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Saarthi an Innovative Platform for Farmers to Get Yield in India

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***Abstract*—**Saarthi is a website/app that provides an integrated system to farmer for providing transportation facility of their yields. The concept is simple and works on the basic necessities of agricultural India. As we know that agriculture in India constitutes approximately 18% of the total GDP. As India is a country with a vast regional diversity it is required for Saarthi to provide with a familiar list of fruits and vegetables for the farmer. It is also made available in multiple languages to make it more understanding for farmer in India. Our approach is to develop a user-friendly interface accessible through smart device available such as smart phone and websites. The details of the yields can be added by the farmer in any language. The aim is to provide the farmers with the best transportation facility at their doorstep. The Saarthi is going to provide a transportation facility in 3 modes. 1) Regional Transportation 2) State Transportation 3) Local Transportation. Saarthi is going to provide 24*7 customer support and chat bots will be available. To achieve 100% transparency in the transactions between farmers and transportation facilities Saarthi aims to cut out the middlemen so that the farmer get the deserved worth of their yields.

***Keywords*—** Farmer, GDP (Gross Domestic Product), Market, Services, Transport, Weather

I. INTRODUCTION

In today's rapid changing world of internet, we focused on the people especially from the rural areas. The main aim behind Saarthi is that the farmers in rural areas are unable to get the transport facilities that they need for their yields to be transported in various locations. So, in order to get all the information about agriculture collectively, and transport facilities, we have developed a website and an Application which will help the farmer in many ways.

In our system, we have developed such an interface which can be even accessed by semi-illiterate people apart from literate. There are options of multi-language. So, that if any farmer is English illiterate he can get the information in their regional language through one more advantage of Saarthi website. Also, if they have any other queries, they can directly contact to expert customer care. To achieve 100% transparency in the transaction between farmer and transportation facilities Saarthi aims to cut out the middlemen so that the farmer get the deserved worth of their yields. The Saarthi website will provide different types of vehicles according to the need of the farmer and the rate chart, contact info, as well as online booking and payment system for the vehicles will be provided so that they can deal according to their needs. The Saarthi will provide the live GPS System to track the yield which they are going to be transported through the booked vehicle. So basically Saarthi is a simple platform for the farmer and transporter to get in contact directly and get all assistance facilities and 24*7 services.

Since the Farmer in rural areas find it difficult to transport their yields and to sell their yields at the effective price for which the website Saarthi is being provided. Due to lack of transport facility and the farmer are unaware of variety of transportation system to sell their yields, which causes wastage of yields to be arising. To eradicate the problem of wastage of yields that are produced by the farmer Saarthi is being provided. Since the software industry is developing commercial projects mostly, we wish to develop commercial project which may help the farmer to get transportation facilities for yields.

II. RELATED WORK

During the survey, we referred many papers. That was beneficial only for small scale or for few farmers .Out of all papers survey we specially focused on how semi-illiterate people find it difficult to understand the information of agriculture and to sell their yields in different regions. "Krishi-Mitra: An Interface for Indian Farmer" [1] focused on The Krishi-Mitra application gives the whole information regarding the crops, Weather status and also user can get the expert advice in Marathi and in English languages. Krishi-Mitra application can be used as smart system which will be more sophisticatedly working for benefit of the farmers. A farmer can be made aware about current weather statistics and new information regarding to crops, seeds, fertilizer etc. just on single click of a button. They can even consult with experts if needed. This application can be very much helpful even if one could not read the information on the device by

native language support provided in it. This model will be a great enhancement to currently using techniques. In this way this Krishi-Mitra expert system for farmers reaches towards the implementation. Hence, difficulties faced by farmers in farming are overcame and resolved. "Study of agriculture marketing information systems models and their implications" [2] explains complete information on Crop Production, Crop Protection and all relevant agriculture allied services. Options to chat with experts, video-based learning, and the latest government Schemes, etc. are also available on this application. "Online Cab Booking System" [3] published in International Journal For Scientific Research And Development, showcases the development of an interactive website which functions as a Cab Booking System for customers to effortlessly book cabs for travel, the system is named City Cabs. It is an online portal through which customers can view available cabs, register the cabs, view profile and book cabs. A computer based management system is designed to handle the entire primary Information required to manage the whole data. Separate database is maintained to handle all the details required for the correct statement calculation and generations. This paper intends to introduce more user-friendly approach in the various activities such as record updating, maintenance, and searching. "Development of an Online Bus Ticket Reservation System for a Transportation Service in Nigeria" [4] research was based on online road transport reservation system. Owing to the possibilities that IT offers and the need for improved services, road transport has been a manual or traditional system where all data are collected manually via filling of form manually, many problems occur to the user and management where the user must fill in the booking form first and then must see the Administrator to get an approval and slow retrieval of customer information. Therefore, this problem can be solved with Online road Transport reservation System where the user just sitting in front of computer to make a booking via Internet. The methodology being applied in this system is the Object Oriented Analysis and Design (OOAD).

III. METHODOLOGY

The main focus of this work will be to provide the farmer with a system that enables them to choose the suitable means of transport for transportation of their yields. The fruits and vegetables have a short lifespan if not stored and transported in suitable conditions such as cold storage facilities and cold storage enabled trucks. Our approach is to provide the farmer with these facilities at their doorstep. This will reduce the losses and also will cut all the middlemen thus reducing the commission cost as well. The major focus is to keep the system as simple and multilingual as possible so that it should be easily understandable by the rural Indian farmer.

Our focus is also to understand the basic requirements of the farmer and thus to provide them with additional facilities such as availing the trucking information on the system, weather forecast of their region, track their yields, details of the agricultural schemes and thus cut their losses. Using Saarthi the farmer will also be able to avail the information about the transportation facilities available in the region, the weather conditions in their region and thus will be able to increase their percentage of profit. The approach is also for the transportation companies, they are required to sign up on Saarthi and enlist the services provided by them. This will give the farmer more choices to negotiate with transport agents and thus provide them with the best prices.

System Architecture shows how the whole system works from both farmer's and transporter's aspect. It gives the basis idea how the farmer provides their details and according to which they get the recommendations of trucks. Farmer can contact with transporter to book the truck and schedule the transportation date. Further, Yields are picking up from farmer's location and drop off to the market area.

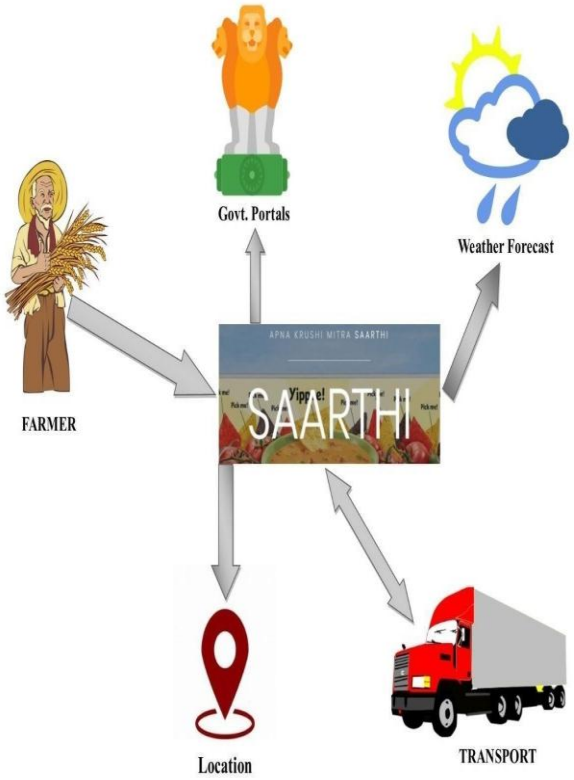

Figure 1. System Architecture

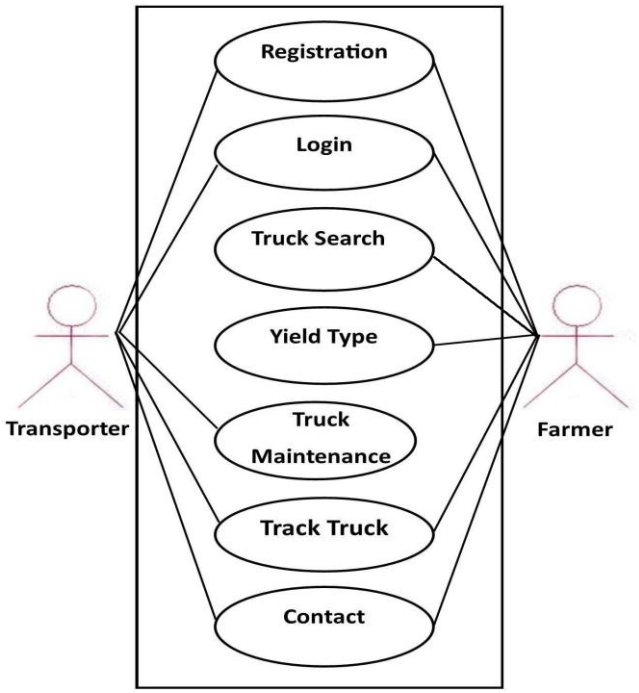

Figure 2. Use Case Diagram

IV. RESULTS AND DISCUSSION

The resulting website named Saarthi is a platform for the farmers to reduce the losses that they face during the transportation of their yields. From the very start, the home page, Saarthi provides information about all its features. Starting from the slide enabled window on the home page, menu section provides the access to the login window as well as the register window. As we scroll down the home page the farmers can also access the government agricultural portals and weather forecast portals. A contact us section is also provided, enabling the farmers to take advantage of the 24*7 assistance provided by the Government of India.

Figure 3. Home Page

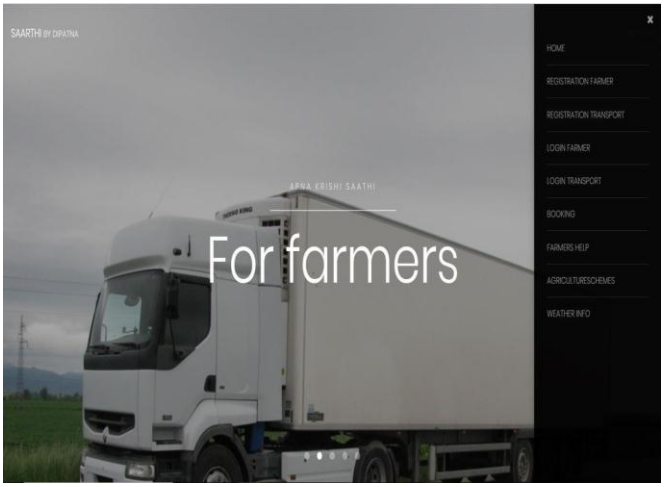

Figure 4. Farmer Dashboard

Figure 5. Weather Conditions for Farmers

V. CONCLUSION AND FUTURE SCOPE

In conclusion, Saarthi is a one stop destination for the benefits of farmers as well a means to boost profits for transport business. As it gives the simple and easy interface to the farmers to access to the online transportation system as well as the govt. schemes, weather information according to state and district are provided with 24*7 customer services. As well as the transport companies are getting customers in all over the area with ease through only the online medium. Saarthi provide the hazel free services. Saarthi is giving the multilingual platform to the farmers to make their work easy. Saarthi is making a ecosystem which is making the farmer work easy as it is providing extra facilities as giving access to the regional weather info, schemes by govt. of states and

district can be known, as well they are getting access to the local as well as standard tucks that can store the fruits and vegetables that can be transported in required conditions like, temperature (cold storage) and get good profit.

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