Digital Market For Farmers

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Abstract- *While selling crops/product farmers used the old marketing techniques that was a barrier for farmer to optimize the crop profit in a much better way. This platform helps farmers to save his efforts as well as time thereby maximizing his crop value. In ancient times the farmers had very limited access to merchants wherein they were not getting more offer which resulted in minimization of their crop profits. This platform will help to provide a direct bridge between farmers and merchant wherein they can directly perform deal with each other .Also farmers will get multiple options that will help to obtain good crop profit or choose the the best option among the multiple merchants.The technology that we deal with is the android –platform ,MySQL as a database and backend programming ,php for connectivity,web-platform for data handling at administration level .*

Keywords- crop profit optimization , knn for finding nearest points, haversine formula for location

I. INTRODUCTION

In old marketing technique, farmers had to take more effort to communicate with multiple merchants wherein this process was very time consuming and also it was difficult for farmer to establish connection with all the merchants due to limited amount of time to sell the crops/product in market. Because of the crop sustainability and season limitation farmers were getting limited amount of time.

Our platform bridges the gap between the farmer and the merchant by providing them a platform wherein they can directly communicate with each other as well as perform deals as per requirement. This will save the time taken as well overcome the old marketing selling methods will will inturn provide multiple merchant list for farmers. This will result in achieving multiple merchant list at farmer's end leading to easy optimization of crops or choose the best options among the available merchant list. This platform will store the farmer's crop details list and merchant requirements list. Farmer can find nearest merchants while tracking its location and also understand the requirements of merchants, this will take less amount time and less efforts .Merchant can also search about the nearest farmer and can gate the farmer's crop details as per their need. For location details we will use the Haversine algorithm and finding out nearest merchants/farmer that is being combined further with KNN algorithm that helps in sorting and searching distance as a data on comparison basis.

IDENTIFY, RESEARCH AND COLLECT IDEA

1. Farmers had limited amount of time to sell their crops at good price
2. In real time scenario, interacting with all the merchants as well getting more options consumed lot of time as well as effort also.
3. Farmer had limited access to clients(merchants).
4. Their is very less amount of usage of internet and technology for increasing the productivity on farmer's end.
5. There was not a platform for bridging the gap between farmers and merchants .
6. There was not a interface for farmers to communicate with client(merchant) that saved their time and effort.

II. LITERATURE SURVEY

With the help of technology and internet we can provide a direct interface for farmer and merchant so that they can communicate directly with each other.This platform will maintain and provide the client list for farmer/merchant as per their needs and expectation .Multiple useful sorted client list information will help to optimize the crop profit or give the freedom to select a better option as per the farmer's need. This platform will help to provide a proper platform between requirement and its available suitable match.

1. TITLE: KrishiMantra: Agricultural Recommendation System

Published by: Vikas Kumar, Vishal Dave, and Rahul Bhadauriya.

With the evolution of internet two.0, ICT has become the first would like of citizenry. There's a niche between the farmers and therefore the data of agricultural specialists. ICT will fill the gap between farmers and therefore the specialists. During this paper, we've got projected a linguistics internet based mostly design to get agricultural recommendations, mistreatment special knowledge and agricultural data bases. Our cognitive content acts as a site skilled and can send recommendations to the farmers supported climate conditions

and geographic knowledge. We have shown experimental results as an area of implementation of our projected design. A farmer sends question to the query engine,so as to induce info for a selected crop. Question could also be associated with GIS knowledge, crop cognitive content or each. The results of the question is displayed on a mobile device

2. TITLE: Top 10 algorithms in data mining

Published by: Xindong Wu·Vipin KumarJ. Ross Quinlan.Joydeep ,GhoshQiang Yang,Hiroshi Motod ,Geoffrey J.McLachlan, Angus Ng,Bing Liu,Philip S. Yu,Zhi-Hua Zhou,Michael Steinbach David J. Hand,Dan Steinberg

This paper presents the highest ten data processing algorithms known by the IEEE International Conference on data processing (ICDM) in Gregorian calendar month 2006: C4.5, k-Means, SVM, Apriori, EM, Page Rank, AdaBoost, KNN, Naive Thomas Bayes, and CART. These high ten algorithms are among the foremost potent data processing algorithms within the analyst is community. With every rule, we offer an outline of the rule; discuss the impact of the rule, and review current and more analysis on the rule. These ten algorithms cowl classification.

3. TITLE: Crop Cultivation Information System on Mobile Devices

Published by: Vikas Kumar, Vishal Dave, Rohan Nagrani, Sanjay Chaudhary, Minal Bhise

Mobile devices are used extensively by the individuals for communication, music, diversion, web and social networking. There's a scarcity of applications, which might be very helpful for the professionals to enhance their operating capabilities. Although mobile phones are utilized by individuals living in rural areas, however there are hardly any relevant applications for them to enhance their productivity. During this paper, we've planned and enforced a system for farmers which might be operated on their mobile phones. The system is developed victimization Service destined design (SOA) to method spatial knowledge and mental object. The mental object is maintained within the sort of on tologies. The system is a shot to fill the gap between farmers and agricultural consultants. A farmer will give inputs associated with crops being cultivated and site specific data to induce specific suggestions, alerts and proposals to enhance productivity. It'll be generated victimization the mental object. Whenever a farmer observes some abnormal behavior forcrops or climate, the system is ready to get recommendations supported inputs provided. We've resolved a number of the queries as a neighborhood of on-going work and results are displayed on an golem primarily based mobile devices for demonstration of the system.

IV. SYSTEM DESIGN

As we observe many farmers are getting good quality grains but this farmers cannot find a good price for the grains while selling into markets. It is difficult for farmer to explore new merchant places. In some areas farmers are unaware of the pricerates declare by the government for each grain this leads to a profitless deal with merchant.

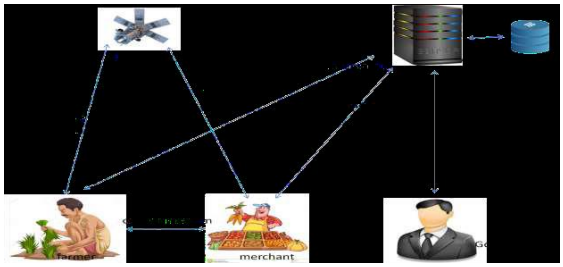

Figure a : Architecture

ALGORITHM

Let S be the solution perspective of the given problem such that,

S= {s,e,x,y,DD,NDD,Fme,cpucorecnt,failure,success,}
S -s be the initial state
X -x be the input of the system.
Y -y be the output of the system.
Fme - be the main algorithm resulting into outcome y.
DD- The DD be the deterministic data,it help identifying the customer Validation record.
NDD- NDD be the non-deterministic data of the system to be solved. These being computing function or CPU time or ALU time complexity.
CPUcorecnt -is the no of core of the CPU.
Success- desired output is generated.
Failure -Desired output not generated, forced exit due to system error.

In our problem statement:

Admin (A)
Farmer (F)
Merchant (M)
G → records of requirement of merchants

Farmer →

F – GFr →set of grains available for sale.
F → will put images, quality, & prices of all grains from set GFr.
F has a location with lat. Long. – Lf.

Merchant →

M → GMp → set of grains of demand from merchant or market.
Location for merchant Lm.
Step 1 →
Exploring merchants from nearby location →
Lf fetched from database from lat. Long.
Find nearest M from comparing with each Lm.

Input Set:

1)Username={ (Farmer:crop information,price),(Merchant:crop price)}
2)Password
2 variables:
1)Farmer expected price
2)Merchant offered price

Processing Set :

Execution={Searching module}
->nearestplace
->input
->current location
->latitude and longitude check
Similarly it will be done by merchant.

On customer side :

------→Check out the grain requirements(it is stand alone module)
-----→Independent approach

Resources :

→Area Name
→Crop Information

Formula :

hav(d/r) = hav(φ2- φ1)+ cos(φ1) cos(φ2) hav(λ2- λ1)
hav(θ) = sin^2 (θ /2)
where,

- hav is the haversine function:
- *d* is the distance between the two points (along a great circle of the sphere),
- *r* is the radius of the sphere,
- φ_1, φ_2: latitude of point 1 and latitude of point 2, in radians
- λ_1, λ_2: longitude of point 1 and longitude of point 2, in radians

K Nearest Neighbors – Classification

Algorithm

A case is classified by a majority vote of its neighbours, with the case being assigned to the class most common amongst its K nearest neighbours measured by a distance function. If K = 1, then the case is simply assigned to the class of its nearest neighbour.

Distance functions

Euclidean $\sqrt{\sum_{i=1}^{k}(x_i - y_i)^2}$

Manhattan $\sum_{i=1}^{k}|x_i - y_i|$

Minkowski $\left(\sum_{i=1}^{k}(|x_i - y_i|)^q\right)^{1/q}$

Output Set:

->explore the nearest merchant
->list displayed to farmers as output

V. ADVANTAGES

- ✓ Crop profit can be optimize to maximum level due to multiple options ,merchant list analysis details is available for study.
- ✓ Save time and effort.
- ✓ Multiple options for farmers as well as merchants.
- ✓ Direct interaction between farmer and merchant anytime anywhere with the help of android application.
- ✓ Crop profit maximization as knowledge of multiple merchant list offered price is available.
- ✓ Farmer would be able to deploy the latest technology.

VI. CONCLUSION

Thus we have successfully implemented such system with the help of which farmer can optimize his crop profit. Thus we have provided a suitable solution which will reduce the time and effort taken by farmers to contact merchants thereby bridging the gap between farmers and merchants by providing a direct communication interface through the android application and deal with database at backend. The server database helps to classify and sort the useful list of clients for farmer/merchant as per their requirements and expectations. The server database will also help to find out nearest farmer/merchant list.

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