Chapter 8

Agro Guardian: A Smart Agriculture Framework for Precision Farming

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ABSTRACT

The mechanization of the process creates agriculture-based jobs for farmers, providing financial support and facilitating affordable agriculture equipment and machineries. Fruits markets are subject of opportunity and it is important to the suppliers to identify the quality of fruits based on the ripeness level of fruits before selling out in order to get higher level of profit. The proposed framework is an Android application in native language of the farmer to help the jobless farmers to find agriculture-based jobs suitable to their skill set and receive investments from various investors across the country. Further, it finds investment for the needy farmers and create suitable agricultural employment for jobless farmers so that there is an increase in the progress in the field of agriculture. It also facilitates the farmers with advanced equipment for performing various agricultural tasks, obtains the land on lease, and determines various stages of ripeness of fruit and provides the information about the government project and funding facilities.

INTRODUCTION

Agriculture is acceptably in which people have begun to be lethargic, forgetting so far what is keeping them energetic and alive. Although there are many numbers of hardworking, obsessive farmers and their life runs or rests only on farming or agriculture. However, there’s is lot of corruption keep’s on increasing these days due the intervention of the third party in marketing the agriculture products. The main motivation behind Agricultural Marketing and Department of Agricultural Business is to ensure feasible price
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to the agriculture product and helps the farmer in competitive marketing scheme and also in implementing modern technologies that reduces the losses to farmer and encourages in more cultivation. India is most populated country, as compared to different economic category. Agriculture is important sector for economic in many countries like India. Presently the agriculture area contributes 18% of Gross Domestic Production (GDP). Various private and government agencies have straightly involved in agriculture area for develop the economics of the country. There is no success is obtained in agriculture sectors due to poor agriculture price, difficulties in contacting the dealers, lack of technology information and network connectivity etc. No proper mechanism or system to alleviate these complications.

The fundamental desire of farming is to bring improved marketing facilities, reduce trade performance, and eliminate market expenditure which facilitates the prominent budget to the efforts made by the farmers. Farmer is one of the most important people in every human being’s life since the beginning of civilization. India gains food only if farmer cultivates the crops and manages many agriculture activities. There is much responsibility to farmer which makes their life tough and difficult. Even though farmer is rich enough to serve the food for every individual of the society but poor himself due to improper pricing for their cultivation, illiteracy, lack of the global knowledge, dependency on single source. Farmer remains happy if the cultivated crops are in good quality by the favorable environmental condition and better pricing. Since, the farmer’s family is depending on cultivation if crops are not as per the demands then Farmer life becomes depressed. Farming work is a low admired job, especially regular agricultural workers. In this modern era industry and construction sectors have occupied majority of agriculture’s labors due to the high wages paid. Most of the times small scales farmer depend on the external sources like relatives, companions, friends and others and they end up in giving high interest rates (36 to 120% per year) for requirements that might be in the form of money. Despite of the large machineries and modern technology involved in agriculture some parts of the country agricultural operations and mechanisms are carried out by human hands or labor using simple and traditional tools for implementing wooden, plough, seeds sowing etc. It results in huge investments of money on human labor. Land is the most valuable property in Framer life. For many new farmers, especially in areas where lands are quite expensive, it becomes very difficult to afford for their own the land to farmers and searching land for cultivation becomes complicated. The entire factor provides bad impact on the economic situation.

Growths of local fruit or vegetables industries in India are very immense. But, exporting fruits to other is country is less compared to other products. Fruits market is always option for consumers. It is very essential for suppliers and farmers to identify and deal the quality of fruits before sending out to market. Currently, human beings are experts’ in grade the agriculture products that is by examining on the visibility features. However, physical analysis provides the inaccurate, incompatible and ineffectual on denigrating the quality of farming products. The physical analysis after a certain period of times the farmer gets board of this job. In order to overcome this problem, there should be a automatic analysis for determining the quality of fruits which provide the results in more accurate and agreeable output. By these results, it is beneficial in saving time and manual labor which in turn helps in the development of economic.

In the 21th century all the human beings live in modern, digital and technical adapted for their daily requirements. The smart phone is most commonly used all over, and farmers have started to use mobile phone for communication. But they need to recognize the significance of smart phone and new technology, so it can help them in direct communication involving the farmers and buyer or customers. By investing and considering the entire problem faced by farmers the author has introduced an android application which involves various features. Farmers need to download this application on their mobile