

Soil Survey Application

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Introduction:

‘माती सर्वेक्षण’ is an android app which was developed to collect the soil & crop-related data. However, the app had few flaws and some missing functionalities. This presentation points to those features and addresses them with the functionality added in the updated application.

Objective:

To collect soil, farm, and farmer related information in order to analyze and improve the existing soil database.

Goals

1. To Integrate SSO login from the *mahapocra* API.
2. Image Upload
3. Addition of new fields
4. Migration of database to the *mahapocra* servers.

SSO Login

- In the earlier version, login credentials for the app were hard-coded.
- This was a major security flaw for the app.
- To tackle this, we integrated the mahapocra SSO API login.
- On successful login, the API respond with the Cluster Assistant's details like name, census code etc.
- The district, taluka and village names for dropdown are fixed using the API response data for the user.
- Farmer names are also added as a dropdown list for a selected village using the census code and an external data file. This can be extended to all villages provided that there is an API which returns farmer names for a census code.
- Cluster Assistant's identifier are also added to the soil_info table on the server so that the source of the data on the database can be traced back.

Image Upload

- The updated version of the app facilitates the user to upload the farm images along with the soil data.
- The uploaded images will be watermarked with lat-long and other information like farmer name and contact number.
- The uploaded images will be stored on the mahapocra servers.

छायाचित्र टाका

UPLOAD IMG



Latitude: 17.995818
Longitude: 76.995791
Elevation: 619.54m
Accuracy: 15.0m
Time: 02-02-2019 16:56
Note: 257 gal no. soil sample

Powered by: Mapbox.com

UPLOAD IMG2



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माहिती जतन करा

जतन करा

सबमिट करा

Sample Watermarked Image



The image is watermarked with the lat-long coordinates along with farmer name and phone number within the app.

Addition of new fields

- When “शती” is selected as the land-use type, then three options will be given to the user.
 - i. Kharif
 - ii. Rabi
 - iii. Other
- If Kharif crop is selected then its yield, watering and watering_type is mandatory. Similar validation is added to Rabi and others. These new entries are also added as columns in the soil_info table.

DB Migration

- The database used for storing the survey data is migrated from the iitb server to mahapocra server.
- API for insert query:
 - http://gis.mahapocra.gov.in/soil_survey/soil_test.php
- API for image upload
 - http://gis.mahapocra.gov.in/soil_survey/img.php

Thank You