International Journal of Engineering Research in Computer Science and Engineering (IJERCSE) Vol 3, Issue 4, April 2016

Crop Field Analyzer

[1] Athawale Kiran M. [2] Shikhare Abhilash D. [3] Dhotre Akash S. [4] Dhawale Sudarshan U
[1][2][3][4]Department of Computer Engineering, Savitribai Phule Pune University, Pune, India,
JSPM's RajarshiShahu College of Engineering, Tathawade,Pune.
[1]kiran.athawale358@gmail.com [2] shikhareabhilash@gmail.com [3] akashdhotrepatil@gmail.com
[4] sudarshandhawale123@gmail.com

Abstract: **- A cloud-enabled mobile app plays an essential role in improving farming activities. This paper focuses on using cloud computing and the Wireless Sensors Network (WSNs) technology to enhance the application and its benefits to the field of agriculture. The paper focuses on the Cloud Database as well as Data Mining which gives details of past agriculture work records of farmers. The farmers who have inserted the system and installed the application on their Smartphones can register the application so that they can access as well as upload the data stored on the server and use the system efficiently. Temperature, Humidity and Soil moisture will be the various WSN's used. The main purpose of the sensors are to sense and measure the environmental parameters and data from the fields. The farmer will get the notifications of condition in his field by these sensors. When the water level in the field reduces, the farmer will get notification, so that he can power ON the motor through his Smartphone. The motor will get power OFF automatically when the sufficient water supply is provided in the farm up to the threshold or particular value. The main objective is to minimize the efforts and time of farmer and perform efficient and systematic farming to increase productivity.**

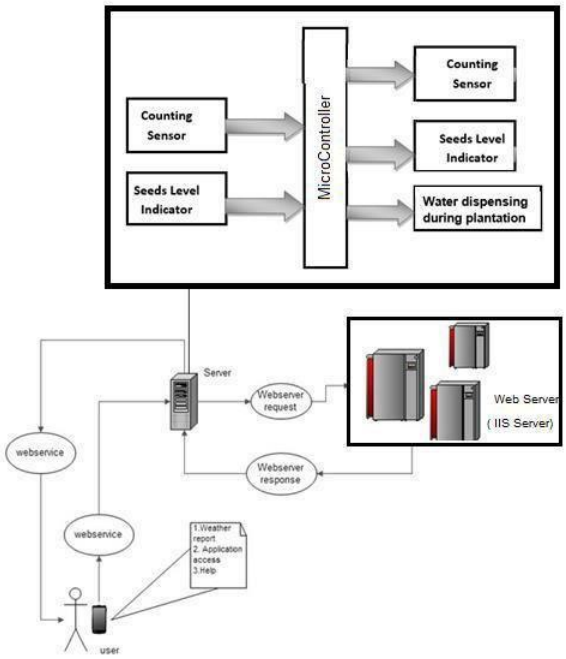
Keywords**: Cloud Computing, Wireless Sensor Network, Smart Phone**

I. INTRODUCTION

Implies, the agriculturists won't have the capacity to get to crisp (redesigned) data yet obsolete data. This circumstance emerges at the point when agriculturists are on the homestead where system signs are feeble or absolutely distracted. Moreover, the at first planned storing redesign strategy is not helpful for data There is a relentless ascent in the quantity of horticulture applications that are being conveyed. Because of the high differing qualities of the recorded, we have seen the outline of versatile applications that guide agriculturalists to finish undertakings, for example, figurings, choice guides, compound audits, GPS-based administrations, thus on. Cell phones serve as an auspicious data access point and all the more essentially, they are advantageous to be conveyed around. Likewise, the late advances in distributed computing, the period where ICT-based administrations are outsourced from suppliers over the Internet, is being grasped inside of the agrarian scene. As indicated by the works in and further, distributed computing has seen three major taxonomic layers known as the: Infrastructure as a Administration (IaaS) where equipment and systems are offered as virtualized administrations, Platform as a Service (PaaS) where application advancement is facilitated by the supplier, and Programming as a Service (SaaS)— where programming is made usable to customers by administration.

Having seen the prospects, the MobiCrop projectwas proposed as an appropriated portable application with cloud-arranged back-end. The objective of the MobiCrop undertaking is to help crop ranchers to settle on snappy choices on pesticide applications. For the most part, the agriculturists are empowered to know which pesticide to apply, when to apply the pesticide, how to blend chemicals, how to focus weeds, et cetera. Some of the screenshots of the MobiCrop application. In the beginning outline of the application, the reserving strategy is proposed as a measure to bolster disconnected from the net availability of information in the case of a system disengagement. The test however is that, the reserving technique can prompt circumstances of stale information on the portable, which transfer capacity administration.

II. SYSTEM ARCHITECTURE



III. MODULES

1. Data collection.

Open Government Data (OGD) Platform India - data.gov.in - is a platform for supporting Open Data initiative of Government of India. The portal is intended to be used by Government of India Ministries/ Departments their organizations to publish datasets, documents, services, tools and applications collected by them for public use. It intends to increase transparency in the functioning of Government and also open avenues for many more innovative uses of Government Data to give different perspective.

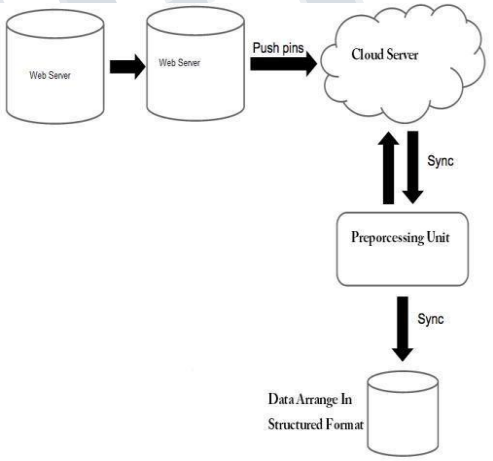
The base Open Government Data Platform India is a joint initiative of Government of India and US Government. Open Government Data Platform India is also packaged as a product and made available in open source for implementation by countries globally.

-

Open Government Data Platform India has 4 (four) major modules, as detailed below, implemented on a single Drupal instance – An Open Source based Content Framework Solution

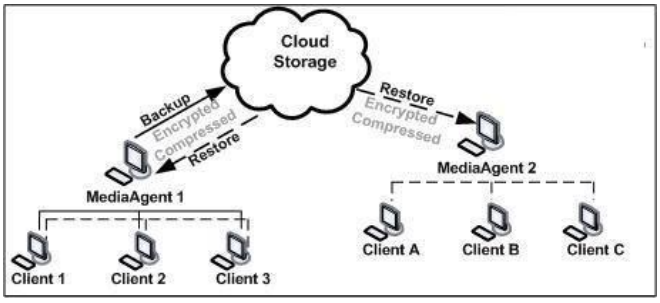
- Data Management System (DMS) – Module for contributing data catalogs by various government agencies for making those available on the front end website after a due approval process through a defined workflow.
- Content Management System (CMS) – Module for managing and updating various functionalities and content types of the Open Government Data Platform India Platform.
- Visitor Relationship Management (VRM) – Module for collating and disseminating viewer feedback on various data catalogs.
- Communities – Module for community users to interact and share their zeal and views with others, who share common interests as that of theirs.

Ministry of Agriculture, Department of Animal Husbandry, Dairying and Fisheries Get data on Estimates of yield rates, and share of ram/weather, ewe, lamb in wool Production. It contains data of Ram/ Weather Average Yield/ season, Ram/ Weather Wool Production, Ewes Average Yield/season, Ewes Wool Production, Lamb Sheeps shorn, Lamb Average Yld./ season, Lamb wool Production, Wool annual Estimates.



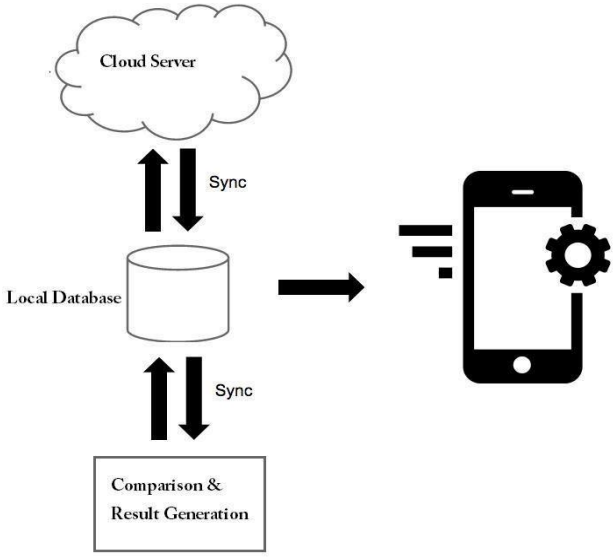
2. Data Upload

Data transferring action is finished transmission of a document from Laboratory framework to Cloud Server. From a system client's perspective, to transfer a record is to send it to server, that is set up to get it. Individuals who offer information with others on transfer administrations (US) transfer records**.** The File Transfer Protocol (FTP) is the Internet facility for downloading and uploading files. (If you are uploading a file to another site, you must usually have permission in advance to access the site and the directory where the file is to be placed.) When you send or receive an attached file with an e-mail note, this is just an attachment, not a download or an upload. However, in practice, many people use "upload" to mean "send" and "download" to mean receive. The term is used loosely in practice and if someone says to you "Download (or upload) such--and-such a file to me" via e-mail, they simply mean "Send it to me."



3. Data Download

As a apps store their data in a cloud Server, only work when an Internet connection is available. But it's a much (faster) user experience if your app can work even without an Internet connection. The idea is to create a local server or cache of your data so you can access it whether the user is online or offline. And then when the user is online, you synchronize the cache and the remote database according to District and user position.



4. End User:

The user can communicate and take or fetch data from server by using web service. Web service acts as a middle ware which communicates or transfers the input action provided by user to server which then processes the request. Depending on request type the server decides if call to web server is required or not. E.g. If user wants the weather report of the location user is standing. Then server gives call for location mapping web server. Web server then performs their own methods to retrieve location of the user by the request received then webserver checks for weather report for that location confirmed.

Then user can use various functionalities for controlling flow of the application. The various functionalities provided by application are-

- ❖ Fetching various latest information regarding to crop, soil, fertilizer etc. Along with latest updates for current situation.
- ❖ Latest weather reports and beneficial crop for that season.
- ❖ Call the expertise on single click.
- ❖ Help for illiterate persons by reading out loud some important modules.
- ❖ Proposed Native language support.(currently Marathi only)

IV. TECHANICAL DETAILS

Hardware Requirements

- ❖ System: Pentium IV 2.4 GHz.
- ❖ Hard Disk : 40 GB.
- ❖ Ram : 512 Mb.

Software Requirements:

- ❖ Operating System: Windows 7 Ultimate
- ❖ Coding Language: Java,C++
- ❖ Front-End: Eclipse,Visual Studio 2010
- ❖ Data-Base: SQL Server 2008,Cloud(SalesForce).

IV. LITERATURE SURVEY:

Break down the administrations you require, what you truly utilize, and what you have to have on tap. Try not to underestimate anything. You and your staff are accustomed to putting in additional exertion when**"something happens, for exam**ple, another arrival of an application or an OS. Establishment is routinely made arrangements for, yet what happens when another discharge causes a contradictorily? You know, and now need to put all that into the SLA. You can likewise gain from others experiencethat is **you don't** need to commit all the conceivable errors yourself.

There are numerous mixtures of XaaS and distributed **computing, and numerous fields of use. A sampl**e in training is introduced in **NCSU's Virtual Computing** Lab: A Cloud Computing Solution.

V. PROJECT OVERVIEW

There is a relentless ascent in the quantity of horticulture applications that are being conveyed. Because of the high differing qualities of the recorded, we have seen the outline of versatile applications that guide

agriculturalists to finish undertakings, for example, figurings, choice guides, compound audits, GPS-based administrations, thus on. Cell phones serve as an auspicious data access point and all the more essentially, they are advantageous to be conveyed around. Likewise, the late advances in distributed computing, the period where ICT-based administrations are outsourced from suppliers over the Internet, is being grasped inside of the agrarian scene. As indicated by the works in and further , distributed computing has seen three major taxonomic layers known as the: Infrastructure as a Administration (IaaS)— where equipment and systems are offered as virtualized administrations, Platform as a Service (PaaS)— where application advancement is facilitated by the supplier, and Programming as a Service (SaaS)— where programming is made usable to customers by administration.

Having seen the prospects, the MobiCrop projectwas proposed as an appropriated portable application with cloud-arranged back-end. The objective of the MobiCrop undertaking is to help crop ranchers to settle on snappy choices on pesticide applications. For the most part, the agriculturists are empowered to know which pesticide to apply, when to apply the pesticide, how to blend chemicals how to focus weeds, et cetera. Some of the screenshots of the MobiCrop application. In the beginning outline of the application, the reserving strategy is proposed as a measure to bolster disconnected from the net availability of information in the case of a system disengagement.

The test however is that, the reserving technique can prompt circumstances of stale information on the portable, which implies, the agriculturists won't have the capacity to get to crisp (redesigned) data yet obsolete data. This circumstance emerges at the point when agriculturists are on the homestead where system signs are feeble or absolutely distracted. Moreover, the at first planned storing redesign strategy is not helpful for data transfer capacity administration.

VI. CONCLUSION

With the agriculture department the process of soil testing is time consuming, there is need of less time consuming process for soil testing.
Our Solution addresses this issues **:**

- Automatic Soil Testing
- Crop Suggestion
- Water Management

Our application will test the soil automatically whenever user wants to test at any location. We will provide the Crop suggestions according to the soil properties being tested through the Kit.

The kit also provide us Water Management and will suggest the well fertiliser for crop.

REFERENCES

[1] M. Hori, E. Kawashima, and T. Yamazaki,"Application of Cloud Computing to Agriculture and Propects in Other Fields," FUJITSUSci. Tech. J., Vol. 46, No. 4, pp. 446-454 (October 2010)

[2] Canvas Application Store, http://www.gocanvas.com/mobile formsapps?tag=Pesticide

[3] R. Buyya, C. S. Yeo, S. Venugopal, J. Broberg, and I.**Brandic, "Cloud computing and emerging IT platforms:**Vision, hype, andreality for delivering computing as the 5th **utility," Future Generation Computer Systems, Volume 25,** Issue 6, June 2009, Pages 599-616.

[4] H. Li, J. Sedayao, J. Hahn-Steichen, E. Jimison, C.**Spence, and S. Chahal, "Developing an Enterprise Cloud** Computing **Strategy," IntelWhite Paper, January 2009.**

[5] H. E. Schaffer, "X as a Service, Cloud Computing, and the Need for Good Judgment,"IT Professional,vol.11,no.5, pp.4-5,Sept.-Oct.2009,doi:10.1109/MITP.2009.112.

[6] Falaki, H., Lymberopoulos, D., Mahajan, R., Kandula, S., and Estrin, D., 2010. A first look at traffic on smartphones.