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WEB BASED AGRO INFORMATION SYSTEM FOR ECONOMIC DEVELOPMENT OF RURAL AREA.

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Abstract: India has an expanding population of one billion to feed and over 70 percent of its national workforce is directly or indirectly dependent on agriculture. This system will not be helpful for only farmers but also to the government and help to bring agricultural economy in the particular region to more equitable and sustainable level.

Keywords: Agriculture economy, E-Governance, M-Governance.

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INTRODUCTION

Agriculture is the Backbone of Indian Economy. The objective of this project is to develop a system which will help the farmers in taking decisions. The information given by the farmers for any commodity will be analyzed and compared with the standards by program so that once he accesses the portal with his credentials he will be able to take decision on how to plant a crop to get a maximum yield. [1]

Almost all states and union territories are providing market information in one form or the other for the benefits of market users like producers, traders, and consumers. However, the information is collected and disseminated by use of conventional methods causing inordinate delay in communicating to different groups and this, in turn, adversely affects their economic interest. Therefore, the existence and dissemination of complete and accurate marketing information is the key to achieve both operational and pricing efficiency in the marketing system.[2]

This system will help farmers to take decision for selling crops as well as they do get all the weather related information by sending SMS on their cell phone which will update them for getting higher yields and taking precautionary actions for bad climate which will affect the crops highly. Weather Forecast helps in following farm operation: To irrigate the crop or not, when to apply fertilizer or not, whether to start complete harvesting or to withhold it. Weather forecasts are of four types, viz., now casting (4 to 5hrs), short range forecast (valid for 48 hours), medium range (valid for 5 days to a week) and long-range or seasonal forecast (valid for month to season).Generalized forecasts have, however, limited use in farming. [3]

E-Governance or “electronic governance” is defined as the delivery of Government services and information to the public, using the electronic means including the dissemination of information to the people and the agencies. [4]

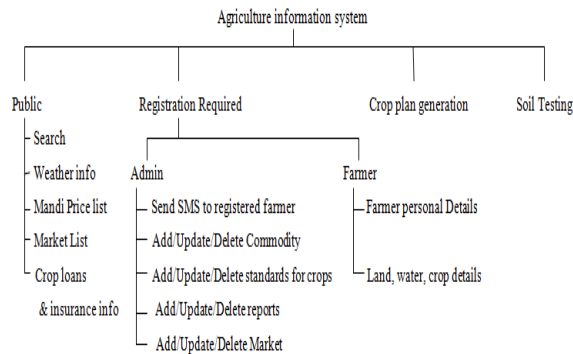
Mobile government, sometimes referred to as m-Government, is the extension of e-Government to mobile platforms, as well as the strategic use of government services and applications which are only possible using cellular/mobile telephones, laptop computers, personal digital assistants (PDAs) and wireless internet infrastructure. [5]

The motto for this project is to introduce a new era of IT supported farming. The productivity will be at maximum with the support of IT solution which will collect all information related to land, crop, crop loans, subsidy, water and all resources required for best agriculture practices. It

will be in the same way an entrepreneur manage his business using software which will help him to manage any project.

I. PROPOSED SYSTEM DESIGN

Following is the Functional Decomposition (FDD)/ tree structure diagram for the project:



Before designing for any project we should have a complete idea for database. The number of tables, the structure for each table and correlation between the tables.

A. First module-

Here we have few things publicly available i.e. without the need of credentials, we are providing information about particular commodity for prices at different markets, various crop loans and insurance , subcidy available, it can help an average Indian farmer to get relevant information regarding agro-inputs, crop production technologies, agro processing, market support, agro-finance and management of farm agri-business, while admin will be required to update all the above information.

Search By

Day Between Days

Date -

--Select Crop Name--

--Select Type--

--Select Market Place--

Find

Fig 1 :- Search form displayed on home page.

Table3 :- Displaying search result of specific commodity.

Date	Market	Commodity Name	Commodity Type	Max.Price/qtl	Min.Price/qtl
10-05-2013	pune	cotton	Rasi RCH	1000	500

B. *Second module-*

Here we are retrieving updated weather information using Weather Underground API and it is publically displayed on home page of our website. [Weather Underground API](#)- It is one of [60 weather APIs](#) in our directory that one could use in place of the Google Weather API.

Weather Underground provides real-time weather information via the Internet. Weather Underground provides weather reports for cities across the world as well as local weather reports for newspapers and Web sites. The Weather Underground API allows developers and users to access data from Weather Underground to integrate the data and functionality into other applications. They offer a variety of plans and pricing, though most use is free. Some example API methods include accessing weather information by cities and regions, retrieving forecast information, accessing satellite images, and current conditions by location. Over 80 languages are supported with this API.

For this purpose we have to host our website then only it will be possible to get live weather information from Weather Underground API.

After retriving weather information the following option will be displayed on homepage of our website, by entering name of city, state, country and clicking on search key you will get the result display in table.

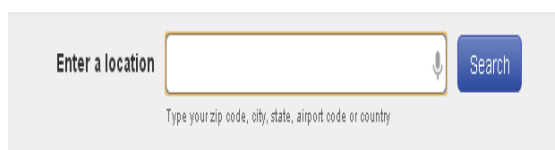


Fig 2 :- Option for Searching weather info.

Table 4 :- Weather information given by google API



C. Third module-

If there is a new user then he has to register himself on the home page viz.' Registration' module, Once he is registered the control will go back to home page and he has to login again with the newly created credentials. Once he is logged in he will get the different option in option panel. We will take the details from farmers i.e. personal(Name, Mobile No.) as well as farm,soil, water, ec. to keep track of farmers.If farmer is registered then can login by correct user id and password, and if he is not registered

then he can do it by clicking onNew User option.

Now for every user of the system we have provided the option to change his password, to register his security question which will help him to retrieve his password through 'forget password' option.

Quick Login

User Id

Password

[Forgot Password](#)

Fig 3 :- Login form on home page.

After clicking on New User option the following form will display.

Registration || [Back](#)

First Name	<input type="text"/>
Last Name	<input type="text"/>
Mobile	<input type="text"/>
State	<input type="text"/>
District	<input type="text"/>
City	<input type="text"/>
Address	<input type="text"/>
User Id	<input type="text"/>
Password	<input type="text"/>
Confirm Password	<input type="text"/>

Fig 4 :- Registration form for farmers.

Once he is registered the control will go back to home page and he has to login again with the newly created credentials. Once he is logged in he will get the different options .

D. Forth module-

It is main point of our project, here dynamically retrived weather information is send on cell phone of registered farmer by SMS i.e. our complete project shift from e-governance to m-governance.

Here we are retriving updated weather information from google weather API and if there will be any sudden change in weather which can affect agriculture then Sms will be send to registered farmer.

Here we are going to purchase SMS gateway and admin will decide which information is send to the registered farmer through SMS, because during registration we will get the mobile number of farmers.

SMS gateway is a SMS content delivery solution. An SMS gateway is a web site that allows users to send SMS messages from a web browser to people within the cell served by that gateway. An SMS gateway can also serve as an international gateway for users with roaming capability, allowing SMS communication away from the home network. The SMS Gateway is connected directly to the GSM network via a GSM modem with an ordinary SIM card, thus working as the interface between shopServer and the GSM Network.

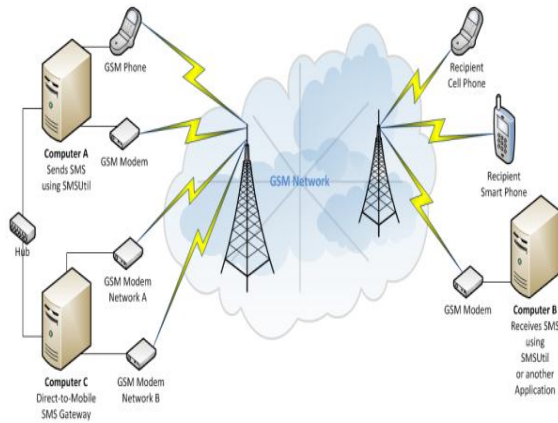


Fig 5 :- Working of SMS gateway.

E. Fifth module-

It is for 'Crop Plan Generation' will help the farmers in making decision regarding crop pattern based on the inputs provided by farmers like type of soil, region to which land belongs, availability of water, etc. Standard crop format is also available for some types of crop and for new plan generation following attributes will be consider.

Soil Type	<input type="text" value="Black"/>
Area of farms in acres	<input type="text" value="Area Of Farm"/>
Irrigation Type	<input type="text" value="Irrigated"/>
Crops Period	<input type="text" value="Date"/> <input type="text" value="Date"/>
Slop of Soil	<input type="text" value="Slope of Soil"/>
Ph-Level	<input type="text" value="PH-Level"/>
Nitrogen	<input type="text" value="Nitrogen"/>
Phosphorus	<input type="text" value="Phosphorus"/>
Potassium	<input type="text" value="Potassium"/>

Fig 6 :- Attributes consider while generating crop plan

F. *Sixth module-*

It is use for soil testing, here we will do the testing by considering following attributes of soil. For soil testing farmer need to go to soil testing laboratory and from generated report we can test soil and give suggestions to farmer which kind of crop is suitable for their soil.

Soil Type	<input type="text" value="Black"/>
Irrigation Type	<input type="text" value="Irrigated"/>
Nitrogen	<input type="text" value="Nitrogen"/>
Phosphorus	<input type="text" value="Phosphorus"/>
Potassium	<input type="text" value="Potassium"/>

Fig 7:- Attributes consider while testing soil.

II. Conclusion

This system will help farmers to take the decisions regarding crop plantation and further processing, based on the crop plan generated. This system will help farmers to take decision for selling crops as well as they do get all the weather related information by sending SMS on their cell phone which will update them for getting higher yields and taking precautionary actions for bad climate which will affect the crops highly.

As a part of future scope we can implement the same system with two communications between farmers and us i.e. former can send his query by SMS on our toll free number and then we will give solution to his problem through SMS only.

References

1. <http://www.mahaagri.gov.in/>
2. www.dacnet.nic.in/
3. http://en.wikipedia.org/wiki/Weather_forecasting
4. <http://en.wikipedia.org/wiki/EGovernment>
5. <http://en.wikipedia.org/wiki/M-government>

6. Bhatnagar Subhash, 2004] Bhatnagar Subhash, "*E-government from vision to implementation*", Sage, New Delhi, 2004. [7][Gupta, M.P. (2004).] M.P. Gupta, "*Towards E-Government Management Challenges*", Tata McGraw-Hill, New Delhi, 2004.
7. [C.S.R. Prabhu, 2012] C.S.R. Prabhu, "*E-Governance – Concepts and Case Studies*", Second Edition, Pentice Hall India, 2012.
8. Department of Agriculture and Cooperation Ministry of Agriculture Government in Maharashtra, "*A Farmer friendly handbook for Government Schemes and Programmes*", August 2012.
9. [Subhash Bhatnagar (PhD)] Subhash Bhatnagar, "*Exploring Conditions for Delivery of Successful MGovernment Services to the Bottom of the Pyramid (BOP) in India*", Adjunct Professor, IIM, Ahmedabad, India
10. Article on "M-Governance" in the Kerala State IT Mission Official Website. *The article can be seen online at*
http://itmission.kerala.gov.in/index.php?option=com_content&view=article&id=434&Itemid=67
11. Sanjay Vijay Kumar, Sabarish K, Gokul Krishnan, "*Innovation and M-Governance: The Kerala Mobile Governance Experience and Road-Map for a Comprehensive M-Governance Strategy*"
12. Department of Information Technology, Government of India (2008). Impact assessment of e-governance projects. Retrieved April 11, 2009 from:
<http://www.mit.gov.in/download/ImpactAssessmentReportDraft.pdf>
13. I. Kushchu (2007). Mobile Government: "*An emerging direction in eGovernment. USA*", IGI Publishing.
14. A. L. Hammond (2008, June). Mobiles Telecoms in rural areas. I4d (Information for development) Magazine, VI (6). Available: <http://www.i4donline.net>