ROBUST DATA CAPTURE TOOL FOR ANDROID

[#1]Vishwajeet Barve, [#2]Amrut Darandale, [#3]Umesh Nirmal, [#4]Sushen Tiwari
[#5]Dr.B.L.Gunjal

[1]vishtech36@gmail.com,
[2]amrutdarandale@gmail.com,
[3]nirmalumesh10@gmail.com,
[4]tiwarisushen@gmail.com,
[5]hello_baisa@yahoo.com

[#1234]Information Technology
[#5]HOD of Information Technology
Amrutvahini college of engineering Sangamner, India
Savitribai Phule Pune University, Maharashtra.

ABSTRACT

In 2011 India census was conducted in a pen and paper format then digitised, this process of collecting data lacks reliability, accuracy and has many drawbacks. With the technology advancement rise of Android phones in India there's an opportunity to develop a robust, easy to use android application to collect high quality data from the field (villages) built to work anywhere even without the internet. This will improve the data confidentiality, accuracy, reliability and leads to avoid data loss and incorrectness during process of acquiring data.

Keywords: Android Studio, Cloud server, Android Phone, Web dashboard

ARTICLE INFO

I. INTRODUCTION

Robust statistics are statistics with good performance for data drawn from a wide range of probability distributions, especially for distributions that are not normal. Robust statistical methods have been developed for many common problems, such as estimating location, scale, and regression parameters. Big data is a term used to refer to the study and applications of data sets that are too complex for traditional data-processing application software to adequately deal with. Big data challenges include capturing data, data storage, data analysis, search, sharing, transfer, visualization, querying, updating, information privacy and data source. Big data was originally associated with three key concepts: volume, variety, and velocity.

The motivation behind project, in the recent years, there is lack of network availability in the rural areas and the data collected for any purpose such as for census, election, School information, Medical information etc. For this offline data capture in pen/paper format, In this process the data accuracy is not robust, Due to this the people living in rural area have to face problem for taking any Government Rights available to them. Most of the rural areas people depends on agriculture as their primary source of income, For this the scheme provided by Government for agriculture people needs accurate data with proofs due to pen/paper format some people don't get this schemes benefits. For this Robust data is much necessary as it provides accuracy and reliability.

II. PROBLEM STATEMENT

To foster the spirit of entrepreneurship for sustainable and inclusive development of rural communities.
- Simple management of village of data collection
- Support Offline data collection
- Simple User Interface

III. LITERATURE SERVEY

The Author H.-Y. Chen, Y.-H. Lin, and C.-M. Cheng propose COCA, Computation Offload to Clouds using

AOP (aspect-oriented programming). COCA is a programming framework that allows smart phones application developers to offload part of the computation to servers in the cloud easily. COCA works at the source level. By harnessing the power of AOP, COCA inserts appropriate offloading code into the source code of the target application based on the result of static and dynamic profiling. As a proof of concept, we integrate COCA into the Android development environment and fully automate the new build process, making application programming and software maintenance easier. With COCA, mobile applications can now automatically offload part of the computation to the cloud, achieving better performance and longer battery life[7]

The author Y. Falcone and S. Currea Propose,weave droid is an android application that makes aspect-oriented programming (aop) on android devices possible and user-friendly. it allows to retrieve applications and aspects and weave them together in several ways. applications and aspects can be loaded from google play, personal repositories, or the local memory of a device. then, two complementary weaving modes are provided: local or remote, using the embedded aspect compiler or the compiler in the cloud, respectively. this provides flexibility and preserves the mobility of the target devices. weave droid opens a world of possible applications, not only by benefiting from the already existing uses of aop on standard machines, but also by the various uses related to the mobile devices. effectiveness of weave droid is demonstrated by weaving aspects with off-the-shelf applications from google play[8]

The author F. Lettner and C. Holzmann, Propose the design and implementation of an automated usability evaluation method for ios applications. in contrast to common usability testing methods, it is not explicitly necessary to involve an expert or subjects. these circumstances reduce costs, time and personnel expenditures. professionals are replaced by the automation tool while test participants are exchanged with consumers of the launched application. interactions of users are captured via a fully automated capturing framework which creates a record of user interactions for each session and sends them to a central server. a usability problem is defined as a sequence of interactions and pattern recognition specified by interaction design patterns is applied to find these problems. nevertheless, it falls back to the user input for accurate results. similar to the problem, the solution of the problem is based on the hci design pattern. an evaluation shows the functionality of our approach compared to a traditional usability evaluation method[9]

IV. RELATED WORK

Proposed System

The proposed system uses the Android tool for collecting data which makes the data robust. Cloud server is used to save the data as well as for backup. Through web app dashboard is used recognize the field from where the data can be collected. By using classification
algorithm and by using proper data mining technique a pattern is created which filter the data and gives required data.
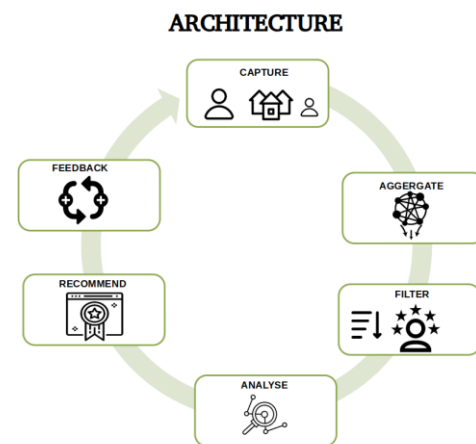

Fig. System Architecture

Cloud Server

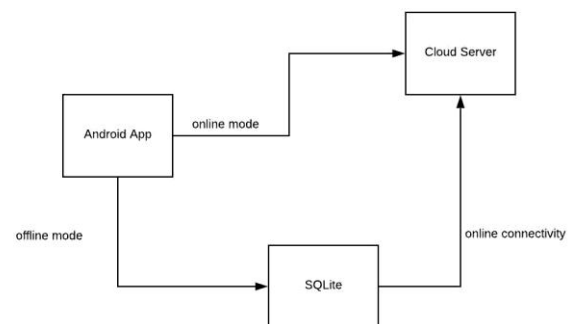Stored the all information or data stored on the cloud using web app.

Fig. Local Unit

Android App
The data capture android tool will be an easy to use application for the rural users.
This will save lot of time and cost spend on data collection in rural areas.
It support the online data collection.

Web App
Web App is one type of dashboard.

The data which is collected through android tool will be analyze by web app. Also it is used to choose the field from where we are going to collect the data.

Software Client
This is an application software system. Running on Android operating system, the users will install it on their smartphones.
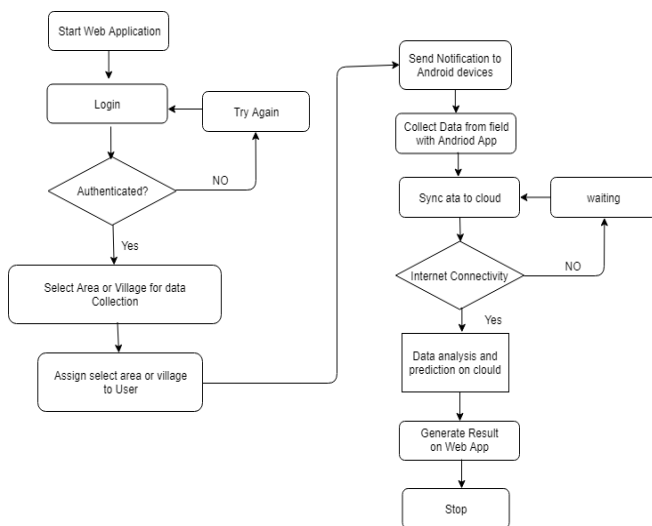
Algorithm flow:

Fig. Algorithm for Capturing Data From Android Tool.

V.   RESULT AND DISCUSSION

This paper presented a solution to generate a Robust SPL, a Robust SPL Architecture for Data Collection and an application for phenology domain called E-Phenology Collector. The SPL architecture can be used to derive various data collection applications. It was created based on existing data collection applications and contains most of the basic features of the data collection domain, therefore it can generate application using different combinations of the proposed components

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VII.   CONCLUSION

This study has proposed a robust data capturing tool for android that capture the meaningful data from the field which will have more accuracy and security. The system uses android tool for data capturing and can save online data .Data save in the android will be backup to the cloud when it gets network connectivity.

Web app is one type of dashboard which will show the status of data taken from the field. From this project accuracy of data, security and reliability increases. Proper data mining technique are used for data retrieval. This system can be used for future so that data capturing from the field gets easy and will save time for focusing on the development.

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