Research paper

MOBILE APPLICATION FOR FARMER'S VEGETABLES AND FRUITS FREIGHT TRANSPORTATION SYSTEM

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ABSTRACT

There has been tremendous growth in the use of mobile phones over the last few years. There exist several possible approaches to the development of mobile applications. Farmers have a long-standing interest in the efficiency of the transportation system and also cost of shipping farm products to market. In this paper, a novel android based application has been proposed for farmer's freight transportation system. Growing traffic congestion and the associated externalities require the study of alternative measures to reduce the number of automobiles travelling every day to the city centers, specifically single-occupant vehicles. Decades ago during oil crises in Europe, people were encouraged to share their vehicles. In this paper, a new application has been developed that describes the transportation of goods for farmers like carpooling. Carpooling is a system by which a person shares his or her private vehicle with one or more people that have similar destinations. This social networking application is also called fare-sharing.

Key Words: Carpooling, Android, Transportation System.

1. INTRODUCTION

Mobile application development in recent times is growing exponentially. Today each and every person in this world has a smart-phone in his pocket. Smartphone's combine a range of functions such as media players, camera and GPS with advanced computing abilities and touch screens are enjoying ever increasing popularity [1]. In this paper, a android based mobile app is defined as the application developed for the current generation of mobile phones popularly known as smart phones. Mobile communications technology has quickly become the world's most common way of transmitting voice, data, and services in the developing world. Given this dramatic change, mobile applications in general and mobile applications for agricultural and rural development in particular hold significant potential for advancing development. Farmers are today less concerned with promoting the development of additional transport facilities than they have been in times past. This is because the domestic system of transport has apparently reached a state of maturity, except perhaps in the fields of highway and air transport and in restricted areas where special agricultural or industrial development may yet take place. Several economists, high public officers, transport experts , and others frequently voice the opinion that the Nation is now oversupplied with transport facilities and services. Attention has tended to shift to the problem of improving service in terms of speed, preservation of the quality of perishable commodities en safety , route, and other factors[2].

During the early history of this country, the development of agriculture in frontier areas was limited by the lack of adequate transportation facilities. In modern agricultural structure, transportation bridges the gap between the producers of agricultural commodities and the markets in which the products are to be sold and also that between the producers and their sources of farm supplies. Transportation, whether provided by commercial agencies or by the farmer himself, is a vital necessity to the economic functioning of agriculture [2]. Transport for the trading sectors and moving of materials, known as freight transport, i.e. logistics & distribution; Transport for non trading sectors and moving of passengers [3, 4]. A few significant examples are proposed by [5, 6] presenting original models and tools for the design, management and control of a freight transportation system. Due to increasing number of vehicles, problems of fuel combustion, pollution are increasing at an alarming rate [7, 8].The aim of proposed project is to reduce the cost of journey for travelers and also farmers who commute to work daily, which not only will save their money but will also reduce the usage of most important non-renewable resource we have i.e. fuel, which is declining at rapid pace. Our application will have two kinds of users, Firstly, the transportation providers to commute to work to share the cost of fuel and other expenses for transporting goods. This will help other category of users to analyze their requirements and choose accordingly. Secondly, the farmers (passengers) were also travel to cities for transporting of goods. These farmers can use this application to find transportation providers who has source and destination same as theirs and allow them to connect to transportation providers and decide fares, meeting points and other necessary details. Farmers will be asked to create their profile as well so that the proposed application will be able to filter the drivers according to their specified expected fare and of course, source and destination, our application will also provide passengers, the user's review and filter accordingly i.e. higher to lower ratings, that way passengers are susceptible to use the proposed application and also be able to perform up to their expectations. The proposed application is just an effort to make these two ends meet drivers and passengers and build a bond of trust for their own sake and do a bit of favor to the environment being an educated and responsible citizen.

2. PROPOSED SYSTEM

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Since transportation, whether of persons or goods, inevitably involves the expenditure of time and effort, consumers and farmers are interested not only in having availability of a transportation system of the necessary geographical extent but also in having it function so that the minimum amount of time and cost will be involved at various service levels [2].In Farmer's freight transportation system, Farmer has to register them if they are using the application for first time. If they are already registered they have to login using their login id and password. A person wanting to pool a vehicle will enter its details and can select the type of vehicle and the area from where he/she can share the vehicle. If user is an owner then the details of vehicle will be filled and details will be stored in database. A vehicle owner visits the system and uploads his/her vehicle with its starting area and destination specified. He provides the list of checkpoints from where

the vehicle will navigate through, so that passengers can get to know from where they can pool the vehicle.

When passengers or farmers login into their account they provide the account and travelling details and their location from where they have to pool the vehicle. Passengers get a list of vehicles with the unique id where passenger can select a vehicle to pool according to their comfort. A map is displayed with the respective vehicle id showing the path of travel where passenger can select its checkpoint to pool. After selection and submission vehicle owner gets the details about the passengers who pooled its vehicle and passengers or farmer conform their location to pool. Android users can also navigate to this website using their smart phones via mobile app. The main idea of providing interface through Android mobile phones is that GPS can be used to keep track of the vehicle status which would enhance security.

2.1 Advantages:

1. The proposed application reduces the transportation cost as well as time to the farmer's.
2. As a result, trucking is a crucial form of transportation to get product out of the field to their first drop-off point.
3. For longer movements, road shipping gives us a competitive advantage over Indian farmers, who rely heavily on trucks, the least-efficient mode of transportation from a fuel-efficiency perspective.

3. EXPERIMENTAL WORK & RESULTS:
3.1 Modules:
There are three modules in the proposed application:
1. Farmer registration
2. Get user location
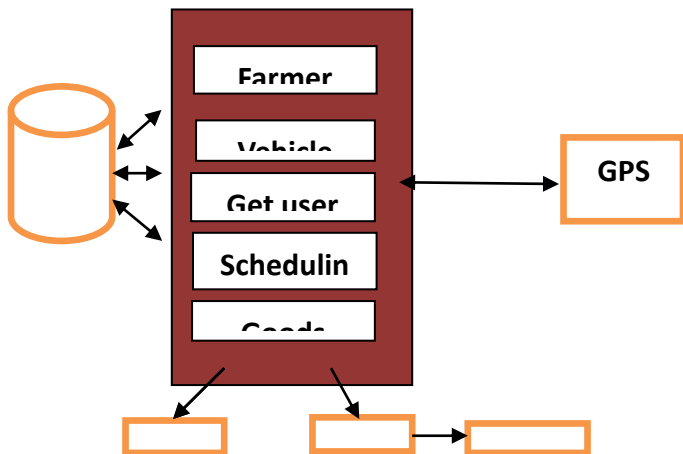3. Journey Scheduling

The following Figure 2 shows the user registration form. In this form Farmers or Users can register themselves through website or mobile app. Once registered, a user can login through their mobile phone by entering correct email id and password and perform various functions. The Fig 3 shows the account setting form, in which user can change his/her email id, password or delete his/her account permanently and also sign out from the account by clicking sign out button.

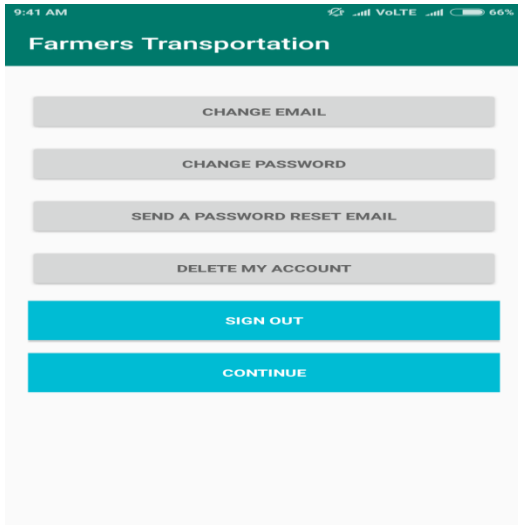**Fig 2: User's Registration Form**

Fig 1: Architecture of Farmer's Freight Transportation System

Figure 1 shows the architecture of farmer's freight transportation system.

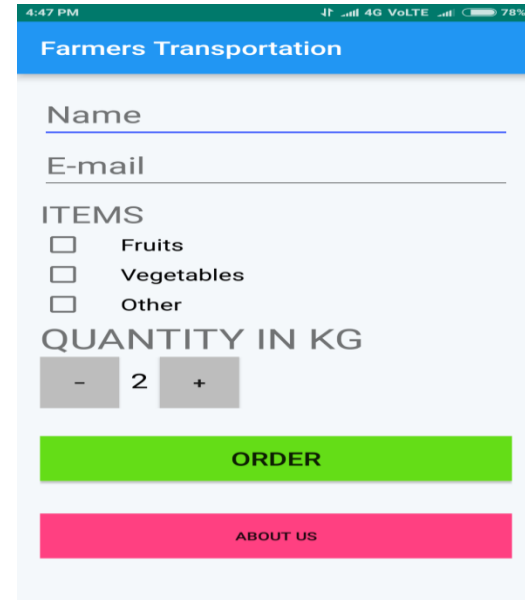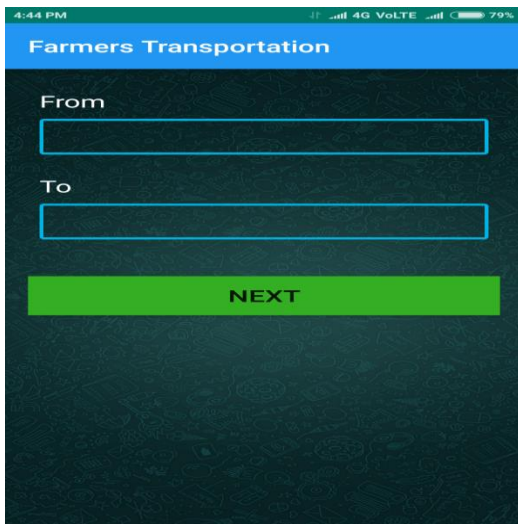## 3.1 Farmer registration:

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Fig 3: Account Setting Form

Fig 5: Item Selection Form

3.2 Get user location:

Figure 4 shows user's location selection form, in this form user can enter the details of goods transportation i.e source and destination details.

The following Figure 6 shows the order attachment form. In this form user send the details of goods to the receiver as an attachment through email. Figure 7 shows the details of the application developer.

Fig 4: User's Location Selection Form

3.3 Scheduling Journey:

Figure 5 shows the item selection form at sender side. In this form the user needs to enter the details of user's data i.e date of schedule and how much quantity of goods to be transported to the destination.
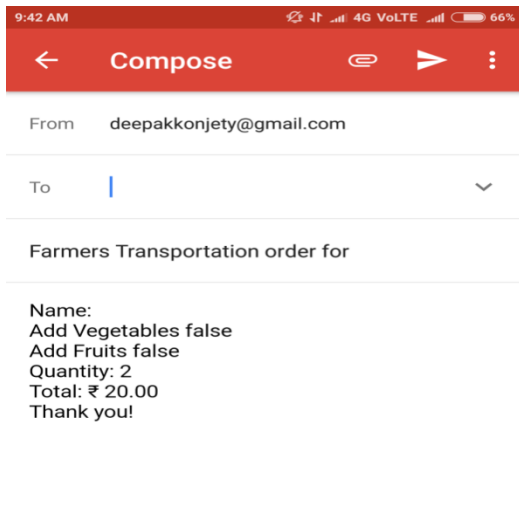
Fig 6: Order Attachment Form

Fig 7: About Application Developer

The application will help in reducing the pollution and traffic problem. It will cut-down personal expenses and cost. It overcomes the problems like traffic congestion, fuel combustion, parking space and pollution. It has several advantages such as reduction in fuel consumption, usability, and cost, communication with unacquainted people, security and reliability.

5. CONCLUSION & FUTURESCOPE:

Vehicle freight transportation system for farmers is an effort to reduce consumption of fuel, our most important non-renewable resource and traffic congestion on roads by encouraging people to use sharing. So it is an environment-friendly social application and also helps people to reduce their journey time. Future scope would include that the proposed application can be enhanced by providing better relative efficiency of urban traffic versus economy, energy and environment, save the total road transport energy use, generate a cost of time saving, reduce the travel time, decrease the fuel consumption, lessen the use of non-renewable energy, and alleviate the traffic congestion. In future the application can also be extended by implementing chatting functionality for the convenience of our users and which will also be more user-friendly.

6. REFERENCES:

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