E-Farming: Digital generation of soil health card

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ABSTRACT

The main objective of this project is building a website which will help Indian farmers to make effective cultivation by providing up-to-date information. As in this website, a farmer can see their Soil Health Card anywhere and anytime. Secondly, it also helps the govt. to save their money by posting the cards to the farmer. This website will also help the farmers to know about the number of different chemicals they can use for their crops and to know about their soil fertility. This website will give farmers all kind of information about different crops. The E-Farming system provides its users to get online information about, the crop, statistical details, and new tendencies. The main features of the information system include information retrieval facilities for users from anywhere in the form of obtaining statistical information about fertilizer, research institutes, and researches, suitable soil concentration for the corresponding crops and etc.

Keywords— *E-Farming, Soil health card, Website*

1. INTRODUCTION

Today many farmers have lack of knowledge about crops and the amount in which the chemicals should be used in them due to which they are ending up damaging their crops or they don't have the knowledge about their soil's fertility statistics due to their previous cultivation which leads to the destruction of crops and valuable seeds.

E-Farming is a web application developed for farmers. Suppose the village farmers who want to use this facility and who want to learn how it is possible and how they can use e-farming to know about their crops or to estimate the chemical concentration.
If the farmers have knowledge of computer then they can directly register in the site and know about their crops and harvesting otherwise they can contact company's computer professional who will schedule classes to teach them basics of computers and internet. They can know how they can open this site and retrieve the information required.

As in this website, a farmer can see their Soil Health Card anywhere and anytime. Secondly, it also helps the govt. to save their money by posting the cards to the farmer. This website will also help the farmers to know about the number of different chemicals they can use for their crops and to know about their soil fertility. This website will give farmers all kind of information about different crops.

The E-Farming system provides its users to get online information about the crop, statistical details and new tendencies. The main features of the information system include information retrieval facilities for users from anywhere in the form of obtaining statistical information about fertilizer, research institutes and researches, suitable soil concentration for the corresponding crops and estimation of chemicals.

2. LITERATURE SURVEY

Agriculture is the backbone of the Indian Economy"- said Mahatma Gandhi six decades ago. Even today, the condition is still identical, with almost the entire economy being sustained by agriculture, which is the support of the villages. It subsidizes 16% of the overall GDP and explanations for the employment of around 52% of the Indian population. Rapid growth in agriculture is crucial not only for self-reliance but also to earn treasured foreign exchange.

Indian farmers are second to nobody in manufacture and productivity despite the fact that millions are marginal and small farmers. They adopt enhanced agriculture technology as efficiently as farmers in advanced countries. It is felt that with the provision of timely and adequate inputs such as fertilizers, seeds, pesticides and by making available affordable agricultural credit /crop insurance, Indian farmers are going to ensure food and nutritional security to the Nation.

It is foreseen to make available relevant material and services to the farming community and isolated sector through the use of evidence and communication technologies, to supplement the existing delivery channels provided for by the department.

3. E-FARMING: DIGITAL GENERATION OF SOIL HEALTH CARD ARCHITECTURE

E-Farming: Digital Generation of Soil Health Card is a website or a technique whose main idea is to help the farmers as well as government timely without any problem facing in the current scenario. The basic architecture of this is as follows.
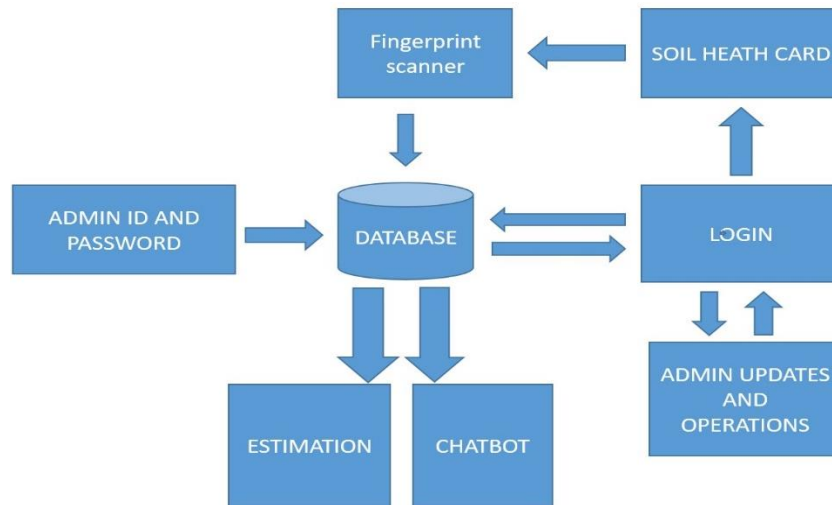
Fig. 1: e-Farming architecture

4. ENTITY-RELATIONSHIP DIAGRAMS
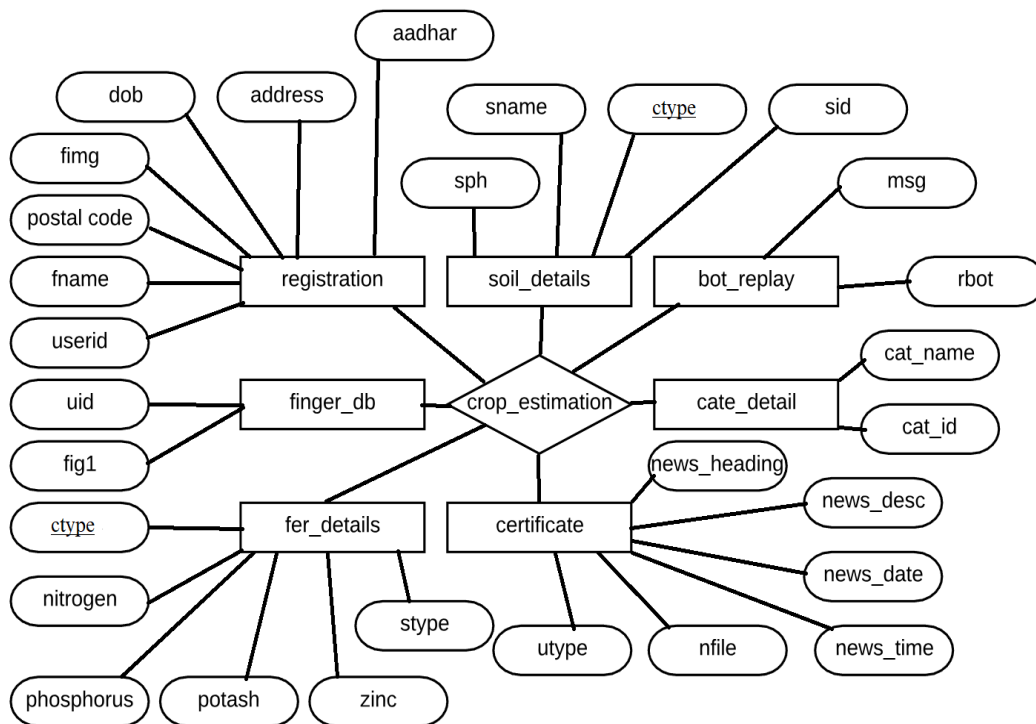
Fig. 2: Entity-Relationship diagrams

4.1 Database
crop_estimation is the database name of the project, in which we create tables and there attributes.

4.2 Tables
Table are registration, soil_detail, bot_replay,cate_detail, certificate and fer_details.

4.3 Attributes
Attributes are sph,sname, ctype, sid ,msg ,rbot ,cat_name ,cat_id ,zinc, potash, nitrogen, utype, uid, fig1, dob, new_heading, news_desc, nfile, userid, fimg, fname, address, postal code and aadhar.

4.4 Primary key
The primary key is ctype.

5. HARDWARE DESCRIPTION
We use Mantra MFS 100 as a finger print scanner.

Fig. 3: Mantra MFS 100 finger print scanner

5.1 Features
(a) Plug and play USB 2.0 high-speed interface supports multiple devices handling.
(b) 500 dpi optical fingerprint sensor scratch free sensor surface.

5.2 Applications
(a) PC/Network security
(b) Smart card application
(c) E-commerce
(d) Health and Medical

6. SOFTWARE DESCRIPTION
6.1 Visual Studio 2010
Visual Studio is an Integrated Development Environment (IDE) by Microsoft to develop GUI (Graphical User Interface), console, Web applications, web apps, mobile apps, cloud, and web services etc. We can create native code as well as managed code. Numerous platforms of Microsoft software development software like Windows store,

Microsoft Silverlight, and Windows API etc. are used. We use this to write code in C#, C++, VB (Visual Basic), Python, JavaScript, and many more languages, as it is not a language specific IDE. It provides support for 36 different programming languages. It is available for Windows as well as for macOS.

In this project, we build a website using HTML, CSS, PHP, ASP.NET, MySQL and C #.
- Operating System   : Windows
- Programming language   : .NET
- Web-Technology   : ASP
- Front-End   : ASP.NET
- Back-End   : SQL SERVER

7. SCREENSHOTS
7.1 Login Page

Fig. 4: Login Page

7.2 Admin upload health card page

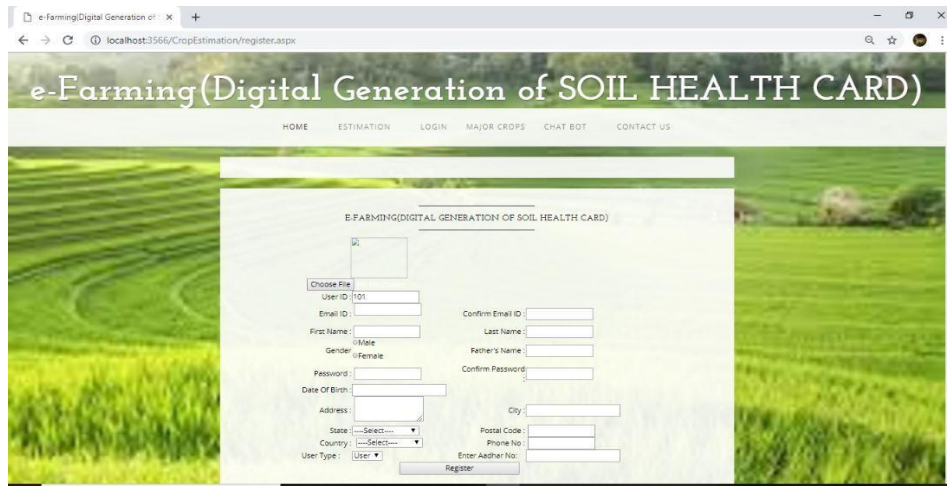**Fig. 5: Admin upload health card page**

7.3 Registration page

Fig. 6: Registration page
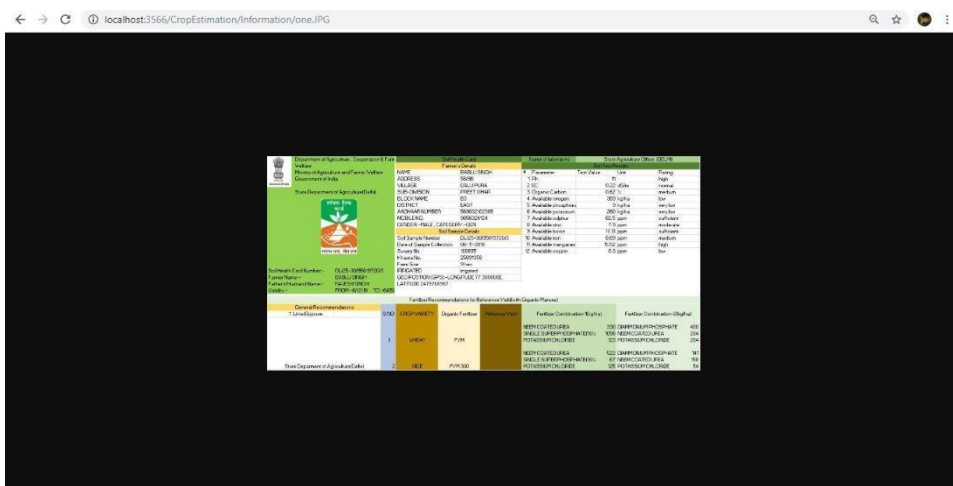
7.4 Soil health card

Fig. 7: Soil health card

8. CONCLUSION AND FUTURE SCOPE

As in this website, a farmer can see their SOIL HEALTH CARD anywhere and anytime. Secondly, it also helps the govt. to save their money by posting the cards to the farmer. This website will also help the farmers to know about the number of different chemicals they can use for their crops and to know about their soil fertility. This website will give farmers all kind of information about different crops. This project is an initial proposal to show that this kind of information system is forcible. The real benefit of this type of information system to an agricultural based country such as India can be seen when it became operational as planters, importers, exporters, researchers, will have access to up to date information.

9. REFERENCES

[1] Mouad .M.H.Ali, Vivek H. Mahal, Pravin Yannawar, A. T. Gaikwad, Overview of Fingerprint Recognition System, International Conference on Electrical, Electronics, and Optimization Techniques (ICEEOT) – 2016.

[2] Vibhor Sharma, Monika Goyal, Drishti Malik, An Intelligent Behaviour Shown by Chatbot System, International Journal of New Technology and Research (IJNTR), Volume-3, Issue-4, April 2017

[3] Kheyrodin H (2014), Importance of soil quality and soil agriculture indicators. Academia Journal of Agricultural Research 2(11): 231-238, November 2014

[4] Sumitha Thankachan, Dr S. Kirubakaran, A Survey Conducted on E-Agriculture with Indian Farmers, International Journal of Computer Science and Mobile Computing, Vol.3 Issue.2, February- 2014, pg. 8-14

[5] P.B.Gaikwad, Pallavi Malode, Pooja Pawar, Sangita Darade, E-Farming an Interface for Indian Farming, International Research Journal of Engineering and Technology (IRJET), Volume: 02 Issue: 08 Nov-2015

[6] Saurabh A. Ghogare, Priyanka M. Monga, "E-Agriculture" Introduction and Figuration of its Application, International Journal of Advanced Research in Computer Science and Software Engineering, Volume 5, Issue 1, January 2015

[7] R.S. Chouhan, H.O. Sharma, D. Rathi and H.K. Niranjan, Impact of Soil Health Card Scheme on Farmers' Income – A Case Study of Kharif Crops in Madhya Pradesh, Agro-Economic Research Centre, Vol. 30 (Conference Number) 2017 pp 139-141