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Farming Services Management System

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Abstract: In India, 70% people are related directly or indirectly to farming. The major challenge for farmers to get farmer related services like labour and tractor related services because of poor communication between service providers and farmers . The FSMS (Farming Services Management System) will provide the convenient way by which farmers will get various farming related services like labour services for planting, weeding, cutting etc. and tractor services like ploughing, rotatory machine, moving heavy weights etc. The system will provide the list of service providers with charges according to the area selected by the farmer. Service provider has the facility to confirm or reject the request which is sent by the farmer. If the service provider accepts the request then according to conversation done by farmer and labour, one notification is generated at farmer side. It confirms that the service provider is ready to work or not and according to that response the service is added to the service stack of farmers. FSMS is a mobile (Android and ios) based application which provides an interface in a native language of the user like Marathi. Users of this application may not be well educated so it helps them to use the application in a convenient and efficient way.

Keywords: FSMS (Farming Services Management System), android, ios.

I. INTRODUCTION

In India 70% population is related to agriculture for their primary source of income directly or indirectly [1]. In agriculture field farmer need various farming related services for his farm like labour for weeding, planting, cutting, spraying, etc. and tractor services for ploughing, moving heavy load, etc. When farmer needs labour services then he make phone calls to labours or go to their home and have a verbal communication with them. The verbal communication includes type of work, charges, transportation facility and how many labours are required. If labour is not ready to work then the farmer searches for another labour. So, in this way he got the labour services. Whenever he wants to plough the farm or other services of tractor, he makes a call to tractor service provider or meet physically. Then they discuss the charges of the specific service which the farmer needs (like for ploughing Rs 1200/acre, for rotary machine Rs 1500/acre, Rs 1000/acre for bedding.). After this, if the tractor service provider is ready then the work will be done as per decided date and rate. If the service provider is not ready or not available on a decided date then farmer need to search another service provider. In Manson most all farmers are busy in sowing so demand for laborers and tractor service providers is very high. Instead of meeting physically to labour and tractor service providers using FSMS it becomes very easy.

The application will provide:

1) Login/sign up for farmer.
2) Addition/Deletion/Updation of labour services or Workers.
3) Addition/Deletion/Updation of Tractor services or Equipment.
4) Show list of labours/Tractor service providers.
5) Apply filters on services according to area, service etc.
6) Select and call Service Providers.
7) Confirmation by Service Provider.
8) Adding service to Farmer Stack.

II. RELATED WORK

Lots of mobile applications are present in the market, which make farming easy. Some mobile applications are specially designed for providing information to the farmer. In this section, various research papers and android applications have been reviewed related to agriculture. “A Modern Farming Techniques using Android Application” 2015[1]- In this paper, the researcher gives the entire idea of developing a mobile application called 'Kisan'. This mobile application provides the real-time market price of a crop, weather forecasting reports, news, information about the crops, knowledge about different tools and techniques of farming, etc. The researcher explains how this application resolves problems of traditional farming methods like unpredictable environments, lack of information related to crops, etc.

Agriculture System Using Android Device - A Review Paper [2]- In this paper, researchers review various papers which explains how mobile applications help the farmer in various farming activities. The researcher explains how farming is easy with the help of the mobile application. The researcher reviews various research papers and the android application which helps the farmer to perform various tasks like soil health monitoring, budget monitoring, plant nutrition schedule, etc.

Review on: Design and Development of Mobile App for Farmers [3] - This paper illustrates how android application for the agriculture sector affects the farmers. How the farming sector upgraded by mobile-enabled information systems. The researcher explained how mobile computing, cloud computing, and machine learning are helpful for farmers in their farming activities.

Farm Manager: An Android application for the management of small farms [4]- In this paper, the researcher explains how android applications are helpful to a farmer to manage a farm easily. The researcher illustrates the working and explanation of a mobile application called 'FarmManager'. This application provides a management base to the farmer for recording and browsing ground fields, keeping a record of their investment and working practices, cultivation and its tasks, equipment, employees, etc.

III. MODULES

1) *Login/Sign Up* – The first step is Sign Up/Register where the user has to enter email id, name, and password. After successful registration, users can login by using email and password.
2) *Addition/Deletion/Updation Of Labour Services or Workers* – To add new labour/Worker, user can click on add worker button and then enter information related to worker like

a) Work
b) Charges
c) Name
d) Contact number
e) Address
f) Village

After filling all above information, workers get added successfully to the FSMS system. If the user wants to change any details of the worker then that is possible by update facility. Likewise any worker/labor can be deleted from the system.

3) *Addition/Deletion/Updation Of Equipments or Tractor Services* – To add new Equipment, user can click on add Equipment button and then enter information related to Equipment like

a) Type of Equipment
b) Name of Equipment
c) Charges
d) Name of owner
e) Contact number
f) Address
g) Village

After filling all above information Equipment gets added successfully to the FSMS system. If the user wants to change any details of Equipment then that is possible by update facility. Likewise any Equipment can be deleted from the system.

4) *Workers/Labours* – Using this module the user can see a list of registered workers. Worker list shows details of the worker like profile photo, name, contact number, work type, charges per day and address of that worker.
5) *Selection of Worker* – After selecting a worker from the list, the user can use the call facility provided by FSMS to contact the worker. After negotiation with the worker about work, date, transportation charges etc. if the worker is ready to work then the worker gets added to my services stack of the user.
6) *Equipments* – Using this module the user can see a list of registered equipment. Equipment list shows details of equipment like equipment photo, name, contact number, charges and address of that service provider.
7) *Selection of Equipments* – After selecting equipment from the list, users can use the call facility provided by FSMS to contact the service provider. After negotiation with the service provider about work, date, charges etc, if the service provider is ready to work then equipment gets added to my service stack of the user.

8) *Confirmation and addition of services to user service stack* – After selections of service providers and telephonic discussion with service provider, one pop up notification will get generated at farmer or user end which ask, "Have you Hired Worker or Equipment?". If the user clicks on 'Yes' then worker or Equipment will get added to my service stack at the user side otherwise not. My service stack stores information like Name, Contact number and service date.

This application is designed for laborers/ workers and farmers for ease of communication. As the application provides an interface in native language like Marathi, it becomes very easy for users to use it.

IV. WORKING MODEL

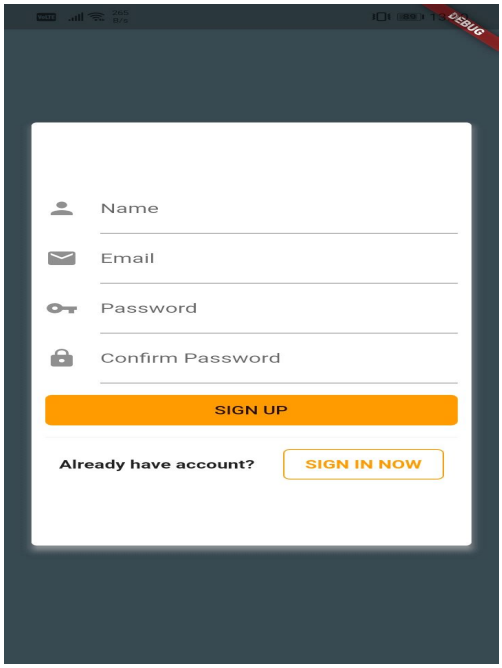

Fig.[1] Sign up

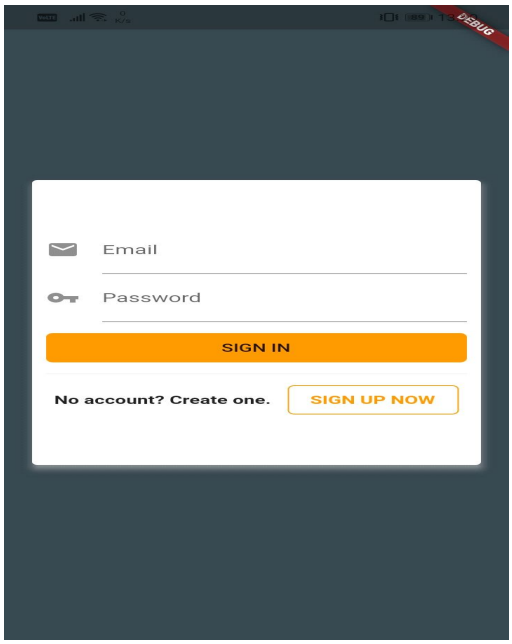

Fig.[2] Login/Sign in

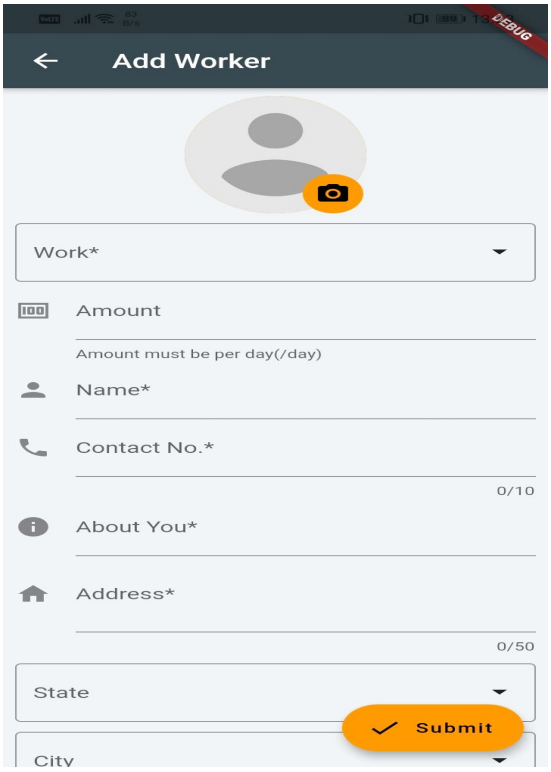

Fig.[3] Add Worker

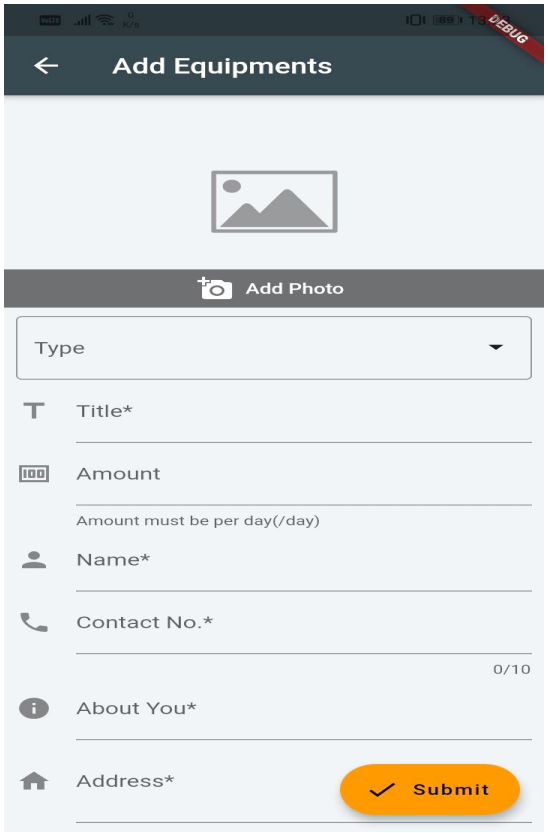

Fig.[4] Add Equipment

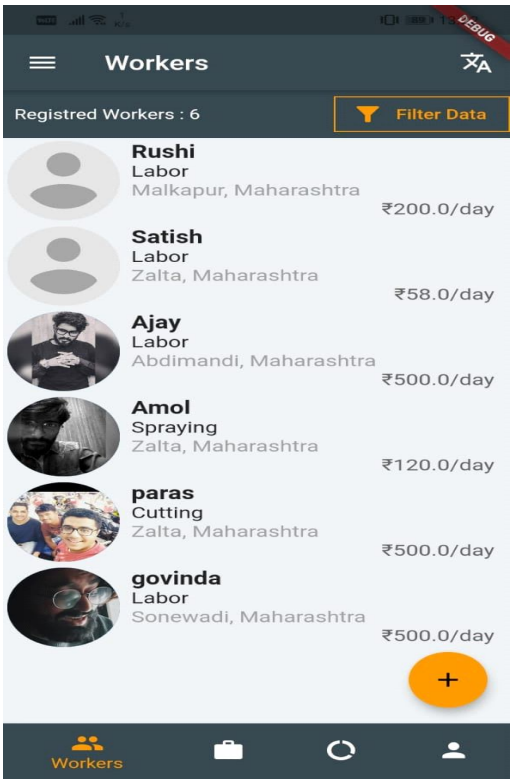

Fig.[5] List of workers

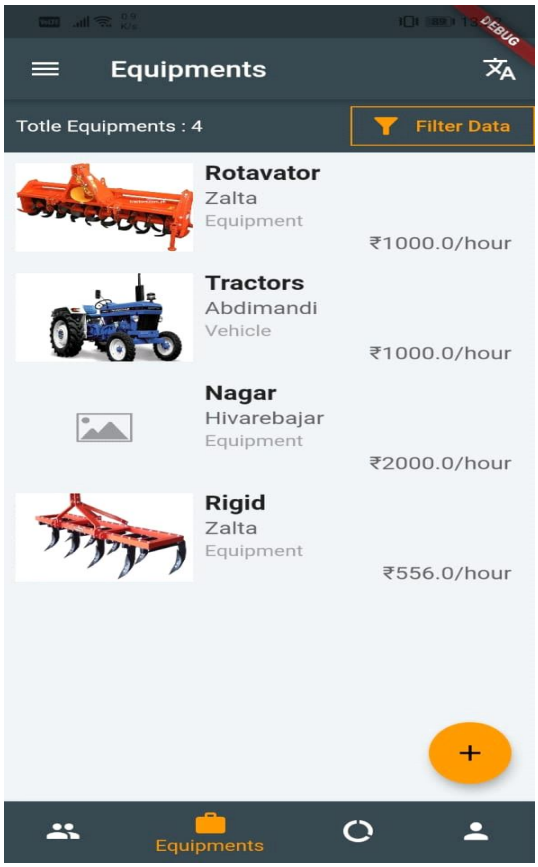

Fig.[6] List of equipments

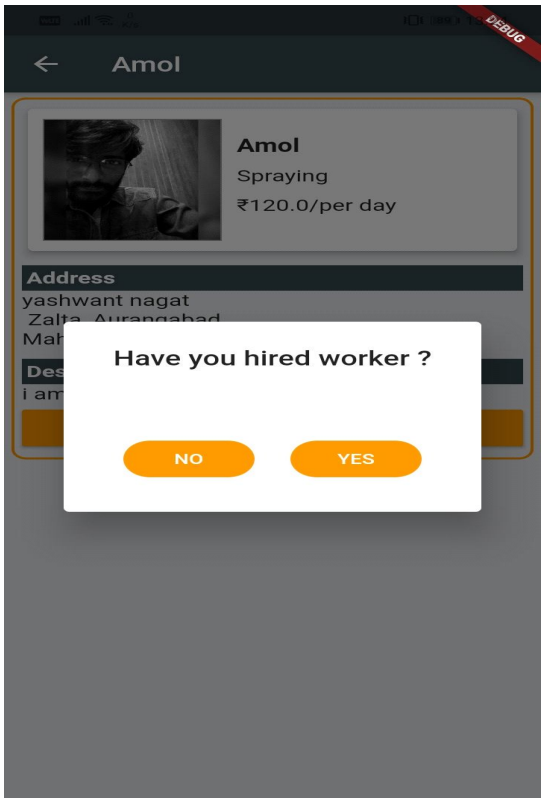

Fig.[7] Confirmation of service

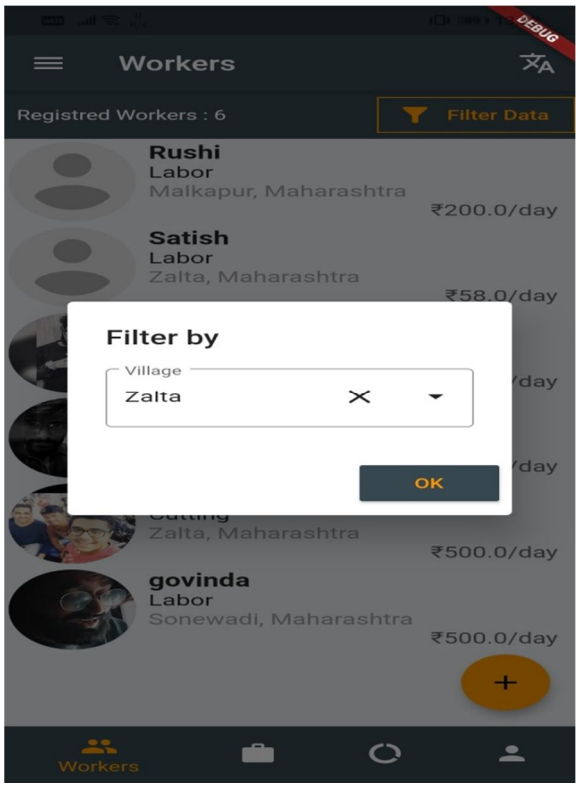

Fig.[8] Filter for equipments and workers

Fig.[9] My services stack

V. CONCLUSION

In this paper, we have discussed how the FSMS application helps farmers to get farming related services like labour and tractor services. With the help of FSMS labour and tractor service provider get the work and farmer get services according to area and date he wants.

VI. FUTURESCOPE

This system will provide a transportation system for farmers to transfer agricultural products from one place to another. It also provides a labour Transportation system. We can create a chat bot to get 24*7 assistance for farmers.

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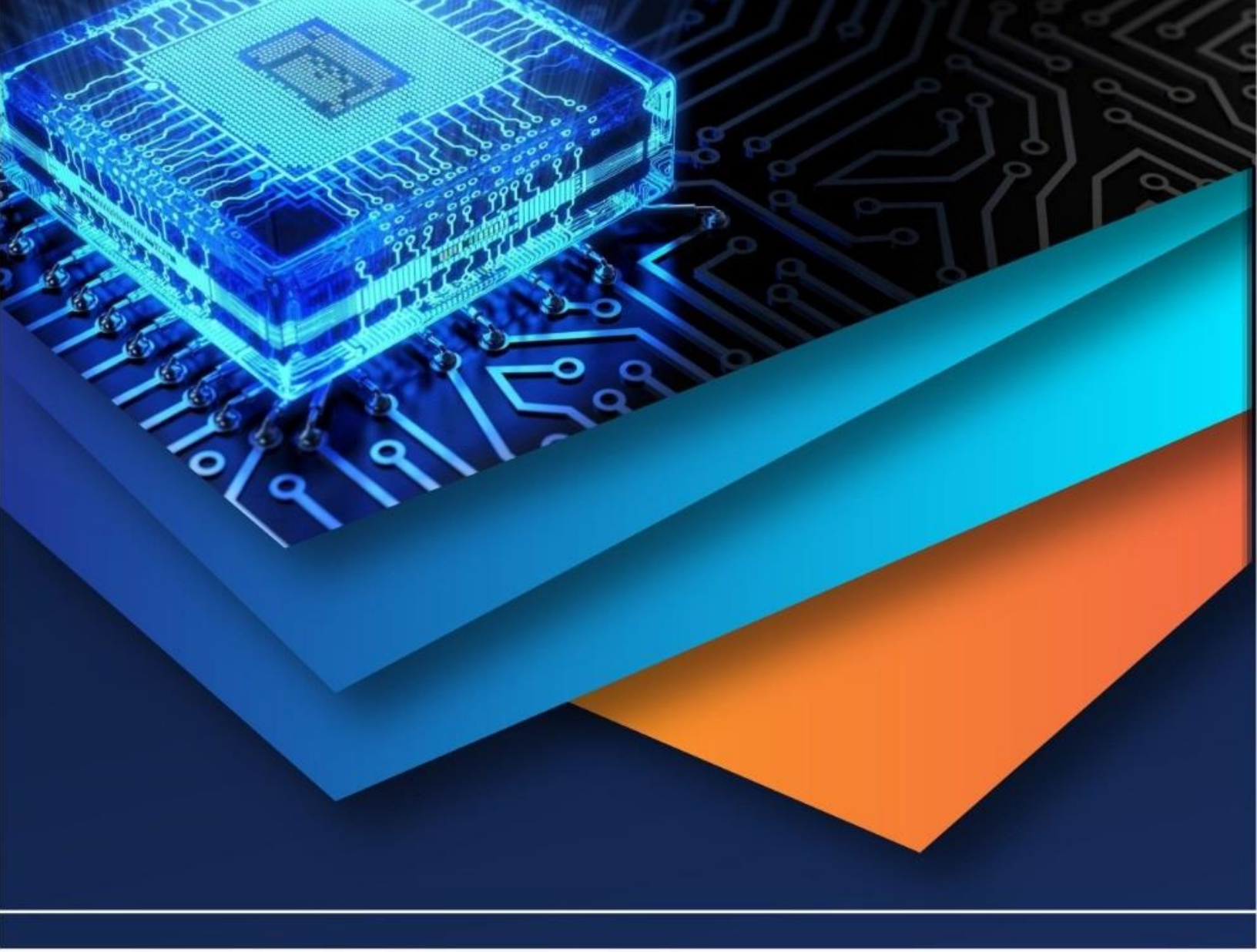

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