

“Krishi Vidnyan”

- 1) Amol R. Bele
- 2) Poonam C. Mangle
- 3) Prachi V. Bhagadkar
- 4) Komal D. Jarunde

^{1,2,3,4}Datta Meghe Institute of Engineering Technology Research Wardha

Abstract:

In Villages Farmers are unknown from new updated scheme. They have to go to Zilla Parishad office or Tahsil Office to know about scheme. In our project, we have designed a website which can be hosted from machine like kiosk. Also we will be developing an android application for farmers, which they can use from their smart phones. This app will contain all information related to crops, fertilizers, schemes and crop diseases.

In literature review, we have studied two papers from IEEE in which authors made software and android application in which schemes are updated by their own admin. No government authority is provided admin right in current system. Our problem definition is that farmer have to come in district place to know about the schemes, crop information, documents, loan, etc. So we decide to make an website and android application which gives all information to farmers in their own village and it is easy to understand because it would be in Marathi language.

The main modules in website contains newly updated government schemes, SMS notification on farmers mobile, provide GUI base interface, agriculture related documents, all detail information about crops, all the systems are freely available.

So we made an website which helps farmer to know about scheme at their own village If Farmer want necessary information he checks the information about a schemes, loans, crops etc.

INTRODUCTION

Now a days Farmers are unknown from newly updated government schemes, suitable fertilizer for crops, are their documents 7/12 and 8/A are updated or not. So we decided to make a website and an Android application which gives information about agriculture field such as different updated schemes, detailed information about crops, documents, suitable fertilizers for crops, diseases, weather suitable for crops. The important point is that newly launched schemes updated by government officer. The point is that it is easy to understand because it would be in Marathi language.

In this project we are making a website and an android application which is helpful for farmer in village. Website and application will contain following content accessible from dashboard:

- 1) Schemes
- 2) Crop
- 3) Documents
- 4) Helpline
- 5) Exit

New updated schemes uploaded on the server will be displayed on the website and android application for which scheme the farmer are eligible that informs through a SMS to the farmer. Provide good user interface that easily. The farmer have to insert a survey number on form displayed on the website. If there are new schemes or update in scheme newly all those information will be provided to the farmer on website or android application.

II SYSTEM ARCHITECTURE

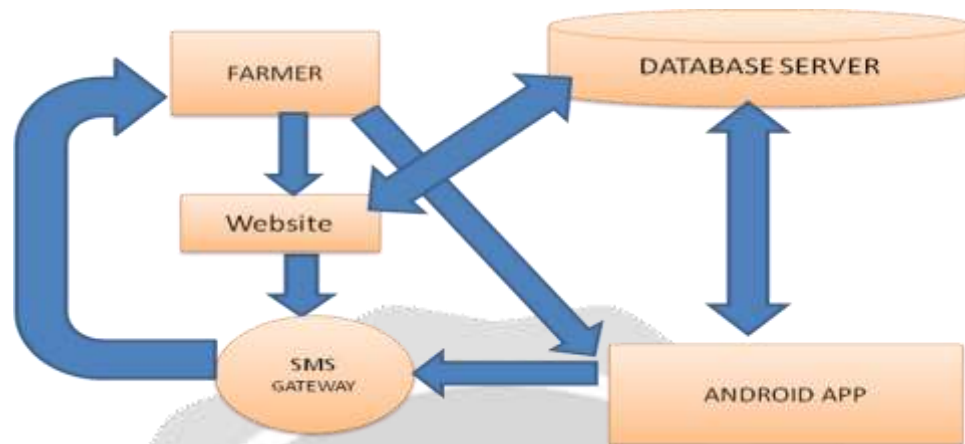


Fig. II.1 System Architecture of Krishi Vidnyan

In system architecture, there are four contents

1. Website:

Website is used for providing information which can be feed into machine like kiosk or panel and it is used for farmers those doesn't have smartphones. It saves the time because it is accessible in their own village.

2. Database Server:

In database, all information related to agriculture field such as crop details, schemes, documents, fertilizer information and all other. All data required for panel and android application are stored. Server manages all the data, also update and manipulate data such as add new schemes, delete schemes, etc.

3. SMS gateway:

The scheme in which the farmers are eligible then he select the schemes. The documents required for that schemes are automatically send on farmers mobile through SMS gateway.

4. Android Application:

Android applications are used by educated farmers on their smartphones in which all information are mentioned. Farmer are the user of this website. Website is merge in kiosk system and it is touch screen. From database newly updated scheme are fetch into website as well as android application. Farmer watches the scheme and after watching they click on send SMS button then SMS will be send on farmer mobile phone. SMS contain related information about recent scheme watch by farmer and it also contain the procedure how to apply for scheme and which are the related documents required for applying the scheme. Farmer are the user of this website. Website is merge in Kiosk system and it is touch screen.

From database newly updated scheme are fetch into website as well as android application. Farmer watches the scheme and after watching they click on send SMS button then SMS will be send on farmer mobile phone. SMS contain related information about recent scheme watch by farmer and it also contain the procedure how to apply for scheme and which are the related documents required for applying the scheme.

III. METHODOLOGY AND ALGORITHM DESCRIPTION:

This chapter will cover the details explanation of methodology that is being used to make this project complete and working well. The method is use to achieve the objective of the project that will accomplish a perfect result. In order to evaluate this project, we are going to use three mining algorithms which are as follows:

Algorithm

- 1) KNN Algorithm (K-Nearest Neighbors Algorithm)
- 2) Semantic Matching Algorithm

1) Naïve Bayes Algorithm: Naïve Bayes is one of the

Most efficient and effective inductive learning algorithms for machine learning and data mining. This method is naïve in that it assumes that the values for each attribute are independent. This method is used for classification task and this methods are quite powerful, can express complex concepts. It calculates the probability of a certain point belongs to a certain class based on its attribute.

$$P(c|x) = \frac{P(x|c)P(c)}{P(x)}$$

Likelihood
Class Prior Probability
Posterior Probability
Predictor Prior Probability

$$P(c|X) = P(x_1|c) \times P(x_2|c) \times \dots \times P(x_n|c) \times P(c)$$

- i. P(c|x) is the posterior probability of class given predictor (attribute).
- ii. P(c) is the prior probability of class.
- iii. P(x|c) is the likelihood which is the probability of predictor given class.
- iv. P(x) is the prior probability of predictor.

2) KNN Algorithm (K-Nearest

Neighbors Algorithms): KNN classification classifies instances based on their similarity. It is one of the most popular algorithm for pattern recognition. It is a type of lazy learning where the function is only approximated locally and all computation is deferred until classification. K is always a positive integer. The neighbors are selected from a set of objects for which the correct classification is known.

The steps for KNN algorithm is as follows:

- I: Determine k i.e., the number of nearest neighbors.
- II: Using the distance measure, calculate the distance between the query instances.
- III: The distance of all the training samples are sorted and nearest neighbor based on the k.
- IV: Since the KNN is supervised learning, get all the categories of the training data for the sorted value which fall under k.
- V: The prediction value is measured by using the majority of nearest neighbors.

Example:

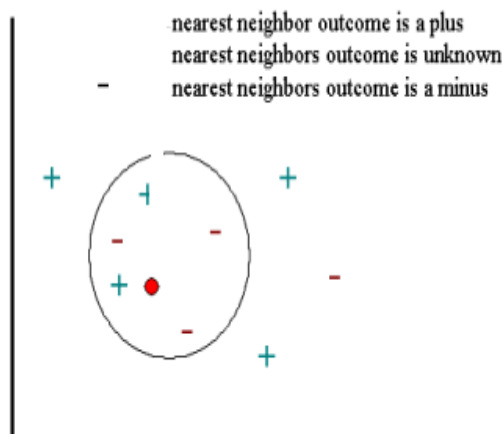


Fig 1.2: Graphical representation of KNN algorithm

3) Semantic Matching Algorithm:

Semantic matching is a technique used in computer science to identify information which is semantically related. Semantic web data can help in the interpretation of patterns found in a particular for descriptive task. Those typically encompasses subgroups or clusters found, or rule models that are used to describe a dataset.

IV. CONCLUSION

The primary goal of our project is to help the farmer by providing information about new schemes, crop, currently running diseases, suitable fertilizer for crops, is there documents like 7/2 and 8/A are updated or not, and all detail information related to agriculture field for save their time because it is accessible in their own village. Also android application and website which is easy to understand for farmers because it is in Marathi. The admin side of the website is helpful for adding the government scheme.

V. REFERENCES

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