



Crop Profit Optimization and Trading Based on Location Tracking for Farmers

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Abstract — Now a days most are moving to the technology to reinforce their business profit, therefore we tend to try to mix farmers with technology in Associate in Nursing efficient manner. There are some application offered for farmers, however there's no such application that helps to optimize crop profit. Some don't support GPS chase and has many problems relating to location chase and search. We tend to are developing automaton application for farmers that helps them to maximise profit in planting season. We tend to applies here Naïve Thomas Bayes algorithmic rule to implement the anticipated result. From this predictions farmer will decide whether or not to conduct specific crop or not. This application has location chase facility that counsel farmers that crops they'll plant along side this we tend to try to change commercialism facility. Once sure-fire registration by users system can show list of dealer, retailers, customers, farmers and transporters supported the situation detected by the system. additionally we tend to are developing e-services that allows all users to examine out all latest updates of market rate, crop details, marketing and shopping for crop product, seed details, disease data. E-service is employed to synchronize with automaton app in such method that user will use same id and parole for each the services. Farmers can get data regarding seed, fertilizers, plant diseases, native market details, etc. The app may be employed by all automaton users with none price. automaton application are offered in Mahratti, Hindi and West Germanic language.

Keywords- Farming, Profit Optimization, Location tracking, android application, e-service, Naïve Bayes Algorithm, System Analysis etc.

I. INTRODUCTION

The reason for analysis is to produce a tool that helps farmers to maximize profit by taking inputs on native market values as water, weight, area and land constraints. One in each of the cool things regarding this tool is that the system boundaries area unit made public by the user. There is Associate in nursing extended list of various key variables. Among the key variables area unit inputs that area unit provided by the user. The inputs include: amount of land getable for planting, amount of water getable, the amount of weight that may be shipped, native market prices per kg of each crop, and distance to market. The input of native price per weight of each crop is placed directly into the target operate, whereas the other inputs area unit formed into constraints supported the wants of each crop. The output of the target operate area unit attending to be what proportion seeds of each completely different crop to plant thus on maximize the user's profit. The Naïve Bayes and KNN algorithmic program alter results of system. The assumptions area unit as follows. The farmer selects the land he intends to use for cultivation. Every plant harvested area unit attending to be the common weight of that crop. Even throughout a draught water prices do not go up, there's solely a restriction placed on what proportion water one can consume. To inundate on the number of user inputs, assume that the user is found inside the valley. This helps with water, transportation, seed, and labor costs. The code can merely be modified if we tend to needed to relinquish this to a farmer in another house.

II. LITERATURE REVIEW

1. Watering Tomatoes

Author:- Garden.org.

Tomatoes need an excellent offer of water throughout the season; associate degree irregular water system can cause your tomatoes to develop issues. offer Them an in. :Like most alternative vegetables within the garden, tomatoes want a minimum of one in. of rain or irrigation water per week for steady growth. within the hotter, drier elements of the

country, their desires go up to 2 inches of water per week throughout the summer months. An inch of water measures intent on concerning sixty gallons for every one hundred sq. feet of garden. So, if you've got to water by the bucket brigade that is one thing in grips in mind. Watering Technique: Here's an explicit method of watering tomatoes. Cut the top-notch from some gallon-size cans, punch holes within the bottoms and set them within the ground with solely concerning an in. of the will showing higher than the surface. Use 2 cans close to every love apple and fill them 2 or thrice per week -- or a lot of usually, if needed. This methodology directs right to the foundation zone of the plants and tiny is wasted.

2. Fast Android Application Development with Component Modelling

Authors :- Gabor Kovcsan, Mark Asztalos, Laszlo

Application of mobile and cyber-physical systems play a vital role in psychological feature info communications, particularly within the Socio-Cognitive ICT space, as a result of they're able to facilitate the requested data to users quickly. The robot platform could be a smart foundation for such systems since it runs on a good sort of devices and provides some advanced mechanisms for group action loosely coupled elements. These capabilities facilitate economical component-based development. However, these mechanisms additionally introduce some difficulties into the event method. On one hand, some functionalities aren't encapsulated into one piece of code however need to be enforced and designed at many distinct supply files. On the opposite hand, it's simple to interrupt the consistency among these artefacts. During this paper, we have a tendency to report on our add progress tool, that addresses these problems by modeling usually used functionalities in robot applications and generating a skeleton for the implementation. We have a tendency to additionally report on the planning of this tool. The tool and also the experiences of its development are going to be helpful for computer code developers that plan to make code generators and psychological feature info communications connected mobile applications supported the robot platform.

3. Active Authentication on Mobile Devices via Stylometry, Application Usage, Web Browsing, and GPS Location

Authors:- Lex Fridman, Steven Weber, Rachel Greenstadt

Active authentication is that the downside of incessantly verifying the identity of an individual supported activity aspects of their interaction with a machine. During this paper, we collect and analyze activity statistics knowledge from two hundred subjects, each using their personal mechanical man mobile device for a amount of a minimum of 30 days. This knowledge set is novel within the context of active authentication due to its size, duration, range of modalities, and absence of restrictions on tracked activity. The geographical colocation of the subjects within the study is representative of an oversized closed-world environment like a company wherever the unauthorized user of a tool is probably going to be AN corporate executive threat: coming back from inside the organization. We have a tendency to take into account four biometric modalities: 1) text entered via soft keyboard, 2) applications used, 3) websites visited, and 4) physical location of the device as determined from GPS (when outdoors) or local area network (when indoors). We have a tendency to implement and take a look at a classifier for every modality and organize the classifiers as a parallel binary call fusion design.

4. Crop Profit Optimization for Farmers

Author:- Jonathan Romero, Kody Smith

A tool was created to perform a systems analysis so as to optimize a farmer's profit supported the decisions that square measure two-faced throughout the planting season. The tool was created in Python so it may be used on most computers while not additional price to the user. This tool is a program that contains an information of crop wants in terms of needed growing space per plant, water per plant, and growing time. The information additionally homes crop characteristics like seed price and average weight per plant. The program additionally prompts the user for the constraint values. These constraint values embrace water availability, quantity of usable land, weight transportation limits, time to plug, distance to native market, and native crop costs per pound. The input constraints enable the user to tailor the program to their specific conditions. If adopted throughout a farmer's call period before the planting season, this optimisation tool can analyze the parameters that square measure being two-faced so as to maximize profits. the present version of the program

makes 5 key assumptions so as to create a tangle with a calculable answer. once all inputs are entered, the tool computes the optimum combination of plants that may be big within the given time-frame that will maximize the farmer's profits at market.

5. It's a Hard Lock Life: A Field Study of Smartphone (Un)Locking Behavior and Risk Perception

Author:- Marian Harbach, Emanuel von Zezschwitz, Andreas Fichtner, Alexander De Luca, Matthew Smith

A lot of analysis is being conducted into up the usability and security of phone-unlocking. there's but a severe lack of scientific information on users' current unlocking behavior and perceptions. we have a tendency to performed an internet survey (n = 260) and a one-month field study (n = 52) to achieve insights into planet (un)locking behavior of smartphone users. One amongst the most goals was to seek out what proportion overhead unlocking and authenticating adds to the phone usage and in what percentage unlock interactions security (i.e. authentication) was perceived as necessary. We have a tendency to additionally investigated why users do or don't use a lock screen and the way they address smartphone-related risks, like shoulder surfing or unwanted accesses. Among different results, we found that on the average, participants spent around a pair of.9 maximize their smartphone interaction time with authenticating (9 for the duration of the worst case). Participants that used a secure lock screen like PIN or robot unlock patterns thought-about it reserve in 24.1 % of things. Shoulder surfboarding was looked as if it would be a relevant risk in barely eleven of 3410 sampled things.

III. PROPOSED SYSTEM

The mechanical man application permits the user for the constraint values. These constraint values embody water accessibility, amount of usable land, weight transportation limits, time to grow, distance to native market, and native crop prices per kilograms. The input constraints change the user to tailor the program to their specific conditions. If adopted throughout a farmer's decision amount before the planting season, this improvement tool will analyse the parameters that square measure being moon-faced thus on maximize profits. Once all inputs area unit entered, the tool computes the most effective combination of plants which will be adult inside the given timeframe which will maximize the farmer's profits at market. User could be able to read numerous farming connected parameters like crop details in farmer's space, seed info, plant diseases etc. vital factor we have a tendency to try to implement is shopping for and merchandising of farm merchandise to customers, retailers and dealers.

1. Profit Optimization

To optimize the profit 1st we want to make the history dataset. This history dataset is centrally managed by administrator. User enters essential parameters which parameters are sent to server. On server aspect transmitted parameters area unit keep in info and compared with history dataset. Results area unit generated and forwarded to the farmer (user). For this prediction we have a tendency to area unit implementing Naïve Thomas Bayes algorithmic program and K-NN algorithmic program.

2. Location tracking

To track the situation of farmer we have a tendency to area unit victimisation GPS module. User needs to change the 'Location' possibility from mechanical man settings.

For testing purpose we have a tendency to area unit victimisation machine to check totally different locations victimisation latitude and meridian values. App can reason the co-ordinate values and procure the situation.

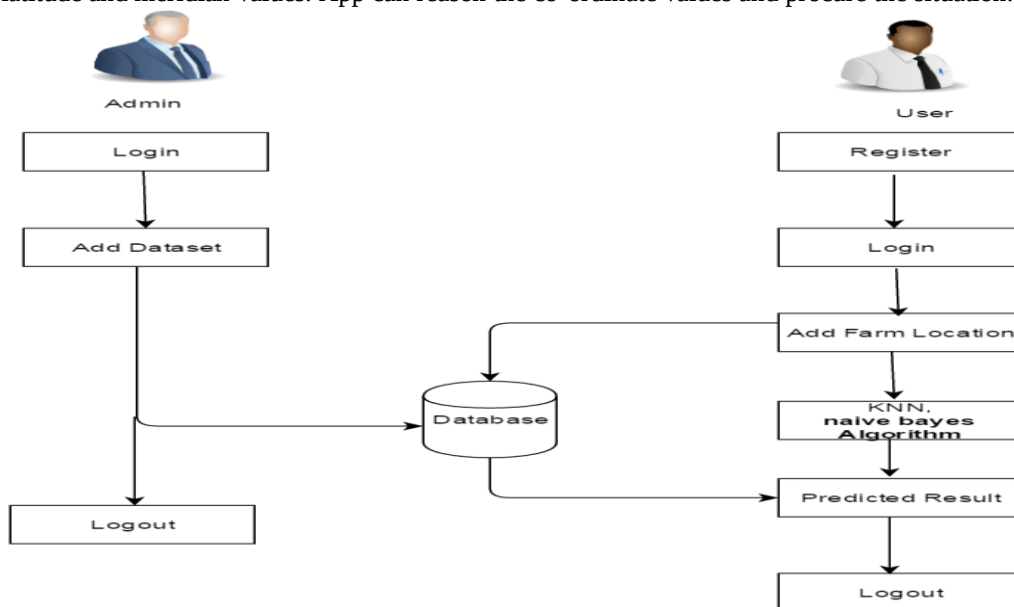


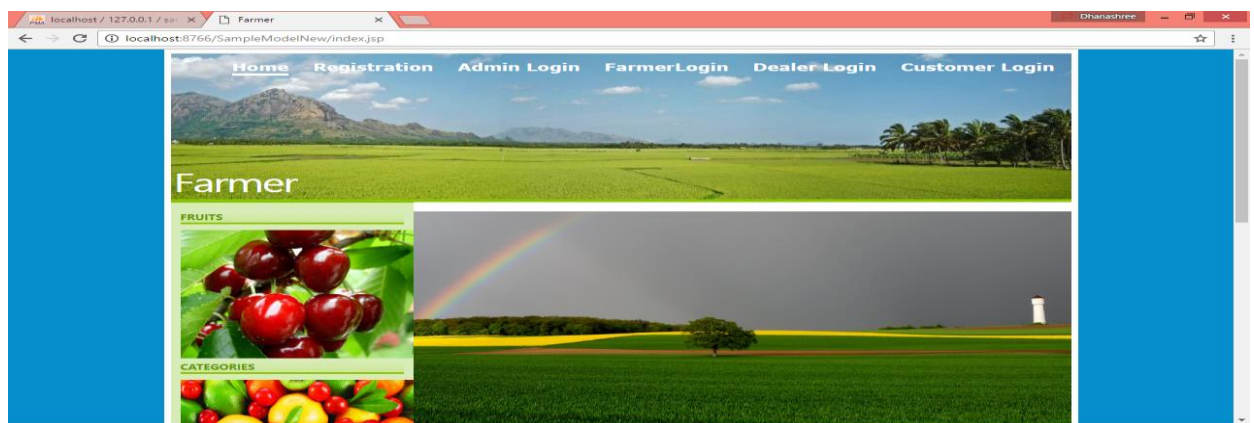
Figure: Proposed system architecture

Advantages of projected System:

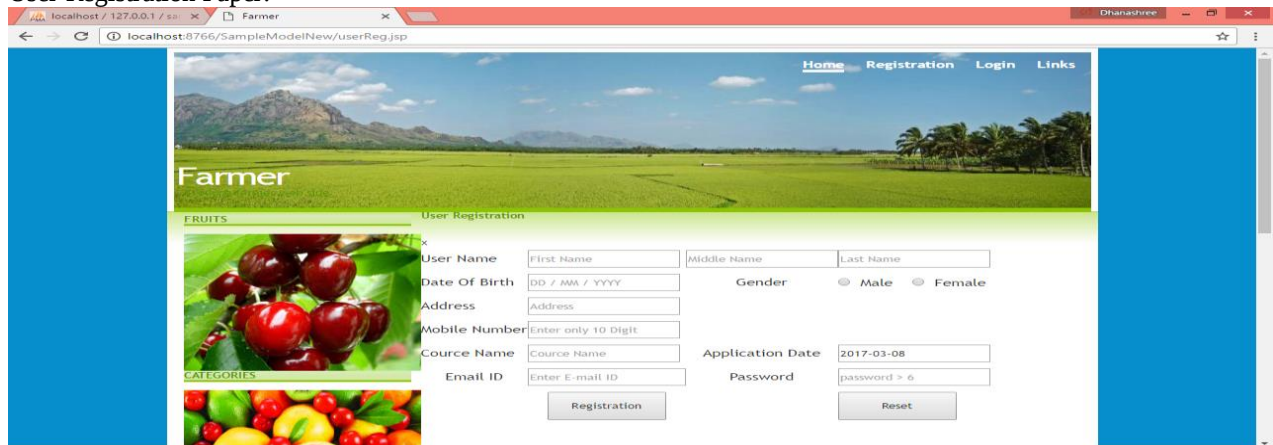
Farmer can simply analyse that crop ought to be planted on foretold result. It improves profit of farmer if they follow the expected analysis. The farmer selects the land he intends to use for cultivation. Every plant harvested are the typical weight of that crop. Even in an exceedingly draught water costs don't go up, there's solely a restriction placed on what proportion water one will consume. Farmer will search Dealers, Retailer, Customers, and transporter by sitting in home .

IV. RESULT AND DISCUSSION

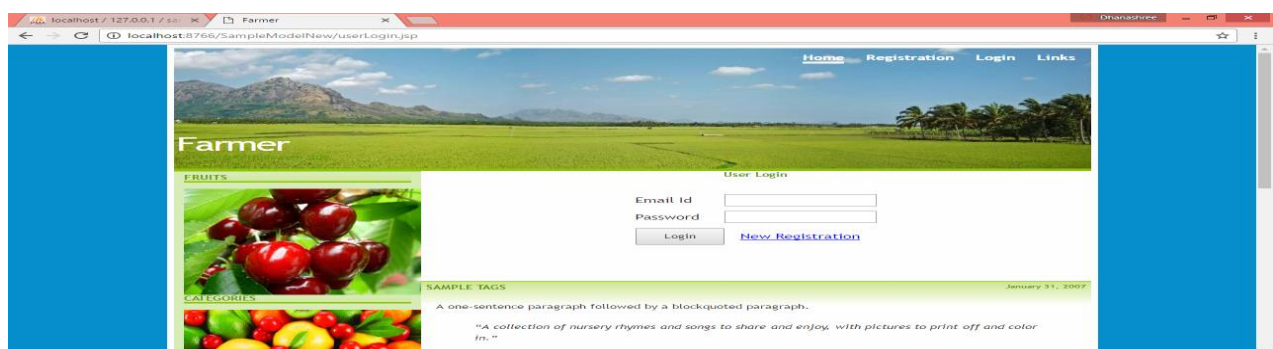
1. Website's Home Page:



2. User Registration Page:



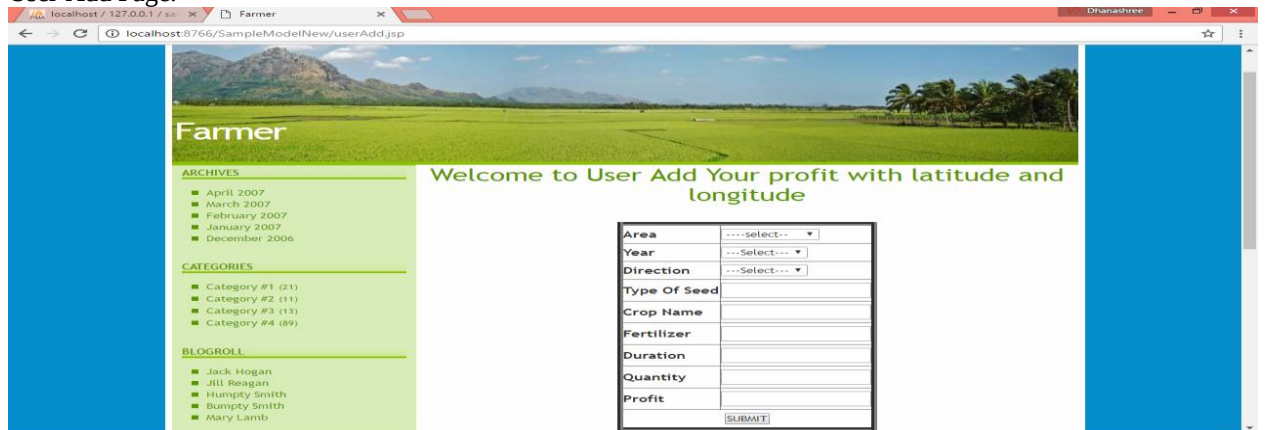
3. User Login Page:



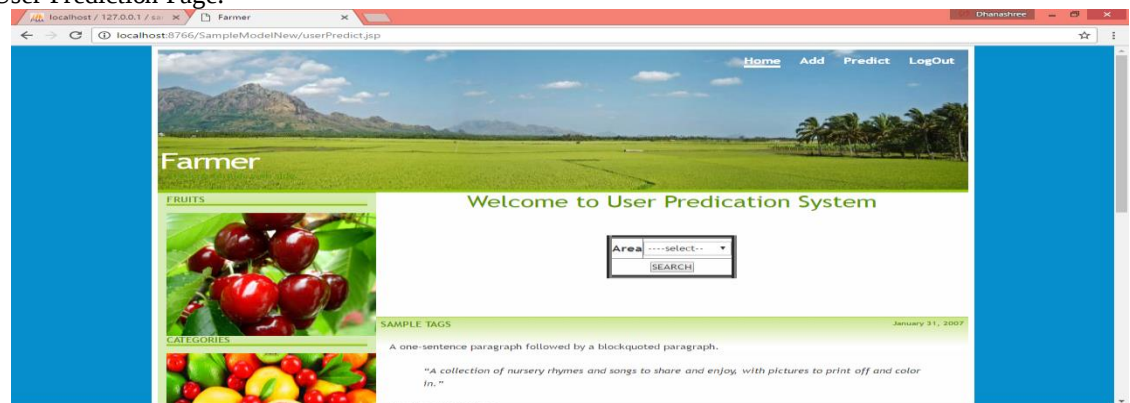
4. User Home Page:



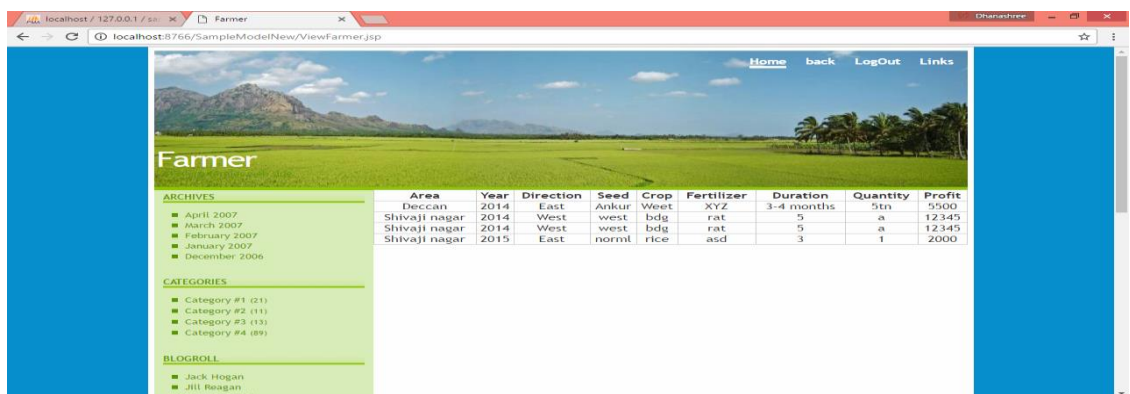
5. User Add Page:



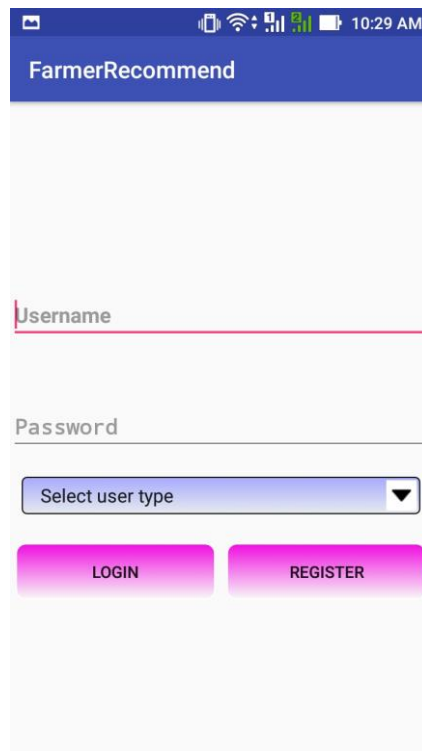
6. User Prediction Page:



7. View Farmer Page:

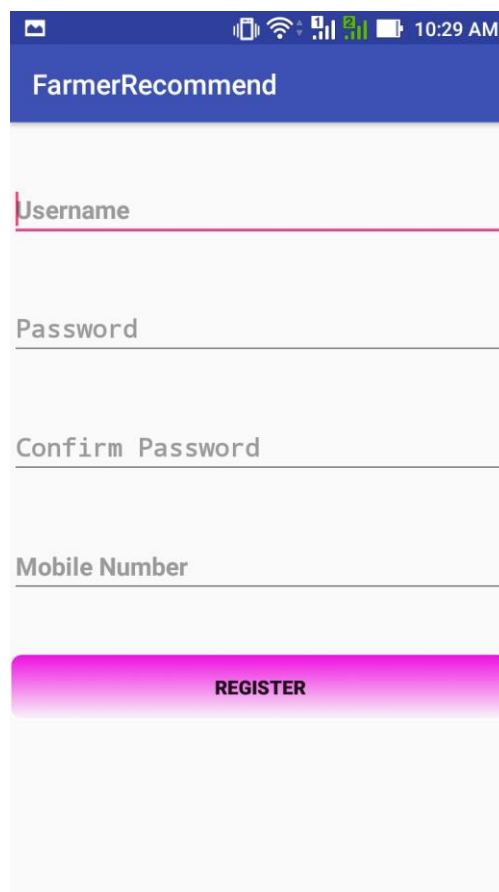


8. Android app Login page



The screenshot shows the login interface of the FarmerRecommend app. At the top, there is a blue header bar with the app name "FarmerRecommend". Below the header, the page has a light gray background. The login form consists of several elements: a "Username" input field with a red underline, a "Password" input field, a dropdown menu labeled "Select user type", and two pink buttons labeled "LOGIN" and "REGISTER". The status bar at the top of the phone screen shows the time as 10:29 AM and various system icons.

9. Registration Page



The screenshot shows the registration interface of the FarmerRecommend app. It features a blue header bar with the app name "FarmerRecommend". The registration form is set against a light gray background and includes input fields for "Username", "Password", "Confirm Password", and "Mobile Number". A single pink button labeled "REGISTER" is positioned at the bottom of the form. The phone's status bar at the top indicates the time is 10:29 AM.

10. Farmer Homepage

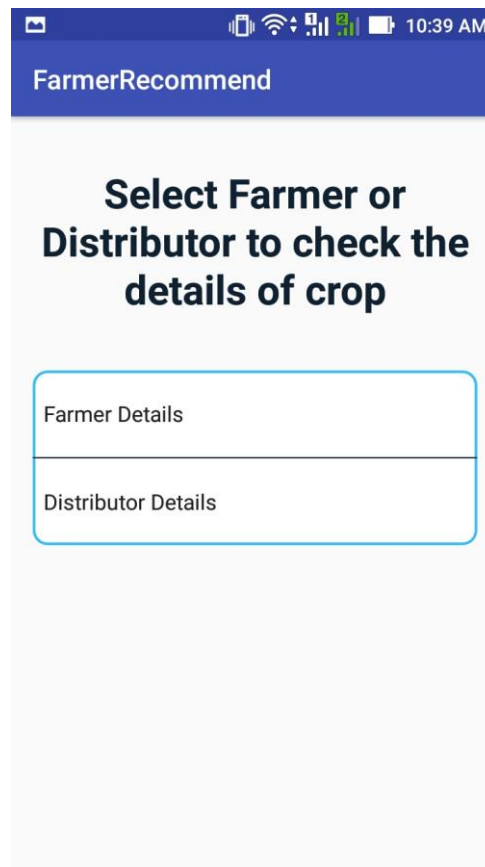
The screenshot shows the 'FarmerRecommend' app interface. At the top is a blue header with the app name. Below it is a form with four input fields: 'Crop Name', 'Seed Type', 'Quantity (Quintal)', and 'Price per quintal'. A pink 'Add' button is at the bottom of the form. Below the form is a list of options: 'Crop Recommendation', 'Crop Optimization', 'Update the quantity', and 'History'.

11. Farmer Details

The screenshot shows the 'FarmerRecommend' app interface with the title 'Farmer Details'. It displays a list of four farmer records, each with the following fields: Crop Name, Seed type, Farmer Name, Contact Number, Quantity, and Price(per quintal). The records are as follows:

Crop Name	Seed type	Farmer Name	Contact Number	Quantity	Price(per quintal)
jawar	local	New	9856254568	10 quintal	2100 Rs
soyabean	piwla	mahesh	7350498332	5 quintal	2500 Rs
Onion	red	mahesh	7350498332	10 quintal	1000 Rs
Maize	hybrid	mahesh	7350498332	5 quintal	1200 Rs

12. Farmer Details for Users



V. CONCLUSION

Once farmer enters seed value, water handiness, quantity of usable land, weight transportation limit system can send knowledge to server and server can compares the inputs with the history dataset and outputs the prediction using Naïve mathematician rule. The tool takes inputs on native constraints and market prices from the farmer World Health Organization is responsive to this market. The placement chase system show applicable location. It then determines for the farmer what proportion of each crop to plant therefore on maximize his profits. The tactic concerned deciding all of costs connected growing crops and finding actual values for those prices so they're going to be place into the target operate and additionally the constraint equations. The final word product could also be application which can be used by farmers to optimize their profit. The Naïve mathematician and KNN rule applies here to predict the results of crop profit maximization.

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REFERENCES

- [1] Watering Tomatoes (n.d.). In *Garden.org*.
- [2] Gabor Kovesdan, Mark Asztalos, Laszlo Lengyel “*Fast Android Application Development with Component Modelling*” 5 November 2015.
- [3] Lex Fridman, Steven Weber, Rachel Greenstadt “*Active Authentication on Mobile Devices via Stylometry, Application Usage, Web Browsing, and GPS Location*” DOI: 10.1109/JSYST.2015.2472579, Year: 30 March 2016
- [4] Jonathan Romero, Kody Smith “*Crop Profit Optimization for Farmers*”, IEEE SIEDS, Year: 2016

- 5] J. M. Harbach, E. von Zezschwitz, A. Fichtner, A. De Luca, and M. Smith, "Its a hard lock life: A field study of smartphone (un) locking behavior and risk perception," in Proc. SOUPS, 2014, pp. 1–18.
- 6] N. Clarke and S. Furnell. Authenticating mobile phone users using keystroke analysis. *International Journal of Information Security*, 6(1):1–14, 2007.
- 7] Web reference: farmer.gov.in (2106) and farmers.org android app
- 8] Analytics: An Intelligent Approach in Clinical Trail Management Ankit Lodha* Analytics Operations Lead, Amgen, Thousand Oaks, California, USA.
- 9] Agile: Open Innovation to Revolutionize Pharmaceutical Strategy Ankit Lodha University of Redlands, 333 N Glenoaks Blvd #630, Burbank, CA 91502.
- 10] Clinical Analytics – Transforming Clinical Development through Big Data Ankit Lodha University of Redlands, 333 N Glenoaks Blvd #630, Burbank, CA 91502.
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