

A Project Report on

Annadata: A Web Based Farmer's Portal

Submitted in partial fulfillment of the requirements for the award
of the degree of

Bachelor of Engineering

in
Information Technology

by
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Academic Year 2021-2022

Approval Sheet

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Acknowledgement

We have great pleasure in presenting the report on **Annadata: A Web Based Farmer's Portal**. We take this opportunity to express our sincere thanks towards our guide **Dr. Sameer Nanivadekar & Co-Guide Prof. Sonal Jain** Department of IT, APSIT thane for providing the technical guidelines and suggestions regarding line of work. We would like to express our gratitude towards his constant encouragement, support and guidance through the development of project.

We thank **Prof. Kiran B. Deshpande** Head of Department,IT, APSIT for his encouragement during progress meeting and providing guidelines to write this report.

We thank **Prof. Vishal S. Badgujar** BE project co-ordinator, Department of IT, APSIT for being encouraging throughout the course and for guidance.

We also thank the entire staff of APSIT for their invaluable help rendered during the course of this work. We wish to express our deep gratitude towards all our colleagues of APSIT for their encouragement.

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Declaration

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included, We have adequately cited and referenced the original sources. We also declare that We have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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Abstract

The world is rapidly moving towards digitization. In these tough times where everyone is not so comfortable with the digital world, there are many classes in the society that faces difficulties in updating themselves and to keep up with their professional requirements at the same time. There are many classes that are neglected during the ongoing pandemic situation, whose issues aren't addressed, whereas they actually play an important role in society as well as in maintaining ecological balance. Agriculture is an important sector in India. It is indispensable for the sustenance and growth of the Indian economy. On an average, about the 70 per cent of the households and 10 per cent of the urban population is dependent on agriculture as their source of livelihood. Agriculture is the primary source of food and plays an important role in employment and economy in India. Thereby to address some of these issues, this system is developed in order to help and uplift the Farmer's community as they play vital role in many aspects. Some of the issues would be addressed that are on high priority currently. The whole system is developed with a motive to help the unaddressed community that selflessly delivers to us a keen interest towards working for a social cause.

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Chapter 1

Introduction

Due to the increase in the use of machines and fast evaluation of the world towards the digitization process, there are many classes of the societies that aren't very familiar with this new trend. There is a strong need to acknowledge this. There are many classes in the society that have been facing a lot of issues during the ongoing Covid-19 pandemic situation. One of those is the Farmer Community that faces a lot of issues in their day-to-day lives. There are many issues that goes unaddressed and are being neglected since ages, whereas this community has always been selflessly working in order to provide the best products to us all-day everyday. Farmers are the sole reason we have fresh and good nutrition rich food products. But there are many issues which the farmers have been facing since long period of time. Many of these issues even go unaddressed or are overlooked by the concerned authorities. Thereby with a positive approach a web-portal for the farmers wherein many of their problems would be identified and they would be provided a solution for the same. Some of their issues have been identified and the web-portal would contain a solution for it. This portal is designed after a detailed study and taking into consideration a lot of data from relevant sources about the concerned aspects. The system consists of different modules which helps the farmers in many aspects. The highlighted part of this system is that the whole system is be multi-lingual, and the farmers can access the data, information and overall operations in the system in their native language. This enables the farmers to gain confidence over the system and can make the most out of it. The security aspect is also taken into consideration and thereby firstly the farmer has to register themselves on our database using their mobile number. After entering the mobile number, the system shall generate login credentials for the users and will be sent to them via SMS. Once the user has register themselves on our database they can have an access to portal and take benefits from all the modules.

The modules are:

1. Weather Prediction
2. Government Schemes
3. Crop Prediction
4. Soil Water Conservation
5. Farmer's Corner
6. Equipment Shop

Through these modules the user would be able to get access of a lot of relevant data real-time information. This would be helpful to them in deciding their workflow, being a beneficiary of government schemes, getting real-time weather prediction, Soil field treatments, Govt. resolutions, training courses for farmers, availability of farming equipments in the cities of

Maharashtra. The system is developed by using different technologies, algorithms and after a detailed study of the same. Algorithms have enabled to give precise predictions and provide more accurate results. We all are also aware of the situation that was arised due to the mis-interpretation of the new farm bills that were imposed recently. Many who were directly affected due to this farm bills had no proper legitimate information about the bills and were mis-guided all through their way. Thereby, recognizing the need to guide the people who are directly related to these new farm bills was important. So, this portal would be providing all the legal information that is concerning their profile in simpler and their native language.

Chapter 2

Literature Review

2.1 Crop Yield prediction using RFA for major cities in Maharashtra

Random forest algorithm is used for both regression as well as classification. In this model the publishers had used 10-fold cross-validation technique which helped them in indicating, giving high accuracy and correlation between the climate and the crop yield. The accuracy of their model was found to be 87 per cent. In their project, many other factors like quality of soil, pest, chemicals which are used, etc were not used as they stated because it depends on the type of field. As the climate changes according to the season their web application helped the users in taking the best decision according the geographic conditions about which crop needs to be cultivated in their region. This study was completely based on the climate and seasonal analysis and other factors weren't taken into consideration. The publishers highlighted the point that their study and their product will help the policy planners too. It will help the policy planners in import-export, pricing, marketing, etc to take decisions even before the crop is harvested. Their system was designed using python and flask framework was used to render the results into their web-page. They took input from the users like their name, region, district etc. In their model they had trained 20 decision trees to build a random forest algorithm. The result page of their smart farm application also displayed a graph of crops that the farmers can plant in their district vs yield the respective crop will produce. They interpreted that this might help the users to crop could be planted to get a better yield. They gathered the data about the various districts in Maharashtra from the Government website www.data.gov.in and for the climate they gathered the data from another government site www.imd.gov.in. Overall this model was great to study and to understand where exactly we can work to overcome some flaws and produce a better product.

2.2 Crop Prediction using Mining

In this model the publishers collected all the data sets from the publicly available records of the Indian Government for the duration of 64 years (1950-2013). It had consisted of monthly rainfall, monthly mean temperature, area under irrigation, area, production and yield for Kharif and Rabi seasons respectively. Then the publishers processed the data. The data processing was done to collect all the datasets in Microsoft Office Excel. For every crop it

had consisted of columns like: Year, area, production, yield, area under irrigation, monthly rainfall, and monthly mean temperature. Now, when they divided the Production by area, they got the values very close to yield. Again, for mining, regression analysis is a predictive modelling technique which estimated the linear relationship between dependent variable and one or more independent variables. Regression analysis was used as a predictive modelling technique for the crop prediction. The regression algorithms used in their research were Multiple Linear Regression, Random Forest regression and Multivariate adaptive Regression Splines (Earth). The experimental Results showed that the performance of Multivariate Adaptive Regression Splines (Earth) was better in comparison with Multiple Linear Regression and Random Forest Regression on the crops like rice and wheat datasets. Whereas the performance of Multiple Linear Regression was found to better than Multivariate Adaptive Regression Splines (Earth) and Random Forest Regression for the maize datasets. Their overall study and modelling with experiments and their results show that Multiple Linear Regression, Random Forest Regression and Multivariate Adaptive Regression Splines (Earth) regression analysis can be used to predict production of rice, wheat, maize, with precision. Accurate forecasts of these parameters would result in accurate production forecast in the future.

2.3 Crop Yield Prediction using Machine Learning Techniques

The main goal of agricultural planning is to achieve maximum yield rate of crops by using limited number of land resources. Many machine learning algorithms can help in improving the production of crop yield rate. Whenever there is loss in unfavourable conditions we can apply crop selecting method and reduce the losses. And it can be used to gain crop yield rate in favourable conditions. This maximising of yield rate helps in improving countries economy. We have some of the factors that influence the crop yield rate. They are seed quality and crop selection. We need test the quality of the seeds before sowing. As we know that good quality of seeds helps in getting more yield rate. And selection of crops depends upon two things that is favourable and unfavourable conditions. This can also be improved by using hybridization methods. Many researches are carried out to improve agricultural planning. The goal is to get the maximum yield of crops. Many classification methods are also applied to get maximum yield of crops. Machine learning techniques can be used to improve the yield rate of crops. The method of crop selection is applied to improve crop production. The production of crops may depend on geographical conditions of the region like river ground, hill areas or the depth areas. Weather conditions like humidity, rainfall, temperature, cloud. Soil type may be clay, sandy, saline or peaty. Soil composition can be copper, potassium, phosphate, nitrogen, manganese, iron, calcium, ph value or carbon and different methods of harvesting.

2.4 Information Needs of the Rural Farmers : A Study from Maharashtra, India: A Survey

The present age has been rightly called as an Information Age. Information has become the most important element for progress in society. According to Kemp “information has been described as the fifth need of man ranking after air, water, food and shelter”. Everyone needs information about everything even in his day to day life. In agriculture environment, relevant and timely information helps farmers community to take right decision to sustained growth of agriculture activity. Use of information in agriculture sector is enhancing farming productivity in a number of ways. Providing information on weather trends, best practice in farming, timely access to market information helps farmer make correct decisions about what crops to plants and where to sell their product and buy inputs. India is an agriculture based country with farming and related activities constituting to a huge chunk of the GDP and employment. According to Malhan Rao (2007), the Indian agriculture sector provides employment to about 65 labour force, accounts for 27 powerful tool in addressing the agricultural needs and if it is used properly it could be change nations economic.

Chapter 3

Objectives

There are many limited products in this domain so as to create a competent and user friendly product that would be really helpful to our targeted audience, which would suggest the best for them in all fields and aspects that are mentioned in our modules. In all, a product that could be beneficial for them with respect to all terms.

1. To provide the user with login credentials when they registers through SMS
2. To provide an option of resetting password in case the user forgets the password. It shall be given by the system through SMS
3. To help farmers know about the sci-geographic conditions and which agricultural forms to go with through Crop prediction module for better yield of crops.
4. To notify the farmers about the red flags generated in weather forecasting
5. To make them aware about the different Govt. Schemes for which they are eligible and to notify them through SMS everytime a new scheme is launched
6. To provide the user with accurate and precise information regarding field treatments and drain treatments
7. To make them aware about the farming equipments available in their vicinity
8. To notify them about different training sessions and workshops by Govt. of Maharashtra (Skills Development Ministry), and their application process.
9. To give information about all the available soil laboratories within the state of Maharashtra

Chapter 4

Project Design

4.1 Activity Diagram

The user initially needs to register themselves on the portal. After registering on the portal, the user needs to log in to the portal. After the successful login, the user can access to the different modules on the portal. User can avail benefits of Weather Prediction, Government Schemes, Crop Prediction, Soil Water Conservation, Farm Bill, Farmer's Corner, Equipment Shop which will help them in their professional means. In weather prediction user first needs to enter his/her/their district which shall display the current weather information of that particular district. In Govt. Schemes, the system provides all the information regarding Government Schemes. In crop prediction, the user needs to select his/her/their district, then using Random forest Algorithm, the system displays the crop list. In Soil Water Conservation, there are sub-modules like Adarshgaon Plan, Soil Laboratories, Water shed concept, different soil field drain treatments. In farmer's Corner, there are sub-modules like MSP, GRs, pesticide information, Training Courses, and Farming tips. In Equipment shop, the user is provided with the farming equipments in their city.

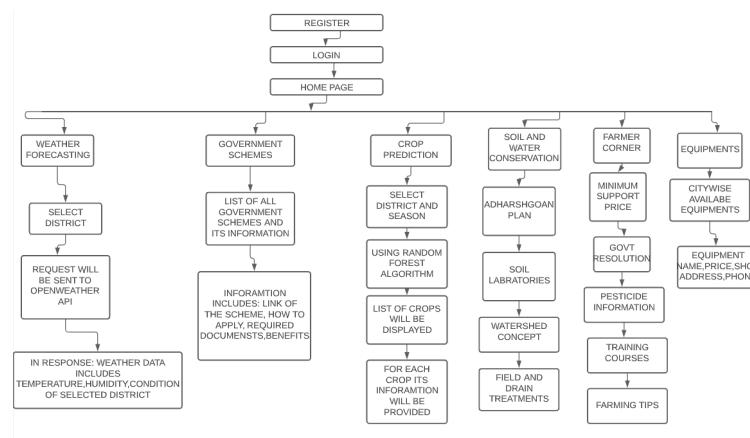


Figure 4.1: Activity Diagram

4.2 Use Case

The farmer can access Weather Prediction, Government Schemes, Crop Prediction, soil Water Conservation, Farm Bill, Farmer's Corner, Equipment Shop, reset password, feedback. To access all these modules, the user first needs to login.



Figure 4.2: Use Case Diagram

4.3 Class Diagram

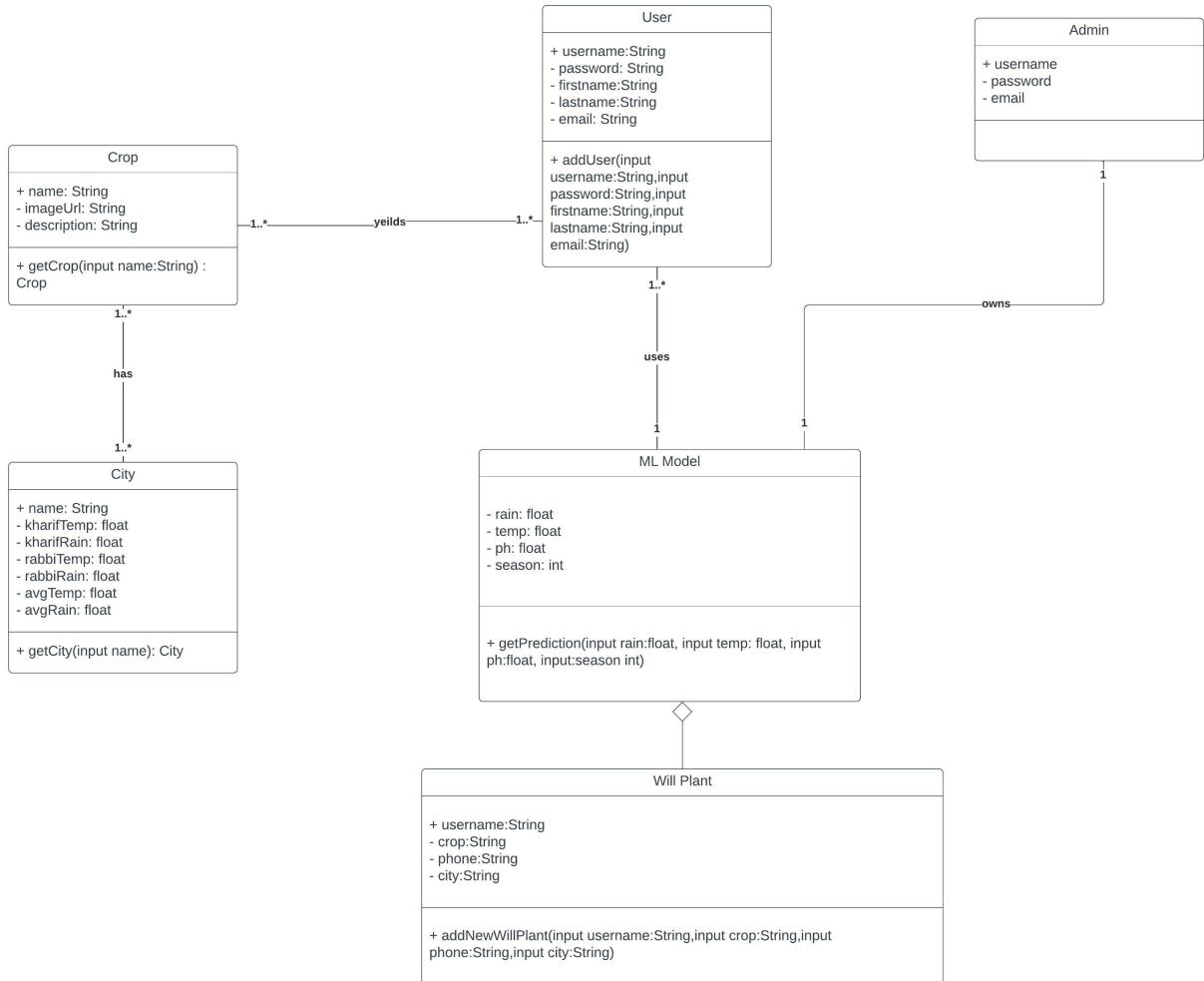


Figure 4.3: Class Diagram

4.4 Existing System Architecture

As we can see in the above findings, the existing system posses' some drawbacks that would be addressed in our project. The existing system consists of crop predictions, chatbots, chatbots using AI, weather predictions. In our project we would be including all these modules with a higher accuracy rate and would be predicting more accurate results using different algorithms and technologies. Also the project's highlighted part would be that all the findings, researches, predictions, information etc., would be provided to the farmers in their native language with a motive to make it more user-friendly. They would easily connect to our portal as they would find it familiar as it would be addressing to them in their language and this would play as the key factor. The submitters are also committed towards working over other modules too, which are mentioned above. This will make the portal more unique as the end-users would find many things under one banner. We would like to address many legal issues and information too to the end-users through our portal which would help them in understanding the legalities in simpler language. Also there are many other modules that would be addressing different aspects in various sectors of the agricultural domain. Also there is no system currently that registers the farmers on their database and notifies them on their mobile numbers about the immediate importants.

4.5 Proposed System Architecture

Herein, we would be designing a portal that addresses the issues faced by our end users. The project is committed towards building a user-friendly portal. The user has to first register himself/herself on our database if we do not posses any records, i.e if they are new users. They can simply register using their mobile number. After registering the system would send the user a SMS which contains thier login credentials viz., their username Password which the user had used while registering. After the successful login, the user has to create their profile, i.e name, age, sex, region, district, crop type they have been practicing etc., after providing all this information their profile would be created and recorded in our database. Now, the users can take benefits of all the modules that the system consists of. These modules will enable the target audience in getting relevant information about many fields that concern their profile.

The modules are:

1. Crop Prediction
2. Weather Prediction
3. Government Schemes
4. Soil Water Conservation
5. Farmer's Corner
6. Equipment Shop

Chapter 5

Project Implementation

Herein, we would be designing a portal that addresses the issues faced by our end users. The system is committed towards building a user-friendly portal. The user has to first register himself/herself on our database if we do not possess any records, i.e if they are new users. They can simply register using their mobile number. After providing the mobile number, verification would be done for security reasons. The system would generate a password for them which they can use for their further logins.

After the successful login, the user has to create their profile, i.e name, age, sex, region, district, crop type they have been practicing etc., after providing all this information their profile would be created and recorded in database. Now, the users can take benefits of all the modules that the system consists of. These modules will enable the target audience in getting relevant information about many fields that concern their profile. Overall, this system would be helpful to the farmers as it would address major issues and we tend to extend the scope of the project and its modules in the future scope. This system would prove to be a user-friendly system as it would have a multi-lingual support and that can increase the comfort level of the target audience and win their trust over the product. Once the user successfully logs in into our portal, we are obliged to provide them all kind of support and the system ensures the same. The user first needs to register themselves on the portal using their contact number and the portal would ask for some basic user data as mentioned in System Working. After successfully log in the user can get access to various modules in the system.

1. Weather Prediction

Once the user gives input of their district the request will be sent to open weather API website which will give detailed weather information. This data would be fetched every 10 secs. During extreme weather conditions, when the red flags are generated in weather forecast, it shall be notified to the registered users through SMS using Fast-to SMS API.

2. Government Schemes

The system consists in detailed information of the preexisting government schemes and how to apply/where to apply, required documents etc., all the basic information to be the beneficiary of that scheme is mentioned. The admin adds newly launched Government schemes to the portal. Also, whenever any new Govt. scheme is been added to the portal, all the registered users are notified through SMS on their registered mobile number.

3. Crop Prediction

We have used a random forest machine learning model to predict crops per city based on

rainfall, temperature, ph. Users will input the city name and season(Kharif, Rabbi, No season, Predict all crops).

Case 1:

If user chose Predict all crops, then average rainfall and average temperature will be fetched from db along with pH. This data will be passed to a machine learning model and it will return a map of crops having key as crop name and value will be predicted production (by descending order of production).

Case 2: If the user chose Kharif / Rabbi, then rainfall and temperature of that season will be fetched from db or if user chose no season average temperature and average rainfall will be fetched from db along with pH. This data will be passed to a machine learning model and average of that result with previous year production will be returned in the form of a map having a key as crop name and value will be predicted production.

Crops returned from model will be further checked with will plant section in database, If user count for particular crop has crossed the limit then it will be flagged with red color on UI. For other crops blue color will be shown on UI. To add username, crop, city, user will click on “will plant” button and respective values will be added in will plant table of database.

4. Soil Water Conservation

This section consists of five sub modules viz.,

a) Adarshgaon Project plan

This module consists of all the eligibility criteria, application details, norms and other information related to nominate one's village as 'Adarshgaon', meaning, Ideal Village.

b) Soil Laboratories

This page consists of the in-detailed information regarding all the testing centres and laboratories with their complete address, contact numbers across all the districts within the state of Maharashtra.

c) Soil Aquaculture-Field Treatment

This section consists of information related to field treatments like compartment bunding, Dam repair of old paddy huts, 'Majgi', 'Padkai', Laying stone embankment on the hill slope. These are different field treatment techniques which are soulfully important in the sector of agriculture. This sub-section deals with its precise information, purpose, area selection criteria, Govt. resolution picture, why do it, all of its ifs--buts with its accurate information provided by the Government of Maharashtra.

d) Soil Aquaculture-Drain Treatment

This section consists of information related to field treatments like Small Earthen dams, cement drain dams, turn dams, underground dams, etc. These are different field treatment techniques which are soulfully important in the sector of agriculture. This sub-section deals with its precise information, purpose, area selection criteria, Govt. resolution picture, why do it, all of its ifs--buts with its accurate information provided by the Government of Maharashtra.

e) Water Shed Concept

5. Farmer's Corner

This section consists of five sub-sections viz.,

a) Minimum Support Prices

The Cabinet Committee on Economic Affairs, chaired by Prime Minister Shri Narendra Modi, has approved the increase in the Minimum Support Prices (MSPs) for all mandated

Kharif crops for marketing season 2021-22. Government has increased the MSP of Kharif crops for marketing season 2021-22, to ensure remunerative prices to the growers for their produce. The highest absolute increase in MSP over the previous year has been recommended for sesamum (Rs. 452 per quintal) followed by tur and urad (Rs. 300 per quintal each). In case of groundnut and nigerseed, there has been an increase of Rs 275 per quintal and Rs 235 per quintal respectively in comparison to last year. The differential remuneration is aimed at encouraging crop diversification.

b) Government Resolutions

This part of the portal deals with containing all the updated and valid legitimate links/PDFs of the Government Resolutions by the Govt. Of Maharashtra-Agricultural Department.

c) Pesticide Information

This sub-section contains in detailed scientific information about all the pesticides. It also contains the do's and dont's while using the pesticides, how to use them, benefits, drawbacks, preventive measures and other basic knowledge required before dealing with pesticides.

d) Training program for farmers

The agricultural department of Maharashtra organises training workshops for the farmers where they are briefed about this domain at large. This is extremely useful and can crucially prove to be a turning point in any farmer's life, thereby, this sub-section deals with all the updates regarding the training sessions organised by the Government. It contains all the information such as, training period, place, course details, material and link to apply.

e) Farming Tips

This sub-section contains advance farming tips for various crops

6. Equipment Shop

This module deals with all sorts of farming equipments. The user needs to select their city, and the system shall display all the available second-hand farming equipments, products with its price, address, contact number.

Figure 5.1: views.py

```
1 README.md  2 uris.py  3 models.py  4 views.py
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```

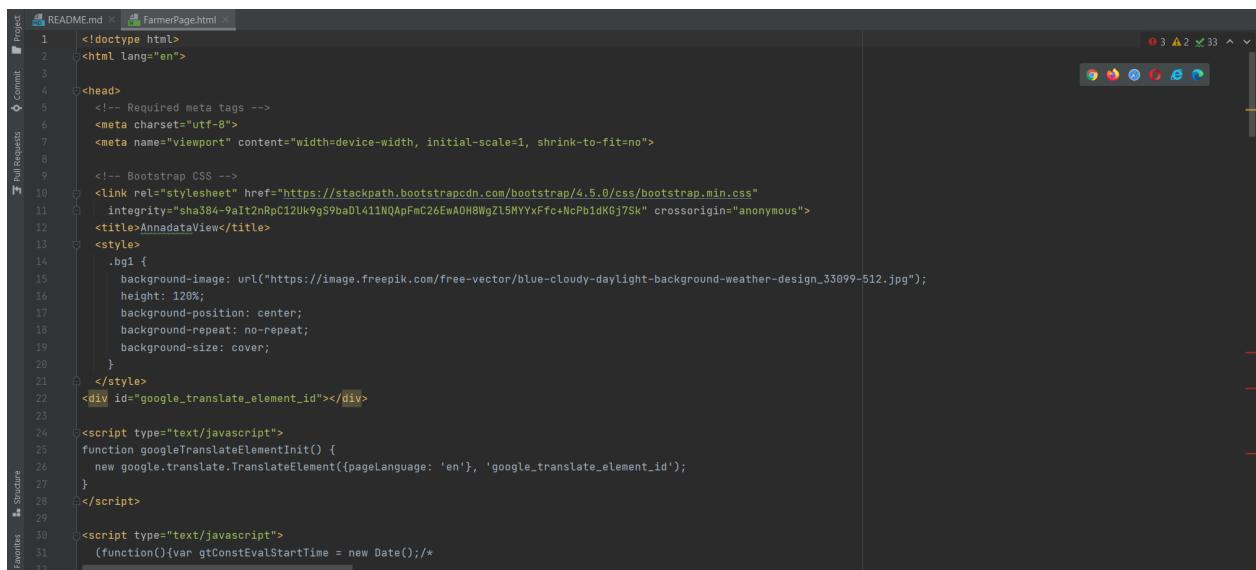
```
1 from statistics import mode
2 from django.db import models
3 from django.contrib.auth.models import User
4 import pandas as pd
5 from datetime import datetime
6 from pyrsistent import m
7 from sklearn.metrics import accuracy_score
8 import joblib
9
10
11 class LoanSchemeForFarmers(models.Model):
12     loan_id=models.AutoField
13     info=models.TextField()
14     scheme_name=models.CharField(max_length=200)
15     def __str__(self):
16         return self.scheme_name
17
18 class AdminTip(models.Model):
19     tip_name = models.TextField()
20     tip_info=models.TextField()
21     tip_img=models.ImageField(upload_to="static/accounts/images")
22     def __str__(self):
23         return self.tip_name
24
25 class EquipmentShop(models.Model):
26     shop_id = models.AutoField
27     district_name = models.CharField(max_length=200)
28     def __str__(self):
29         return self.district_name
30
31
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Figure 5.2: models.py

```
1 README.md  2 uris.py  3 models.py  4 admin.py  5 views.py
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```

```
1 import imp
2 from django.contrib import admin
3
4 # Register your models here.
5 from .models import LoanSchemeForFarmers
6 from .models import CropInfo
7 from .models import extendeduser
8 # from .models import MarketPrices
9 from .models import WillPlant
10 from .models import CityData
11 from .models import FbModel
12 from .models import EquipmentShop
13 from .models import AdminTip
14 admin.site.register(LoanSchemeForFarmers)
15 admin.site.register(CropInfo)
16 admin.site.register(extendeduser)
17 # admin.site.register(MarketPrices)
18 admin.site.register(WillPlant)
19 admin.site.register(CityData)
20 admin.site.register(EquipmentShop)
21 admin.site.register(AdminTip)
22
23 class FbAdmin(admin.ModelAdmin):
24     list_display = ('fname', 'cr_dt')
25     list_filter = ('cr_dt',)
26     admin.site.register(FbModel,FbAdmin)
```

Figure 5.3: admin.py



The screenshot shows a code editor interface with the following details:

- Project:** README.md (active tab) and FarmerPage.html
- Commit:** Full Requests
- Favorites:** Structure
- Code Content:**

```
1 <!DOCTYPE html>
2 <html lang="en">
3
4   <head>
5     <!-- Required meta tags -->
6     <meta charset="utf-8">
7     <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
8
9     <!-- Bootstrap CSS -->
10    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css"
11      integrity="sha384-9iIt2RnpC12Uk9gS9ba0141NQApFmC26Ew0H8wgZL5MYxFfc+ncb1dK6j7Sk" crossorigin="anonymous">
12    <title>AnnadataView</title>
13
14    <style>
15      .bg1 {
16        background-image: url("https://image.freepik.com/free-vector/blue-cloudy-daylight-background-weather-design_33099-512.jpg");
17        height: 120%;
18        background-position: center;
19        background-repeat: no-repeat;
20        background-size: cover;
21      }
22    </style>
23    <div id="google_translate_element_id"></div>
24
25    <script type="text/javascript">
26      function googleTranslateElementInit() {
27        new google.translate.TranslateElement({pageLanguage: 'en'}, 'google_translate_element_id');
28      }
29    </script>
30
31    <script type="text/javascript">
32      (function(){var gtConstEvalStartTime = new Date();/*
```
- Toolbar:** Includes icons for search, file operations, and other common functions.

Figure 5.4: Home Page

Chapter 6

Testing

Test Case	Feature	Test Description	Expected Result	Actual Result	Status(Pass/Fail)
1	Registration	Check Response when all required fields are entered	Registration should be successful and SMS should be sent to the user	As Expected	Pass
2	Login	Check Response when valid username and password is entered	Login should be successful and redirected to Home Page	As Expected	Pass
3	Reset Password	Check Response when username and phone no is entered	Password should be sent to the user through SMS	As Expected	Pass
4	Feedback	Check Response when username, phone no, and feedback field entered	Feedback should be saved in the database	As Expected	Pass
5	Weather Condition	Entering Name of City or District	Weather Information of the city or District should be displayed	As Expected	Pass
6	Crop Prediction	Selecting City, Season and clicking on predict button	Crop List should be displayed	As Expected	Pass
7	New Scheme Update on Portal	When Admin adds a new scheme to the portal	SMS should be sent to all registered user	As Expected	Pass

Table 6.1: Unit Testing Table

Chapter 7

Result

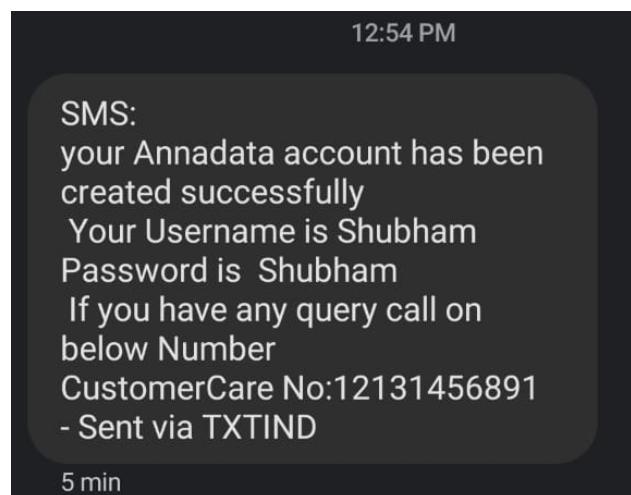


Figure 7.1: Login Page

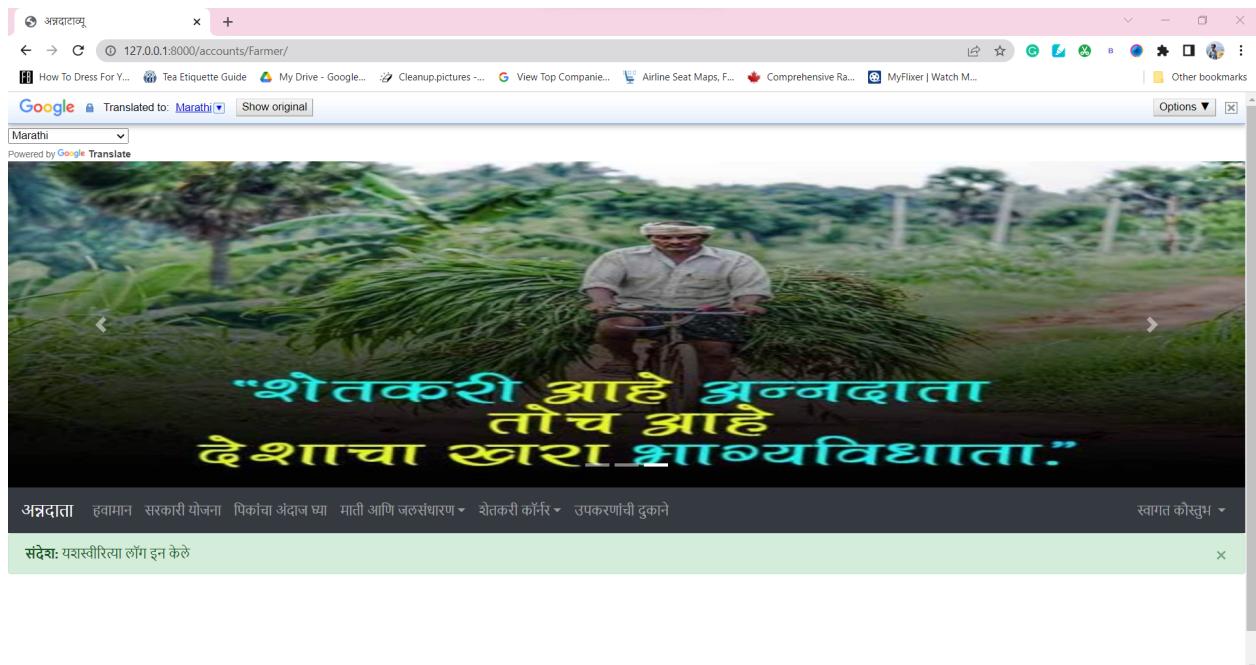


Figure 7.2: Annadata Home Page



Figure 7.3: Weather Prediction

Dear user,
Hey Farmer your
Thane City has seen
smoke weather
conditions, Please be
aware, Customer Care
Number: 252455544

Dear user,
Hey Farmer your
Nagpur City has
seen haze weather
conditions, Please be
aware, Customer Care
Number: 252455544

Dear user,
Hey Farmer your
Thane City has seen
smoke weather
conditions, Please be
aware, Customer Care
Number: 252455544

6:13 pm

Figure 7.4: Weather Red Flag Notification

अन्नदाता हवामान सरकारी योजना पिकांचा अंदाज धा माती आणि जलसंधारण ▾ शेतकरी कॅर्स ▾ उपकरणांची दुकाने			खागत कोस्तुम ▾
<p>नाव:</p> <p>प्रधानमंत्री कृषी योजना</p> <p>योजनेची लिंक:</p> <p>https://pmksy.gov.in/</p> <p>योजना पढा</p>	<p>नाव:</p> <p>प्रधानमंत्री फसल विमा योजना</p> <p>योजनेची लिंक:</p> <p>https://pmfby.gov.in/</p> <p>योजना पढा</p>	<p>नाव:</p> <p>पीएम किसान मान धन योजना.</p> <p>योजनेची लिंक:</p> <p>https://maandhan.in/</p> <p>योजना पढा</p>	
<p>नाव:</p> <p>किसान क्रेडिट कार्ड योजना</p> <p>योजनेची लिंक:</p>	<p>नाव:</p> <p>गोपीनाथ मुऱ्डे शेतकरी अपघात विमा योजना</p> <p>योजनेची लिंक:</p>	<p>नाव:</p> <p>बाबासाहेब आंबेडकर कृषी स्वावलंबन योजनेत डॉ</p> <p>योजनेची लिंक:</p>	

Figure 7.5: Government Schemes

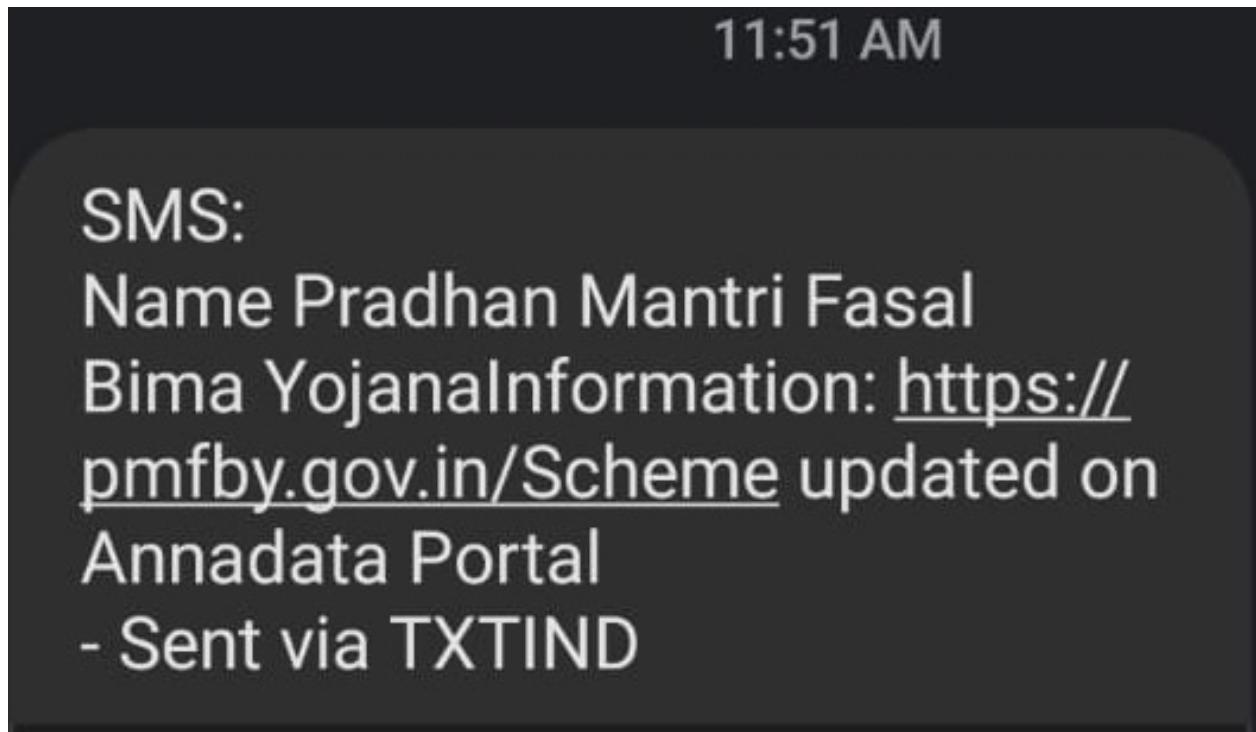


Figure 7.6: New Govt Scheme Update

Annadata Home Weather Government Schemes Predict Crops Market Prices Farm Bills Equipment Shops Welcome Kaustubh ▾

Select District
Ahmednagar

Kharif
 Rabi
 Whole Year
 No Session
 Predict All Crops

Submit

Annadata Home Weather Government Schemes Predict Crops Market Prices Farm Bills Equipment Shops Welcome Kaustubh ▾

BACK ← List of crops for AHMEDNAGAR for Kharif

Sugarcane crop taken: 0 View Crop Will Plant!!	Maize crop taken: 0 View Crop Will Plant!!	Soyabean crop taken: 0 View Crop Will Plant!!
Rice crop taken: 1 View Crop Will Plant!!	Bajra crop taken: 0 View Crop Will Plant!!	Groundnut crop taken: 0 View Crop Will Plant!!

Select Language ▾ Powered by Google Translate

SUGARCANE



Sugarcane (*Saccharum officinarum L.*) is the main source of sugar in India and holds a prominent position as a cash crop. India is the world's largest consumer and the second largest producer of sugar, topped only by Brazil. Nearly 2.8 lakh farmers have been cultivating sugarcane in the vast area of 4.4 lakh acres and over 11 crore people are directly or indirectly dependent on the sugar industry in the country. Sugarcane is one of the important commercial crops of India, grown in an area of 3.93 m ha with annual production of 170 M T. Sugarcane productivity in India is around 67 t/ha. It is one of the most important food-cum-cash crop grown in the country, providing employment to a larger number of people, in addition to earning considerable foreign exchange.

Requirement

Climate

Sugarcane is able to grow over a prolonged season. Under warm humid conditions, it can continue its growth, unless terminated by flowering. Temperatures above 50°C arrest its growth; those below 20°C slow it down markedly and severe frost proves fatal. The crop does best in the tropical regions receiving a rainfall of 750-1200mm. For ripening, it needs a cool, dry season, but where rainfall is too heavy and prolonged, the quality of the juice tends to be low, and where the weather remains comparatively.

Soil

Sugarcane grows best on medium heavy soils, but can also be raised on lighter soils and heavy clays, provided there is adequate irrigation available in the former type of soils and drainage is good in the latter type of soils.

Figure 7.7: Crop Prediction

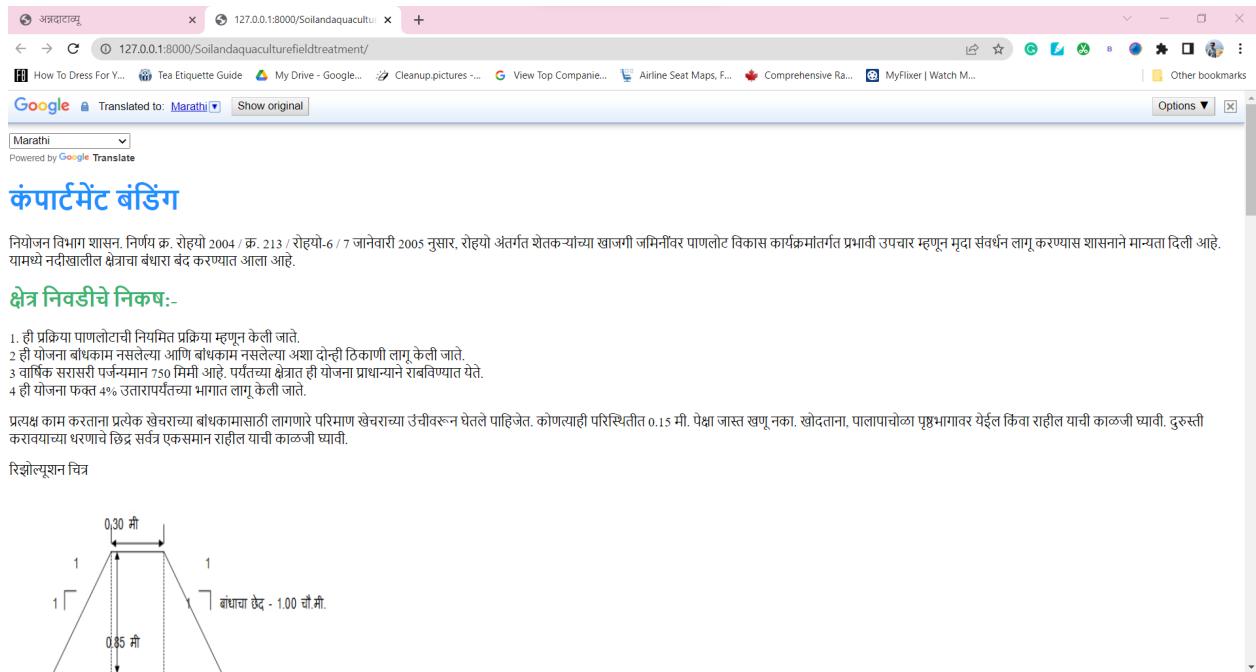


Figure 7.8: Soil Acquaculture Field Treatment

The screenshot shows a training program for farmers. It features three circular logos with green leaves and the text 'प्रशिक्षण अभ्यासक्रम'. Below the logos are three sections:

- आले लागवड**
पर्सोवर पीक विशिष्ट प्रशिक्षण कार्यक्रम – गुलाब, जरबेदा, कानेशन
पीक व्यवस्थापन
सिंचन आणि फलन तंत्रज्ञान
पीक संरक्षण
काढणी नंतर आणि विपणन
कालावधी: 5 दिवस
अर्ज करण्यासाठी लिंक
- काजू प्रक्रिया**
भाजीपाला पीक विशिष्ट प्रशिक्षण कार्यक्रम –
गिमला मिरवी, बेरी टोमैटो, काकडी
पीक व्यवस्थापन
सिंचन आणि फटिंगेशन तंत्रज्ञान
पीक संरक्षण
काढणी नंतर आणि विपणन
कालावधी: 5 दिवस
अर्ज करण्यासाठी लिंक
- काढणीनंतरचे व्यवस्थापन**
पीक व्यवस्थापन
सिंचन आणि फटिंगेशन तंत्रज्ञान
पीक संरक्षण
काढणी नंतर आणि विपणन
कालावधी: 5 दिवस
अर्ज करण्यासाठी लिंक

Figure 7.9: Training Program for Farmers

अनंदाता हवमान सरकारी योजना पिकाचा अंदाज च्या माती आणि जलसंधारण ▾ शेतकरी कॉर्मर ▾ उपकरणांची दुकाने			सरगत कोस्तुभ ▾
शहराचे नाव: रत्नगिरी	शहराचे नाव: नाशिक	शहराचे नाव: नांदेड	
उपकरणे पहा	उपकरणे पहा	उपकरणे पहा	
शहराचे नाव: परभणी	शहराचे नाव: लातूर	शहराचे नाव: हिंगोली	
उपकरणे पहा	उपकरणे पहा	उपकरणे पहा	
शहराचे नाव: जळगाव	शहराचे नाव: चंद्रपूर	शहराचे नाव: औरंगाबाद	
उपकरणे पहा	उपकरणे पहा	उपकरणे पहा	

Figure 7.10: Equipment Shop

उपकरणे			
127.0.0.1:8000/shops			
पॉवर टिलर	₹1000	मल्टी स्पीड रोटाक्हेटर	₹3500
मित्र अंगो इंजिनिअरिंग पत्ता: पुणे शिर्फी बायपास रोड, केडगाव, अहमदनगर - 414005 (नोंद्वा कांडा मार्केट जवळ) फोन: +91 2255899744 वेळ: सोम - रवि:- सकाळी 9:00 ते संध्याकाळी 6:00	मित्र अंगो इंजिनिअरिंग पत्ता: पुणे शिर्फी बायपास रोड, केडगाव, अहमदनगर - 414005 (नोंद्वा कांडा मार्केट जवळ) फोन: +91 22884477 वेळ: सोम - रवि:- सकाळी 9:00 ते संध्याकाळी 6:00	सचिन अॉटोवार्माटिक्स पत्ता: ZM टॉवर, नगर औरंगाबाद रोड, पाण्याच्या टाळीच्या मार्गे, पाइपलाईन रोड, अहमदनगर - 414003 (वसंत टेकडी) फोन: +91 22884477 वेळ: सोम - रवि:- सकाळी 9:00 - संध्याकाळी 6:00	सोनालिका रोटाक्हेटर ₹2500

Figure 7.11: List of available Equipments

Chapter 8

Conclusion and Future Scope

By applying the knowledge and skillset, we are determined towards building a completely user-friendly web portal which would be useful to the targeted audience, Farmers. This system ensures the multi-lingual support and has other modules as above mentioned that would address different specific issues. In near future, the product would be designed with a motive to help the unaddressed community and help them resolve their issues. The overall performance would be tried and tested and would be made available once all the trials-n-errors have been successfully worked upon so as the Users can enjoy, learn, and grow in all aspects using our product.

Future Scope: We can extend the scope by adding modules like multi-lingual chatbot for better and 24*7 instant assistance. We can link the portal to any government site to attract more users

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Appendices

1-Install Python

pip install python

2-Install Django

pip install django

3–To create project

django-admin startproject projectname

4-To Create app

python manage.py startapp appname

5-To create database

python manage.py makemigrations

6-To save database

python manage.py migrate

7-To run the project

python manage.py runserver

8-To Install Pandas

pip isntall pandas

9-To install matplotlib

pip install matplotlib

Publication

Paper entitled ”Annadata: A Web Based Farmer’s Portal” is presented at “ICTIS” by “Cdt. Swarad Hajarnis, Mr. Kaustubh Sawant, Mr. Shubham Khairnar, Dr. Sameer Nanivadekar, Prof. Sonal Jain”.