

Farm and Sell: Mobile and Web-Based Solutions for Efficient Distribution of Agricultural Products in Sri Lanka

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Sri Lanka is an agricultural country and agriculture highly depends on weather conditions, considerable use of family labour, and infrastructure facilities such as irrigation, transport and electricity facilities in remote areas. Several difficulties are experienced by small- and large-scale farmers in Sri Lanka in selling their harvest including not getting the price for their harvest as they expected, difficulties in identifying good buyers from the larger buyer community and excess production during the particular times of the year. Although several mobile-based and web-based applications have already been introduced to Sri Lankan agriculture community, it's difficult to find an advanced and efficient application to deal with the problems in the agricultural value chain like inefficient distribution of products, excess supply, and middlemen involvement. The main objective of this research was to develop web and mobile-based systems that facilitate farmers, buyers, and transporters to deal with above problems. Initially, the information required to create the mobile and web applications were gathered from the farmers and Agricultural Instructors of Matara and Hambanthota area. Collected data were analysed to develop different User Interfaces and systems to facilitate important functions such as advertising of farm produces, request orders from buyers and transporters, request items and making payment of advance by the buyers upon farmer's approval, and notifying the transporters to pick up the package. The Android Profiler and several test cases were used to test the performance of mobile and web applications. Then, both web and mobile applications were evaluated with different users and obtained more than 90% positive feedbacks. According to their comments and feedback, the system was refined.

Keywords: Agricultural products, Efficient distribution, Mobile and web-based solutions