

TRACKING REALTIME LOCATION OF HANDCART USING GLOBAL POSITIONING SYSTEM

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Abstract : Feriwale (Farmers and small-scale sellers) tries to sell the quality products on road via Handcarts or Food Trucks. They charge minimum amount as compare to the market value. Consumers want to save their money by reaching to these sellers. Currently, we don't have a system by which consumer can track information like location, time, price, product details of Feriwale and take the advantage. E-Feriwale application is used to keep a record of all Feriwale. This will store all the necessary information regarding Feriwale location, timings, products, prices. E-Feriwale will be the platform for small-scale sellers to directly meet with the consumer and vice versa. This project includes GPS Location Tracking, Web Services, Android as well as Web App for the Feriwale and Consumers. Various notifications and statistics can be generated from this project, like Feriwale arrival notification. Feriwale is used to keep a record of all trucks and tempos Feriwale farmers. This will store all the necessary information regarding Feriwale location, timings, products, prices. "E-Feriwale" will be the platform for small-scale sellers to directly meet with the consumer and vice versa. This includes GPS Location Tracking, Web Services, Android as well as Web App for the Sellers and Consumers.

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

I. INTRODUCTION

It is a 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. So we have implemented a system using Mobile Computing, Networking and Geolocation technology for connecting end user buyers with the sellers and small-scale fruits, vegetable sellers. This system provides a single platform for Consumers and Sellers.

The application is designed for all the people who sell farming products on Handcarts. This will provide all the necessary information regarding Feriwale real time location, timings, products, prices. Various notifications and statistics can be generated from this project like Feriwale arrival notification, rankings and reviews.

II. RELATED WORK

In the Working system, we have three modules Admin UI layer, Web Crawler and application layer. The Admin UI layer consists of user and Admin registration and from this layer contents will be searched. In the Web Crawler layer the DNS will be fetched and parsed and one by one the contents will be saved in content DB and from there if the contains is found then using AI and ML algorithm URL will be filtered, if the duplicate data is found then from the URL data set, duplicate data is eliminated. In the Application layer a list of websites will be displayed. In the central database, the websites IP, domain, location will be stored and the website will be manually checked, from their websites will be categorized Blacklisted and Whitelisted and accordingly statistics and reports will be generated and send to be Admin.

Modules:

A. Registration Module: The registration module contains mainly two components, the first one is Consumer and the second one is Seller. Both the users are provided with the functionality of user registration and their information. They can login using their registered valid username as well as password.

B. Information Update: The system will be able to provide the functionality of product information update to the seller. He/She can update the number of products as per the selling and the price of product.

C. Notification Panel: Both the consumer as well seller have the functionality of receiving notifications through the notification panel.

D. Live vehicle tracking: We can track the real time location of Handcart or the Vehicle using the application.

E. Review System: Consumer can give the review to the seller as well as the seller can view the review given by the customer.

Proposed System Architecture:

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

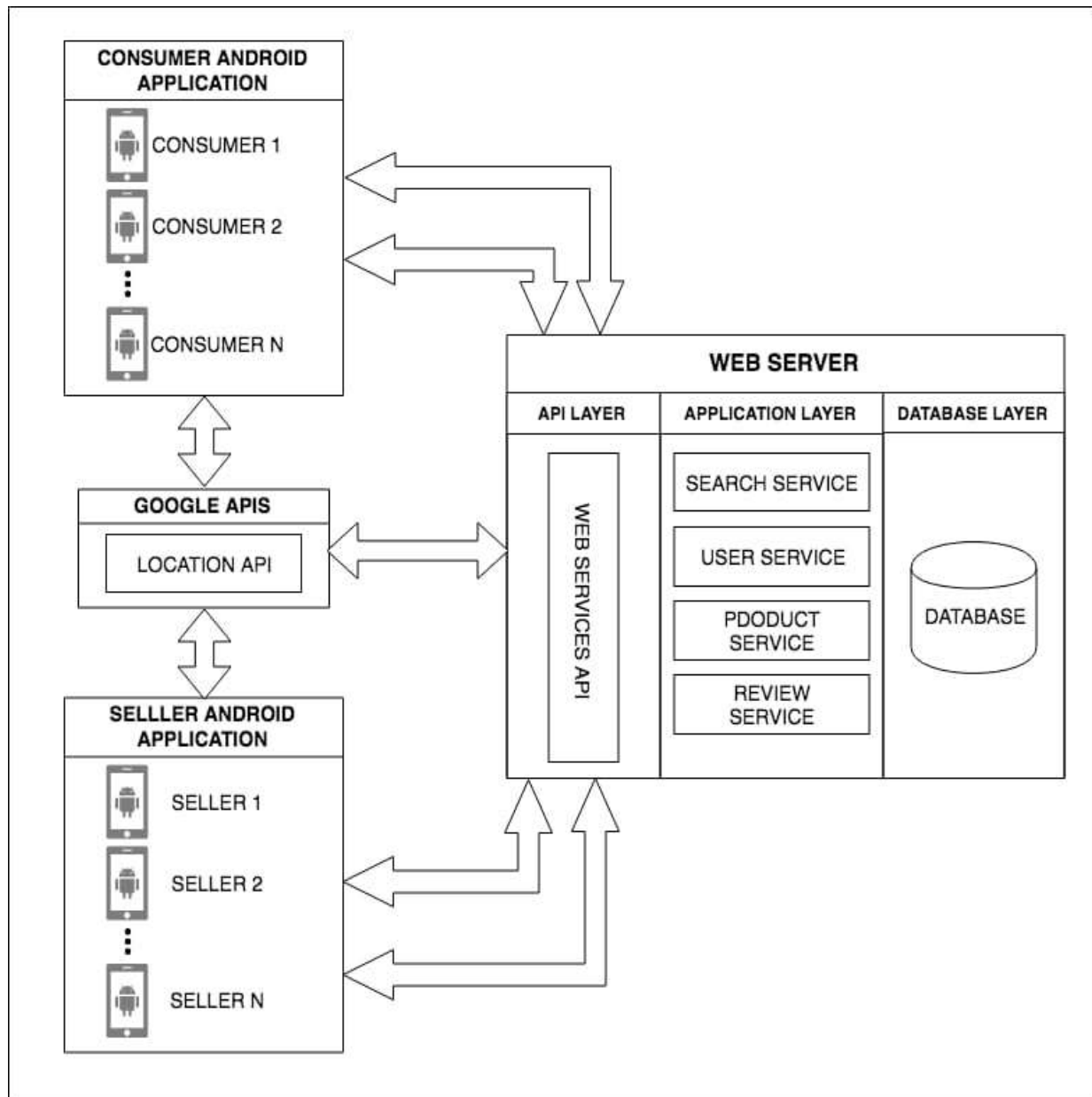


Fig.1. Proposed System Architecture

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 off 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 $\text{successor.g} = \text{q.g} + \text{distance between successor and q}$ $\text{successor.h} = \text{distance from goal to successor}$ (This can be done using many ways, we will discuss three heuristics- Manhattan, Diagonal and Euclidean Heuristics) $\text{successor.f} = \text{successor.g} + \text{successor.h}$.
 - 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

We are making a System which is Android Application and it will help the consumers as well the Seller. The consumers as well as the sellers are taken together on a single platform which helped in improving the efficiency of the product. The precious time as well as the money of both the consumers as well as the buyers is saved in huge amount which helped in reducing the gap between both of them. Now the customers as well as the sellers both can use this Android Application to get the fresh farming products and now that both of them know the exact location of each other, they can contact each other. The review and ratings system will be very much helpful for the customers as they will know the quality as well as the hospitality of the particular seller.

III. CONCLUSION AND FUTURE WORK

The consumers as well as the sellers are taken together on a single platform which helped in improving the efficiency of the product. The precious time as well as the money of both the consumers as well as the buyers is saved in huge amount which helped in increased productivity. As many earlier problems are solved with the development of this application, there is still some space for future scope. We can add more functionality for the users such as Online Payment Systems, improved GUI, etc. We can provide Online chat System for question and answer. In future we will work on handling large dataset.

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