buying fresh and good products with a cheaper price. It will not only show the place where the traders are at but also the products they have and the prices of these products. This project includes GPS Location Tracking, Web Services, Android as well as Web App for the Feriwale or the so called framers or traders and Consumers or customers. This system will also generate statistics and various notifications on the device which in turn will help in providing the information regarding the feriwalas. This application will be a platform for the customers and the sellers to meet providing profit to both the sides. This includes GPS Location Tracking, Web Services, Android as well as Web App for the Sellers and Consumers.

IndexTerms–Feriwale, Consumers, Location Tracking, Notifications, Web Services, Global Positioning System (GPS).

I. INTRODUCTION

GPS that is global positioning system is used to determine the ground position of object. It is satellite navigation object. Web service is defined as a application or a data source which can be accessed using standard web protocol. API is an application programming interface. API is used to interact with system using commands, functions and protocols. In this system it will give platform for small scale sellers as well as the farmers who sell their products on Handcarts or Food Trucks without and taxes or extra commission. We have developed an application to get the sellers as well as the buyers on a single platform. We are using Mobile computing and Networking by tracking the real time location of the buyers as well as the sellers which will be computed using Networking and Mobile Computing. So we have implemented a system which connects end users i.e Buyers and small scale sellers using Networking, Geolocation and Mobile Computing.

This application is specially designed for all those people who wants to buy fresh products at a cheaper rate and the sellers who want to sell their products with less efforts. Various functionalities of feriwala like Feriwale arrival notification, rankings and reviews can be generated via notifications and statistics.

II. RELATED WORK

In the Working system, there are mainly two modules viz. Seller Module and Customer Module. The system provides the functionalities to both the modules such as notifications panel, the real time location tracking of the handcart as well as the customer can filter out the sellers based on the Reviews and Ratings functionality provided into the system. The application uses the RAM of a smart phone running Android OS and the inbuilt GPS System. To get the accurate real time location of a seller, the system uses the Google APIs and through them the location of the seller is updated timely. The system saves huge amount of time as well as valuable resources of people.

Modules:

A. Registration Module: In the registration module both customers and sellers can do registration. They can filled their information and do login with their valid username and password.

B. Information Update: This module is only for sellers as seller can update the product information and the rate of product.

C. Notification Panel: In this module system will give notifications on a device.

D. Live vehicle tracking: Live tracking of foodtruck can be track at a real time.

E. Review System: Customers can give review to the sellers and even sellers can view their reviews.

Proposed System Architecture:

The following Fig.1 gives a brief idea about the system architecture:

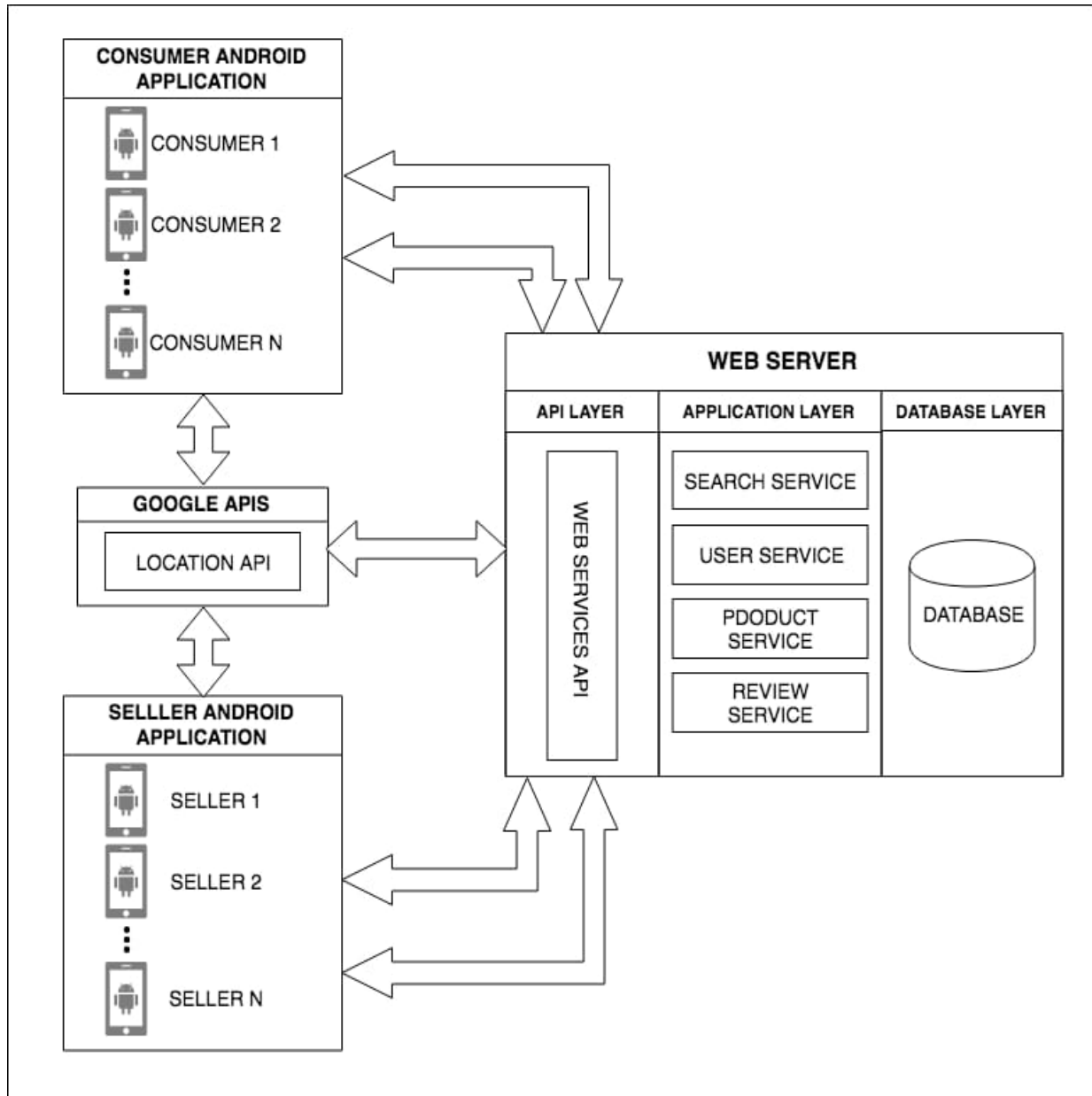


Fig.1. Proposed System Architecture

I. PROPOSED ALGORITHM

A. Design Considerations:

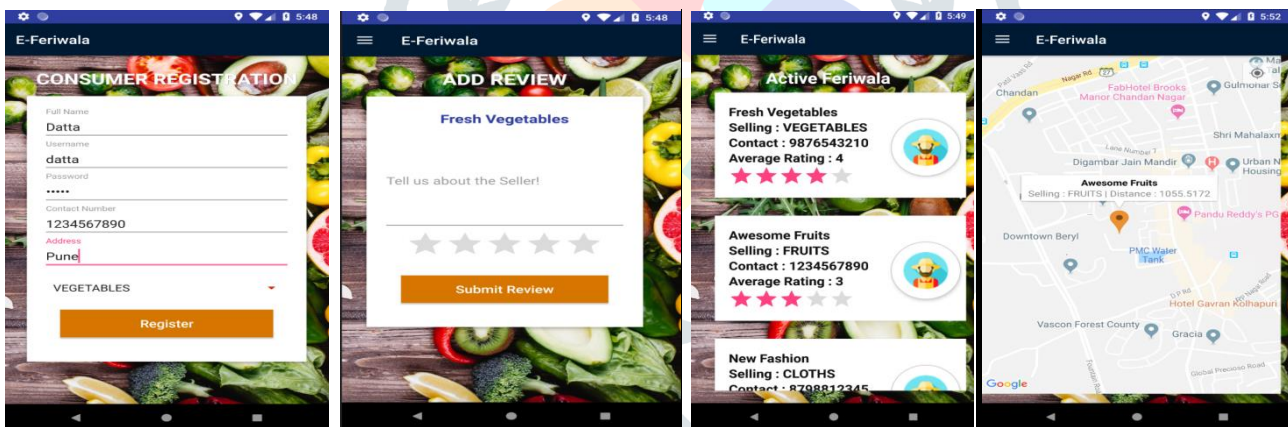
A* Algorithm: A* Search algorithm is one of the best and popular technique used in path-finding and graph traversals. Informally speaking, A* Search algorithms, unlike other traversal techniques, it has brains. What it means is that it is really a smart algorithm which separates it from the other conventional algorithms. And it is also worth mentioning that many games and web-based maps use this algorithm to find the shortest path very efficiently (approximation). Its equation is : $f(n) = g(n) + h(n)$.

B. Algorithm:

- **Step 1:** Initialize the open list.
- **Step 2:** Initialize the closed list put the starting node on the open list.
- **Step 3:** While the open list is not empty
 - a) find the node with the least f on the open list, call it "q"
 - b) pop q of the open list
 - c) generate q's 8 successors and set their parents to q
 - d) for each successor
 - i) if successor is the goal, stop search $successor.g = q.g + \text{distance between successor and } q$ $successor.h = \text{distance from goal to successor}$ (This can be done using many ways, we will discuss three heuristics- Manhattan, Diagonal and Euclidean Heuristics) $successor.f = successor.g + successor.h$.
 - ii) if a node with the same position as successor is in the OPEN list which has a lower f than successor, skip this successor.
 - iii) if a node with the same position as successor is in the CLOSED list which has a lower f than successor, skip this successor otherwise, add the node to the open list end (for loop)
 - e) push q
- **Step 5:** display result.
- **Step 6:** end.

II. RESULTS

The system has the outcome as an Android Application creating a platform for the customers as well as the sellers. All the functionalities included into the system are working. Following are the screenshots of the system results:

**III. CONCLUSION AND FUTURE WORK**

Using this system which have managed to bring together the customers and the sellers on one platform. With the help of this system the customers and the sellers are able to save time and money efficiently which help in increasing productivity. There is still some space for future scope because as many earlier problems can be solved with the development of this application, still few remains. Several functionalities can be added such as Online Payment Systems, improved GUI, etc. Online chat System can also be implemented in the future.

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