ESTIMATETHE CROP YIELD USING DATA ANALYTICS

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1. **INTRODUCTION**

Project Overview

      Agriculture forms the basis for food security and hence it is important. In India, majority of the population i.e., above 55% is dependent on agriculture as per the recent information. Agriculture is the field that enables the farmers to grow ideal crops in accordance with the environmental balance. In India, wheat and rice are the major grown crops along with sugarcane, potatoes, oil seeds etc. Farmers also grow non-food items like rubber, cotton, jute etc. More than 70% of the household in the rural area depend on agriculture. This domain provides employment to more than 60% of the total population and has a contribution to GDP also (about 17%) [1]. In the farm output, India ranks second considering the world wide scenario. This is the

widest economic sector and has an important role regarding the framework of socio-economic fabric of India.

Farming depends on various factors like climate and economic factors like temperature , irrigation, cultivation, soil, rain fall, pesticide and fertilizers. Historical information regarding crop yield provides major input for companies engaged in this domain. These companies make use of agriculture products as raw materials, animal feed, paper production and so on. The estimation of production of c rop helps these companies in planning supply chain decision like production scheduling. The industries such as fertilizers, seed, agrochemicals and agricultural machinery plan production and activities like marketing based on the estimates of crop yield [2]. Farmers experience was the only way for prediction of crop yield in the past days.

Technology penetration into agriculture field has led to automation of the activities like yield estimation, crop health monitoring etc. Crop yield prediction has generated a lot interest in the research community and also for agriculture related organizations. Crop yield prediction helps the farmers in various ways by providing the record of previous crop yield. This is helpful to government in framing policies related to crops such as crop insurance policies, supply chain operation policies. Knowing what crops has been grown, and how much area of it had been

shown historically, combined with the prices at which it could have been sold at the nearest market-place provides the income-growth profile of the farmer.

Purpose

Agriculture sector is struggling to increase the productivity of crop in India. Monsoon rainfall is the main source of water for more than 60 percent of the crops. Smart agriculture driven by Information Technology is the emerging trend in the research in this area in recent days. One of the areas being explored is the problem of yield prediction which is a major concern. Data mining techniques are being widely used as a part of solution for crop yield prediction. Various data mining techniques are under evaluation for estimation of cropproduction of the future years. Data mining is the process in which the hidden patterns are discovered using analysis of large data sets. The data mining and data analytics techniques use artificial intelligence, statistics, machine learning and database system. In data mining, unsupervised and supervised methods are being used. In unsupervised learning, clusters are formed using large data sets and in supervised learning classification are done based on the data sets. In clustering technique, 'data points' are examined to group them into 'clusters' according to specific parameter. The data points in same cluster have less distance compared to data points of different clusters. The analysis of the cluster divides data into well organized groups. The natural structure of the data is captured by these well-formed groups

LITERATURE SURVEY

Existing problem

Agrarian sector in India is facing rigorous problem to maximize the crop productivity. More than 60 percent of the crop still depends on monsoon rainfall. Recent developments in Information Technology for agriculture field has become an interesting research area to predict the crop yield. The problem of yield prediction is a major problem that remains to be solved based on available data. Data Mining techniques are the better choices for this purpose. Different Data Mining techniques are used and evaluated in agriculture for estimating the future year's crop production. This paper presents a brief analysis of crop yield prediction using Multiple Linear Regression (MLR) technique and Density based clustering technique for the selected region i.e. East Godavari district of Andhra Pradesh in India.

References

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Problem Statement Definition

It's not a coincidence that the science of teaching computers to learn and create models for predictions is so widely applied. The global economy depends heavily on the agricultural sector. Understanding global agricultural output is essential to addressing issues of food security and minimising the effects of climate change as the human population continues to grow. Predicting crop yields is a significant agricultural issue. Weather factors (rain, temperature, etc.), as well as pesticides, are the main determinants of agricultural productivity. Making judgments regarding agricultural risk management and forecasting requires accurate knowledge of crop yield history.

Although food is prepared very differently all around the world, the fundamental elements that keep people alive are quite similar. We consume large amounts of rice, corn, wheat, and other basic crops. In this project, the World Data Bank and FAO make their publicly available data used to anticipate the ten most eaten crops. Regression analysis is a type of predictive modelling technique that looks at how an independent variable (s) and a dependent variable (target) are related (predictor). The project's regression models

• Gradient Boosting Regressor

• Random Forest Regressor
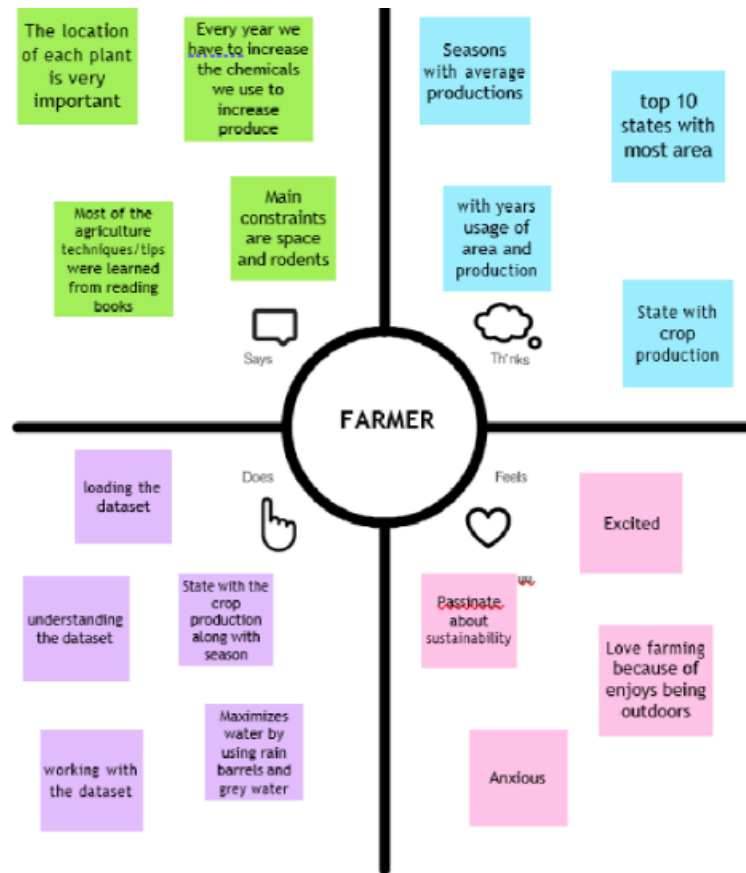
• SVM

• Decision Tree Regressor

It is the proportion of the variance in the dependent variable that is

predictable from the independent variable, where it is a statistical measure

between 0 and 1 which calculates how similar a regression line is to the data it's fitted to. If it's a 1, the model 100% predicts the data variance; if it's a 0, the model predicts none of the variance.Factors include humidity, sunlight and factors involving the climate. Environmental factors refers to soil conditions. In this model two climate and one environmental factors are selected, rain and temperature. In addition to pesticides that influence plant growth and development. Rain has a dramatic effect on agriculture, for this project rainfall per year information was gathered from the World Data Bank in addition to average temperature for each country.

IDEATION & PROPOSED SOLUTION

Empathy Map Canvas

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviors and attitudes. It is a useful tool to help teams well understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.
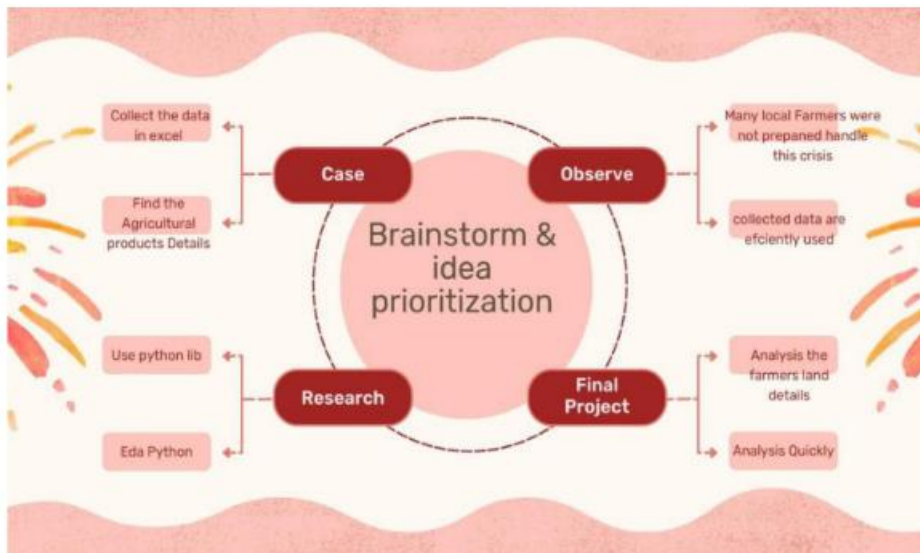
The location of each plant is very important

Every year we have to increase the chemicals we use to increase produce

Seasons with average productions

top 10 states with most area

Most of the agriculture techniques/tips were learned from reading books

Main constraints are space and rodents

with years usage of area and production

State with crop production

Says

Th'nks

FARMER

loading the dataset

Does

Feels

Excited

understanding the dataset

State with the crop production along with season

Passionate about sustainability

Love farming because of enjoys being outdoors

working with the dataset

Maximizes water by using rain barrels and grey water

Anxious

Ideation & Brainstorming

Brainstorming provides a free and open environment that encourages everyone within team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Reference: https://www.mural.co/templates/empathy-map-canvas

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Step-2: Brainstorm, Idea Listing and Grouping

3.Prioritize

Proposed Solution

Project team shall fill the following information in proposed solution template.

1. Problem Statement (Problem to be solved) India is one of the top countries for agricultural output, making crop production one of the most significant sources of revenue in the country. Inputs like seed, water, pesticides, and fertilizers may be used precisely and at the proper moment for the crop to maximize production, quality, and yields due to digital farming. To choose the crops that will be grown in a field, the majority of farmers follow conventional agricultural practices. Farmers may make better decisions for healthy crop production based on statistics.

2. Idea / Solution description Crop production in India is one of the most important sources of income and India is one of the top countries to produce crops. As per this project we will be analyzing some important visualization, creating a dashboard and by going through these we will get most of the insights of Crop production in India.

3. Novelty / Uniqueness Agriculture is important for human survival because it serves the basic need. Due to variations in climatic conditions, there exist bottlenecks for increasing the crop production in India. It has become challenging task to achieve desired targets in Agri based crop yield. To choose the crops that will be grown in a field, the majority of farmers follow conventional or traditional agricultural practises. Farmers may make better decisions for healthy crop production based on statistics. Agricultural statistics are useful for planning, monitoring and evaluation purposes. Therefore, we use IBM Cognos BI tool in order to provide a useful insights from the data regarding the agriculture of India and perform analytics and provide necessary statistics in order to increase the crop production.

4. Social Impact / Customer Satisfaction Crop yield prediction is one of the important factors in agriculture practices. Farmers need information regarding crop yield before sowing seeds in their fields to achieve enhanced crop yield. The use of technology in agriculture has increased in recent year and data analytics is one such trend. By performing analytics in given data and providing useful insights such as average crop production season wise will help farmers to identify the season with high and least crop production with help of insight, and we can also get to know the area that's been used yearly for crop production, by producing such insights it will create a good impact in efficiency of crop production in agriculture.

5. Business Model (Revenue Model) Supply chain operation between farmers and Entrepreneurs. Helps the companies in project scheduling. Farmers can achieve enhanced crop yield by predicting the yield before sowing the seeds. farmers can overcome the challenging tasks involved in crop production. The estimation of production of crop help the companies in planning supply chain decision

6. Scalability of the Solution In terms of scalability of the project, we can increase the crop yield production by performing analytics and interpreting useful insights from given data. Insights such as estimating the season wise average crop production, estimating yearly area used in crop production, by providing such insights this can help farmers taking a better decision I'm choosing suitable crops according to season and we can get to know the state in India with least crop production and can focus on those states to increase their crop production. Therefore, this solution can significantly increase the scalability of the crop production in India.

Problem solution fit

1.Customer segment

Data Analytics in Agriculture Market research discusses the market's upcoming problems and possibilities. By offering allof the crucial facts linked to market growth, the study ensures a reinforced position in the industry and a rising product portfolio.

2.Jobs-to-be-done / j&p problems

It is crucial to understand the current nutrient levels of the soil to be able to ascertain which areas require improvement. Our LaquaTwinrange of portable meters can provide in-field analysis in your poc

3.Triggers

- Soil and Crop analysis
- Weather Prediction
- Fertilizer Recommendation
- Disease Detection and Pest Management
- Adaptation to climate change
- Automated Irrigation System

4. Emotion: Before / After

BEFORE: Limitations include data and metadata gaps, insufficient data storage, preservation, and documentation, lack ofscalable spatiotemporal big data analytics methods, and inadequate secure data-sharing mechanisms.

AFTER: enables the farmer to not only conduct better practices but also to be able to make predictions and extemporaneous adjustments due to factors such as weather, as well as more accurate calculations regarding product and fertilizer type, amounts, and application rates.

5. Available Solution's

Smart-agricultural-system

The proposed system will integrate the dataobtained from soil, crop repository, weather department and by applying machine learning algorithm: Multiple Linear Regression, a prediction of most suitable crops according to current environmental conditions is made. This provides a farmer with variety of options of crops that can be cultivated. https://www.youtube.com/watch?v=7z R- 3olbr9E&t=186s.

REQUIREMENT ANALYSIS

Functional requirement

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement(Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration throughForm Registration throughGmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via EmailConfir mation via OTP
FR-3	Login to Dashboard	Visualizations of crop growthrate
FR-4	Interactive Dashboard	Change the fieldsof visualizations according to userneeds

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Easy to access and use the Dashboard effectively
NFR-2	**Security**	User login credentials are maintained in a securedmanner and restricted to unauthorised access
NFR-3	**Reliability**	Dataset used are collected from trustworthy sitesand it is up-to date

NFR-4	**Performance**	Higher performance
NFR-5	**Availability**	Actively available to all sources
NFR-6	**Scalability**	It is scalable sinceit has interactive Dashboard

## PROJECT DESIGN

Data Flow Diagrams

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.
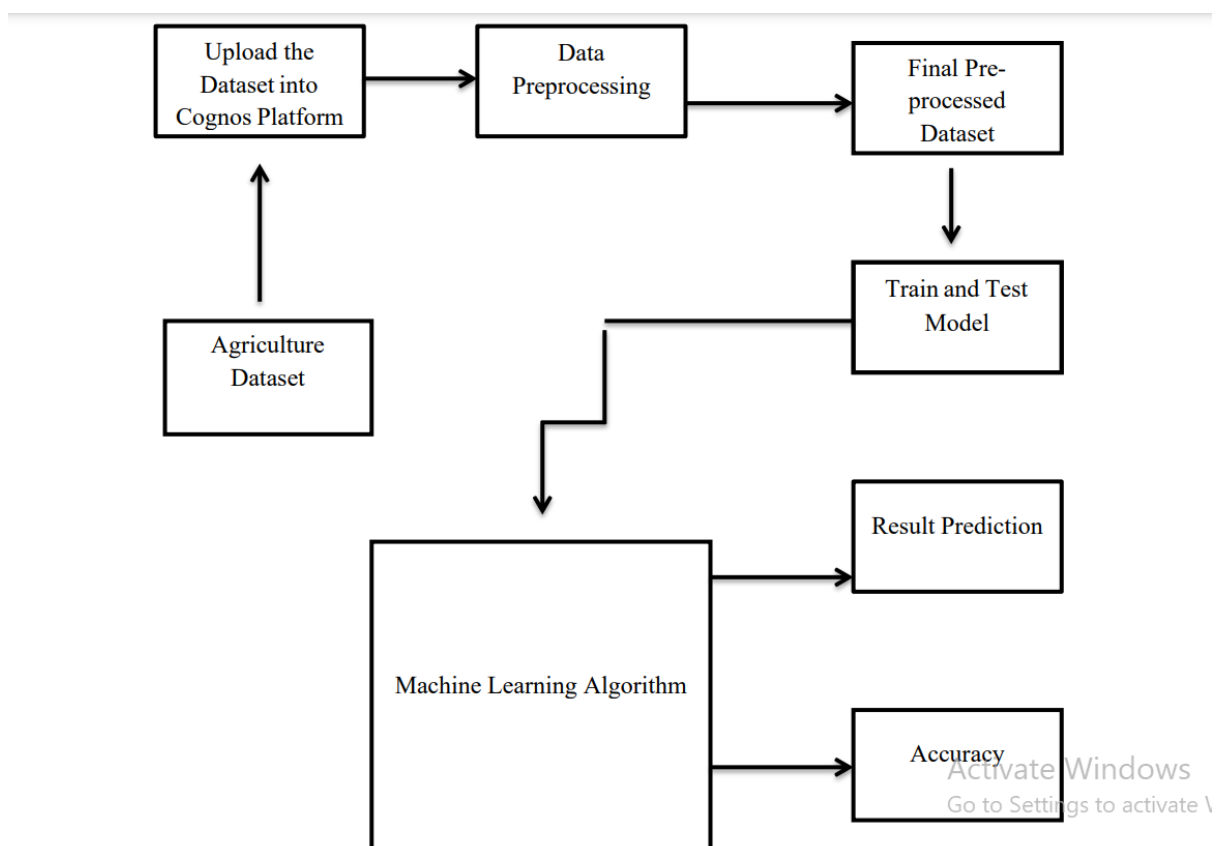
Solution & Technical Architecture

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behaviors, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.
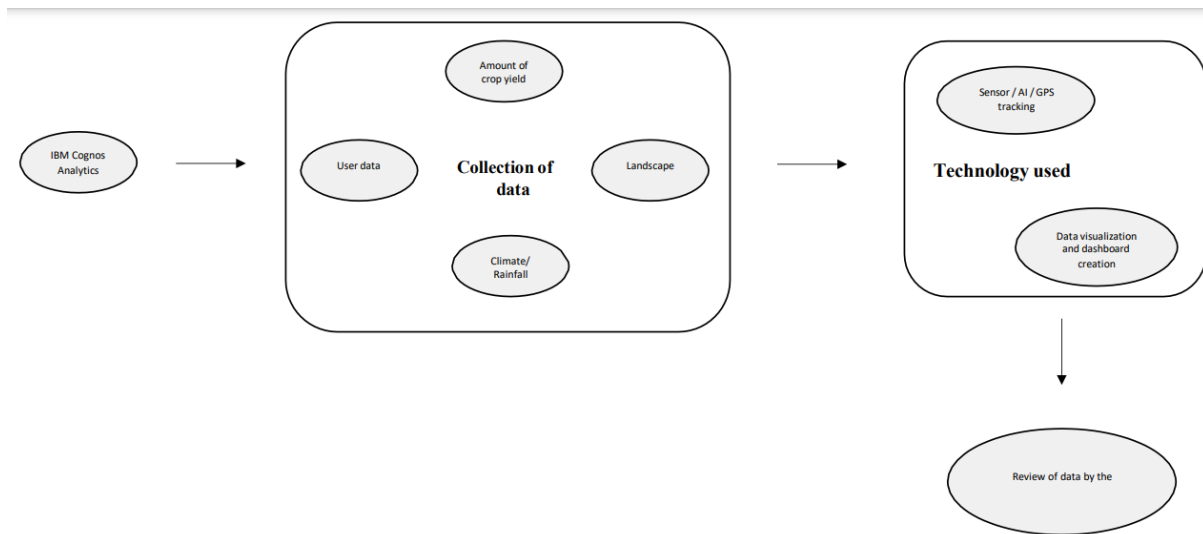
Project Planning Phase

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement(Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	user can register for the application byentering my email and password	1	High	PRIYA T

Sprint						
Sprint-1	Registration	USN-2	User will receive email if the registration is successful. That the registration hasconformed	1	High	PRIYA T
Sprint-2	Registration	USN-3	As a user, I can register by any browser.	2	Low	KIRUTHIKA K
Sprint-1	Data extract	USN-4	As a user, I can extract data	1	Medium	POOJA J M
Sprint-1	Login	USN-5	As a user, I can log into the application byentering email & password	2	High	PRATIBA T
Sprint-2	Dashboard	USN-6	I can access the dashboard of mine.	1	Medium	POOJA J M
Sprint-1	Activity	USN-7	I can register for the application throughany web browser.	1	low	KIRUTHIKA K
Sprint-1	Access resources	USN-8	I can use my credentials For accessing myresources.	1	high	PRIYA T
Sprint-2	Set events	USN-9	As, a user I can schedule events and setevents.	1	high	PRATIBA T
Sprint-3	Tools	USN-10	I can perform analysis by tools(cognos andwith ML)	1	high	POOJA J M

Sprint	Total StoryPoints	Duration	Sprint Start Date	Sprint End Date(Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date(Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

Velocity

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

Burndown Chart

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile **software development** methodologies suchas **Scrum**. However, burn down charts can be applied to any project containing measurable progress over time.

Reports from JIRA

CODING & SOLUTIONING

Feature 1

LO GIN	
	<!DOCTYPE html>
	<html>
	<head>
	<meta name="viewport" content="width=device-width, initial-scale=1">
	<title> Login Page </title>
	<style>
	Body {
	font-family: Calibri, Helvetica, sans-serif;
	background-color:white;
	background-image: url('https://2.bp.blogspot.com/-pLLWS1j5PCQ/VqyQUTUqtdI/AAAAAAABE64/QYlUh6421co/s1600/2de5113 b6a62d0360130b90442106237_large.jpeg');"
	}
	button {
	background-color:#c3e3dc;
	width: 100%;
	color: purple;
	padding: 15px;
	margin: 10px 0px;
	border: none;
	cursor: pointer;
	}
	form {
	border: 3px solid #f156189;
	}
	input[type=text], input[type=password] {
	width: 100%;
	margin: 8px 0;
	padding: 12px 20px;
	display: inline-block;

```
        border: 2px white;
        box-sizing: border-box;
    }
button:hover {
    opacity: 0.7;
    }
  .cancelbtn {
        width: auto;
        padding: 10px 18px;
        margin: 10px 5px;
    }


.container {
        padding: 25px;
<!--      background-color:pink; -->
    }
</style>
</head>
<body>
   <center> <h1>Login Form </h1> </center>
    <form>
       <div class="container">
          <label>Username : </label>
          <input type="text" placeholder="Enter Username" name="username" required>
          <label>Password : </label>
          <input type="password" placeholder="Enter Password" name="password" required>
          <button type="submit">Login</button>
          <input type="checkbox" checked="checked"> Remember me
          <button type="button" class="cancelbtn"> Cancel</button>
          <a href="#"> Forgot password? </a>
```

	</div>
	</form>
	</body>
	</html>

Feature 2

<!DOCTYPE html>	
	<html>
	<head>
	<title></title>
	<meta name="viewport" content="width=device-width, initial-scale=1.0">
	<link rel="stylesheet" type="text/css" href="{{url_for('static',filename='style.css')}}">
	<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css">
	<!-- jQuery library -->
	<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.1/jquery.min.js"></script>
	<!-- Latest compiled JavaScript -->
	<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
	<script src="https://www.google.com/recaptcha/api.js" async defer></script>

```css
<style type="text/css">
  body{
    margin: 10px 10px 10px 100px;
    background-color: aliceblue;

  }

  .error {
    color: red;
  }

  .fm1 {
    text-align: center;
  }

  .lb1 {
    text-align: center;
    padding: 25px;
  }

  .lb2 {
    margin-left: 20px;
  }

  .lb3 {
    margin-right: 35px;
  }

  .container {
    display: block;
  }
  .k{
    border-radius: 15px;
```

```
                    }
                </style>
        </head>

        <body>

            <?php
include 'header.php';
?>

                <div class="heading fix">
                    <label class="lb1">REGISTRATION</label>
                </div>
                <div class="outerbox">
                    <div class="fixedbox">
                        <span class="content">
                            <h4>Hello, Friend!</h4>
                            <p>Enter your personal details and start journey with us</p>
                        </span>
                    </div>
                    <div class="scrollbox">
                        <div class="registerdonor">
                        <form action="process.php" method="POST" id="myform">
                            <div class="login">
                                <h3>Login Details</h3>
                                <table class="fm1">
                                    <tr>
                                        <td colspan="2">
                                            <label class="lb1" class="username">User Name:-</label>
                                            <input type="text" name="user_name" required
pattern="^[A-Za-z0-9._%+-@]{5,10}$"
```

	title="Enter a username between 5 to 10 letter" autocomplete="off">
	</td>
	</tr>
	<tr>
	<td>
	<label class="lb1">Full Name:-</label>
	<input type="text" name="user_full_name" required pattern="[A-z]+$"
	title="Use only character & whitespace" autocomplete="off">
	</td>
	</tr>
	<tr>
	<td>
	<label class="lb1">Email Id:-</label>
	<input type="email" name="user_email" required
	pattern="[A-Za-z0-9._%+-]+@[A-z0-9.-]+\.[a-z]{2,}$"
	title="Email id is not Valid" autocomplete="off">
	</td>
	</tr>
	<tr>
	<td>
	<label class="lb1">Password:-</label>
	<input type="password" name="password" required
	pattern="(?=.\d)(?=.[a-z])(?=.*[A-Z]).{6,}"
	title="Must contain at least one number and one uppercase and lowercase letter, and at least 6 or more characters"
	id="password" autocomplete="off">
	</td>
	</tr>
	<tr>

```
<td>
    <label>Confirm Password:-</label>
    <input    type="text"    name="confirm_password"
required
            pattern="(?=.\d)(?=.[a-z])(?=.*[A-Z]).{6,}"
            title="Must contain at least one number and one
uppercase and lowercase letter, and at least 6 or more characters"
            id="confirm_password" autocomplete="off">
</td>
</tr>
</table>
</div>
<div class="container">
    <h3>Contact Details</h3>
    <table class="fm1">
        <tr>
            <td>
                <label>Mobile Number:-</label>
                <input type="text" name="user_number" required
pattern="^[1-9]{1}[0-9]{9}$"
                    title="Number is not valid" autocomplete="off">
            </td>
        </tr>
        <tr>
            <td>
                <label class="lb1">Pincode</label>
                <input    type="text"    name="pincode"    required
pattern="^[0-9]{6}$"
                    title="Pincode is not valid" autocomplete="off">
            </td>
        </tr>
        <tr>
            <td rowspan="1">
```

```html
            <label class="lb1">Address:-</label>
            <textarea name="Address" placeholder="follow with pincode" required></textarea>
          </td>
        </tr>

        <!-- <tr>
          <td>
            <label class="lb1">City:-</label >
            <input type="text" name="city">
          </td>
        </tr> -->
        <tr>
          <td>
            <label class="lb1">State:-</label>
            <input type="text" name="state">
          </td>
        </tr>
      </table>
    </div>
    <div class="personal">
      <h3>Personal Details</h3>
      <table class="fm1">
        <tr>
          <td>
            <label>Date Of Birth:-</label>
            <input type="date" name="date_of_birth" required autocomplete="off">
          </td>
        </tr>
        <tr>
          <td>
            <div class="radio">
```

	<label class="lb3">Gender:-</label>
	<input type="radio" name="gender" class="radio1" value="Male"><span
	class="radioname" required autocomplete="off">Male
	<input type="radio" class="radio2" name="gender" value="Female"><span
	class="radioname" required autocomplete="off">Female
	</div>
	</td>
	</tr>
	<tr>
	<td>
	<label class="lb1">Blood Group</label>
	<input type="text" list="bloodgroup" name="blood_group" placeholder="----Select----"
	required autocomplete="off">
	<datalist id="bloodgroup">
	<option value="A+"></option>
	<option value="A-"></option>
	<option value="AB+"></option>
	<option value="B+"></option>
	<option value="B-"></option>
	<option value="O+"></option>
	<option value="O-"></option>
	</datalist>
	</td>
	<!-- <tr>
	<td>
	<label class="lb1">Plasma Type</label>
	<input type="text" list="plasmatype" name="plasma_type" placeholder="----Select----"

```html
                        required autocomplete="off">
            <datalist id="plasmatype">
                    <option value="Hot"></option>
                    <option value="Warm"></option>
                    <option value="Cold"></option>
                    <option value="Ultra Cold"></option>
            </datalist>
        </td>
    </tr> -->
    <tr>
        <td>
            <label class="lb1">Weight In Kg :-</label>
            <input type="number" name="weight" required
autocomplete="off">
        </td>
    </tr>
</table>
</div>


        <p class="lb2"><input type="checkbox" name="terms"
id="checkbox" required autocomplete="off">
            <!-- I agree to have my contact details broadcasted to the
registered donors of PGHS.net -->
        I agree that the above details are true </p>

        <input type="reset" class="lb2 k" name="submit"
value="Reset">
        <a href="login.html">
            <input type="button" class="lb2 k"
onclick="href='login.html';" value="Submit"></a>
    </div>
    </form>
```

	</div>
	</div>
	</div>
	<!-- Responsive table -->
	<div class="rregisterdonor">
	<form action="process.php" method="POST" id="myform">

USER ACCEPTANCE TESTING

PURPOSE OF DOCUMENT

The purpose of this document is to briefly explain the test coverageand open issuesof the [Estimate the crop yield using data analytics] project at the time of the release to User Acceptance Testing (UAT).

DEFECT ANALYSIS

This reportshows the numberof resolved or closed bugs at each severity level, and how they were resolved

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	9	3	2	3	18
Duplicate	1	0	3	0	4

External	2	3	0	1	6
Fixed	10	2	4	20	36
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	22	13	13	26	72

TEST CASE ANALYSIS

This reportshows the numberoftest cases that have passed,failed,and untested

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	51	0	0	51
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	9	0	0	9
Final ReportOutput	4	0	0	4
Version Control	2	0	0	2

RESULTS

Performance Metrics

Model Performance Testing:

Project team shallfill the following information in modelperformance testingtemplate.

S. No.	Parameter	Screenshot / Values
1.	Dashboardde sign	No of Visualizations / Graphs – 5 - 6vi sualization/5 - 6 graphs
2.	DataResponsi veness	Users and Analyst or Developers
3.	Amount Data toRendered (DB2 Metrics)	7 districts
4.	Utilization ofData Filters	Simple or Gravity ,hotand Vacuum Filtration
5.	Effective UserStory	No of Scene Added – 40 user stories
6.	DescriptiveR eports	No of Visualizations / Graphs – 4 visualization / 4 graph

ADVANTAGES

Crop yield prediction is also used by farmers to make decisions about when toplant and harvest crops based on soil moisture content, pest infestations, and otherfactors such as weather conditions and fertilizer requirements.

CONCLUSION

The work demonstrated the potential use of data mining techniques in predicting the crop yield based on the input parameters average rainfall and area of field. The developed webpage is user friendly and the accuracy of predictions area above 90 percent. The districts selected in the study indicating higher accuracy of prediction. The user friendly web page developed for predicting crop yield can be used by any user by providing average rainfall and area of that place. The process was adopted for all the area to improve and authenticate the validity of yield prediction which are usefulfor the farmersfor the prediction of a specific crop.

GitHub & Project Demo Link
https://github.com/IBM-EPBL/IBM-Project-22408-1659851073.git

https://ap2.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2
FIBM&action=view&mode=dashboard&subView=model00000184767b3b30_00000000