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Research paper

JAIKISAN: An Interface For Telugu Farmer

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Abstract

An Indian farmer is one of the important members of society. The farmer has many kinds of work to do in the fields. Agriculturists furrow their fields. They sow the seeds, waters the fields frequently. They should be careful with the products. They have conjointly to sprinkle pesticides in the fields. Farmers basically depend on the rain. Sometimes rainfall will occur according to the season but sometimes no rainfall or very less rainfall and sometimes floods may occur damaging all crops and consequently great losses for farmers. Now we have decided to develop an interface in Telugu language, where farmers can easily find solutions to their problems. Interface helps the Agriculturists to get the information regarding rainfall, types of crops suitable for that particular land. Besides, we will also provide some related videos and expert advisors. The consumer can find their required information, queries through the interface. They receive supposed statistics, associated videos. The interface helps the Agriculturists to get the information regarding rainfall, types of crops suitable for that particular land.

Keywords: *Agriculturists, Farmer, Website, Crop Rotation, Telugu Language, Interface..*

1. Introduction

In India, around 60% individuals are dependent on agriculture. Nearly 70% of total cropped area feeding 40% of the food needs of the country [2]. The low productivity is due to uncertain weather conditions. In erstwhile Andhra Pradesh and Telangana states, areas in coastal Andhra, Rayalaseema and Telangana regions became semi-arid and arid due to climate change. Sometimes these areas receive untimely excess rain damaging the crops. Thus, many farmers are forced to abstain from agriculture and started looking for other employment opportunities. The sorry state of these affairs can be corrected if we employ the technology available. If the farmers are provided with right information at right time, their decision making will be more effective safeguarding them from the vagaries of the weather.

This paper introduces the experimentation done keeping in mind the end goal to prepare a low cost and receptive data framework that provides helpful data to ranchers in decision making process [5]. The motivation for improvement of this framework was to computerize the stream of data to ranchers enabling them make informed decisions in accordance with the prevailing weather conditions. The choice of crop and crop-related field operations can be made on the basis of climate-related data that is provided to farmers on regular basis. The framework cautions about any possible debacle facilitating preventive measures. For instance, the effect of unsuitable, excessive fertilizers can reduce the quality of a product. At last the fertilizers can get damaged, where the Agriculturists face a problem.

Apart from uncertain weather conditions, the farmers face another challenge in the form of quality of the production, especially when intended for export. The production must meet the standards for exports set by the World Health Organization. The major goal of the exploration is to connect the data void that exists by and by between the ranchers and databases, keeping in mind the end goal to redesign the harvesting time through an advisory framework serving as a decision support system to farmers. Regardless of the information nearness, a wide data hole exists for Agriculturists in light of the fact that there is absence of an appropriate application through which data is made accessible to them [4].

This application includes climate data, government minimum support price (MSP) for crops, sowing time for various crops and tools for different farm operations. Information accumulation is a standout amongst the most urgent exercises for any data framework. For our framework the data has been accumulated from web sources. The site provides data on MSP for various commodities and climate related data for each city. This site furnishes information about different help lines of the legislature implied for ranchers. The site can be completely accessed at zero cost. The facts approximately the availability of water resources, the proposed system targets to improve the productiveness with the aid of providing suitable advice.

2. 2. Survey done for problem development

Software application to prevent suicides for farmers suggested that in their paper they are not addressing the issue of enhancing water assets [2]. Be that as it may, given the data about the accessibility of water assets, the proposed framework expects to enhance the efficiency by giving reasonable exhortation. The impact of a few different factors on trim development can be comprehended and the conceivable restorative advances can be taken ahead of time utilizing the present advances in farming innovation. For instance, the impact of shameful, intemperate and awkward utilization of manures can be lessened by giving data about the sum and type of composts needed to urge the foremost extreme yield, given the type of soil and therefore harvest points of interest. Additionally, the data about the sort and measurements of the pesticide can be advised given the kind of bug and the relating crop points of interest. By giving the significant propelled data to the development of products with the assistance of current advances in farming innovation, the impact of the few factors that bother the yield can be decreased.

Inability of the framework to cover every one of the agriculturists. Furthermore, the framework is out of reach of the larger part of ranchers who are uneducated or with low education level [2].

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Likewise, it is improper to anticipate that the ranchers will monitor the advancements at the examination level on the grounds that an ordinary agriculturist is regularly bustling dealing with everyday cultivating exercises.
Therefore, most of the cultivating group is denied of legitimate guidance about yield development. The web is a utile tool that, in its essence, allows individuals to analyze from every other and work alongside [6]. The net is largely a verbal exchange device for reinforcing human relationships. The meant outcomes of companion net development ought to be pressured to narrate directly to upgrades in social relationships, upgrades in information sharing and data access and Improvement of conversation amongst human beings and society.
In krishi bharati interface included with a text to speech engine to provide the output in spoken form [1]. For this, consumer has to pick out or click on the right icon in the interface. All icons are organized in a hierarchical order. In first stage of the hierarchy six exceptional icons are proven to symbolize the seeds, vegetable, oil, fruit, flower and other merchandise like jute, tea and so on. After clicking or deciding on any icon from the number one stage, 2nd degree of the hierarchy is opened on the concept of the selected icon of first stage. Then, first stage receives deactivated. For instance, we will say if we select vegetable in 1st degree, then unique greens are most effective tested in 2d stage. Then, similarly third degree is opened by way of choosing any specific icon from 2nd stage.
This degree includes several related icons to the previously decided on icons and some preferred reason icons like lower back, forward, delete and many others. Furthermore, it is also to be stated that everyone the icons of 2nd and 3rd stage are to be arranged in line with the gaining access to frequency [1].
The interface also affords a textual tooltip partner with each icon for easy knowledge. Some illiterates face difficulty in understanding the pages in Hindi. In our context, a massive variety of customers are illiterate. The configuration has been modified to acquire the help for Hindi. Here, the person has to pick out and has to choose out a few parts of the returning website and then the thing may be read out in Hindi via clicking the pay interest icon on the interface. Unique assist ought to be provided for purchasing the statistics to the illiterate consumer. Web has the ability to bolster the link between and among farmer society.

3. Proposed approach

User understanding of the information of a website depends on the working or the performance of the website. For this we need some experience regarding the layout and clear instructions. User's ability to understand and interact with the site depends on interactive design of the site. User satisfaction is very important. If a user perceives the utility of the website, they are a lot of seemingly to continue using it. So the development of a website for farmers with useful information is very important. We know that our farmers are not well educated and the information available in the internet is in English language which farmers cannot understand.
Today's world is totally digitalized, each and every information is provided in English, which is very difficult to read and interpret for a Farmer, to overcome that problem of language, we have designed an interface which is in Telugu language, so that Andhra Pradesh and Telangana farmers can easily have the knowledge of methodologies of farming and information provided as shown in Fig. 1. We also provide videos as a reference, so that they can easily understand the information by referencing the videos provided. Another important thing in our interface is that we will provide nutritional details of pulses and other crops, with the help of such details farmers will know their importance like High protein content.
The organic compound composed of pulses area unit complementary to those of cereals, and if consumed together, increase the general super molecule quality of the meal , a High content of fiber and comparatively high amylase starch and anti-nutrients (phytic acid) Low-fat content and there will be no cholesterol. Rich in iron, magnesium, potassium, phosphorus, zinc called minerals and vitamins like thiamine, riboflavin, niacin, B6, and foliate and also high iron content.

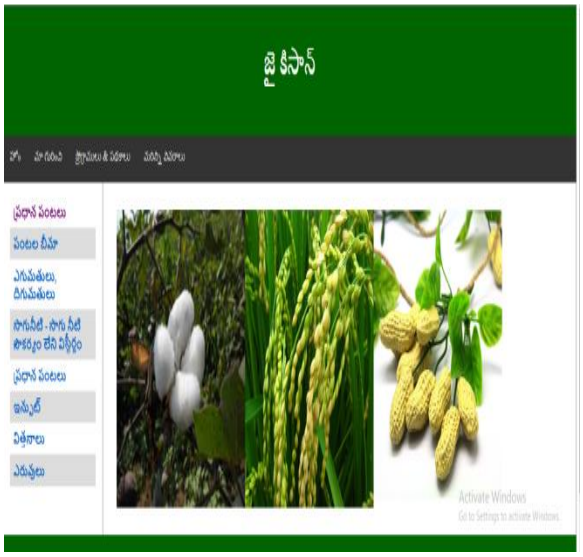


Fig. 1: Jai Kisan Interface

The rural insurance describes a set of legal guidelines about home agriculture and imports of overseas agricultural products. Governments usually put in force agricultural regulations with the objective of accomplishing a particular final result within the domestic agricultural product markets. Effects will contain, as an example, a secured offer stage, really worth balance, product high-quality, product desire, land use or employment. We are decided to develop an interface for farmers in Andhra Pradesh, Telengana in Telugu language by using a tool called Lekini. This tool converts English text to Telugu text. Our front-end is developed with the help of HTML5 and CSS3. While saving the document we should change the encoding from ANSI to UTF-8 encoding.
Interface also consists of information regarding climate depending up on areas and also gives the information about what type of crop we can use there. Due to exponential growth in ICT field , it empowers different basic industries like agriculture, multimedia etc [1]. But this improvement cannot be utilized by the uneducated people. According to UNESCO it is about 64% around the globe and 76% in developing countries who are unable to access information due to lack of technical as well as English knowledge. If this information can reach to all the uneducated people, then they would be able to improve the quality of the product as well as yield.
It is essential that information available in the internet should reach to uneducated farmers, in order to improve farming techniques as shown in Fig. 2. The farmers are unable to get right of entry to required information at the farming life cycle, pest eradication techniques and many others. By which they are unable to yield the harvest up to the mark which in turn leads to suicides of Indian farmers due to economic pressure of clearing debts. This miserable situation can be changed by helping the farmers to be able to access the information regarding farming as shown in Fig. 2.

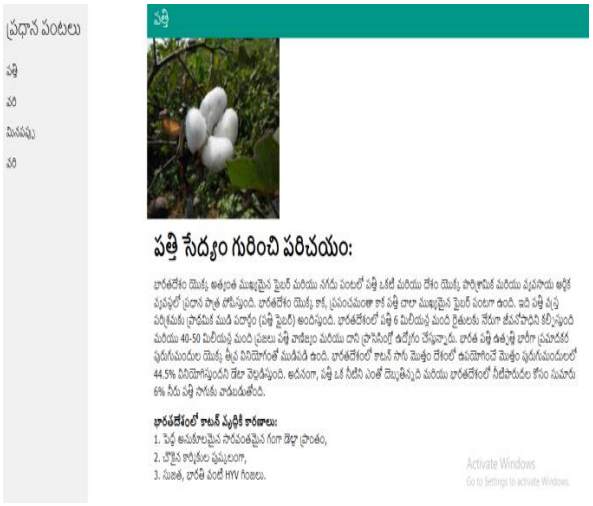


Fig. 2: Results Regarding Crops

The primary goal of the proposed framework is to build the gainfulness of the Agriculturists by expanding proficiency of agrarian information and diminishing cost of generation. Agriculture policy concerns about marketing challenges, technology, water, resource access issues. Farmers can increase their yields effectively by following these steps like:-

1. Plant early, Plant effectively
2. Practice Seasonal Soil Rotation
3. Know the Yield Potential
4. Ensure Proper Water Drainage
5. Utilize Fertilizers
6. Test Your Soil
7. Weed Early and Often
8. Seed Quality

Farmers are given suggestions about Crop Rotation. Crop rotation approach growing special types of vegetation inside the same location in special seasons, so that the farming land is not used for best one set of vitamins which in flip returns reducing soil erosion, growing soil fertility and growing the yield of crops. Growing a similar crop inside the same area for several years in a row (monocropping) disproportionately depletes the soil of certain nutrients. With rotation, a crop that leaches the soil of one fairly nutrient is observed in the course of the successive season via using an exclusive crop that returns that nutrient to the soil or draws an extremely good quantitative relation of nutrients.

Moreover, crop rotation mitigates the build-up of pathogens and pests that always occur once one species is ceaselessly cropped, and may conjointly improve soil shape and fertility via increasing biomass from numerous root systems. Lekini tool helps to convert the words in Telugu where we can form sentence easily.

Crop Rotation can reduce the production cost. This ought to be accomplished by keeping the dirt alive for long run (wellbeing of the dirt). We can accomplish these destinations by giving opportune counsel to the agriculturists in the accompanying territories:

1. Pest warning and pest control.
2. Fertilizer use as far as sum and timing
3. Decision of the harvests to be founded on soil tests and other data. It incorporates the data on cost, benefit, and hazard factors for different products.
4. Booking of harvest exercises
5. Climate data and the kind of the harvest to be raised by estimating climate
6. Showcasing
7. Vital arranging

The yield on an every day or week after week premise and sends the product points of interest as content and computerized photos through the Internet. By getting to the dirt information, rancher's points of interest, trim database, and the data sent by the facilitators, the Agricultural Sevak at that point set up the exhortation. The evolution of conversation is ever-converting the state of affairs, and additionally the net act as vehicle.

Villager's wishes to apply the internet area unit ensuing in new and needs for rural telecommunication improvements. The web is a medium of communication and possibly the most versatile medium currently on the market at any time. The web has the capacity for integration among a massive choice of communication that has goals like local participation, schooling, studies, technical useful resource and institutional strengthening. In this interface includes suggestions and taking the comments from the user who ever using the website. This interface helps the farmers to take right decisions and some preventive measures related to agricultural methods. The high amounts of insoluble fiber found in pulses have shown to improve colon health, helping to prevent colon-rectal cancer. Antioxidants, found in pulses may have anti-cancer properties.

4. Conclusion

An interface (Jai-Kisan) to having access to the rural records from the worldwide repository of net and the community repository has been proposed in this paper. We have developed an interface with Telugu language, where farmers can easily find solutions to their problems, and we also provided some related videos and expert advisories. Technology plays a very important role in today's life of farmers, as agricultural practices and progresses differ globally-since plants have their difference based upon their locality.

We aim at finding problems of the farmers who are considered as the builders of our nation. IT sector acts as a bridge for all the people around the globe, many suggestions, useful information is kept in websites (like Jai Kisan) which are very useful to farmers, with these type of technologies famers will get the adequate to information to improve their yield with a very low cost, they will be getting all types of information around the globe within a single website. If this information can reach to all the uneducated people, then they would be able to improve the quality of the product as well as yield. It is essential that information available in the internet should reach to uneducated farmers, in order to improve farming techniques. Videos play a major role for those who are new to this field, they learn by using those videos and gathering the information. In interface it also consists of information regarding pest control.

The primary goal of the proposed framework is to build the gainfulness of the Agriculturists by expanding the proficiency of agrarian information and diminishing the cost of generation. The existence of a farmer is lots established upon forces of nature. For agriculture, adequate monsoon is required. If the rainfall is good enough, the agricultural output could be accurate. Therefore we have designed an interface which helps the farmers to overcome their agriculture risks.

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