

ESTIMATE THE CROP YIELD USING DATA ANALYTICS

INTRODUCTION

Crop yield prediction is one of the challenging tasks in agriculture. It plays an essential role in decision making at global, regional, and field levels. The prediction of crop yield is based on soil, meteorological, environmental, and crop parameters. Crop prediction attributes are defined by multiple factors such as genotype, climate and the interactions between the two. Accurate crop prediction needs a fundamental understanding of the functional relationship between cultivation and interactive factors like the genotype and climate.

PROJECT OVERVIEW

Data analytics based on prior crop prediction, soil quality analysis to achieve high crop yield throughout technology solution. The main objectives of this project is to predict crop-yield which can be extremely useful to farmers in planning for harvest and sale of grain harvest.

PURPOSE

Crop yield estimation has an important role on economy development. These predictions warn the decision makers about potential reduction in crop yields and allow timely import and export decision.

LITERATURE SURVEY

At present we are at the immense need of another Green revolution to supply the food demand of growing population. With the decrease of available cultivable land globally and the decreased cultivable water resources, it is almost impossible to report higher crop yield. Agricultural based data analytics is one approach, believed to have a significant role and positive impact on the increase of crop yield by providing the optimum condition for the plant growth and decreasing the yield gaps and the crop damage and wastage. With this aim the present paper reviews about the various advances, design models, software tools and algorithms applied in the prediction assessment and estimation of the crop yield. India is basically agriculture based country and approximately 70% our country economics is directly or indirectly related to the agricultural crops. The principle crop which occupies the highest (60-70%) percentage of cultivable land in the Indian soil is the paddy culture and it is the major crop especially in central and south parts of the India. Rice crop cultivation plays an imperative part in sustenance security of India, contributing over 40% to general yield generation. The enhanced yield of the rice crop depends largely on the water availability and climatic conditions. For example, low precipitation or temperature extremes can drastically diminish rice yield. Growing better strategies to foresee yield efficiency in a mixture of climatic conditions can help to understand the role of different principle factors that influence the rice crop yield. Data analytics methods related to the rice crop yield prediction and estimation will certainly support the farmers to understand the optimum condition of the significant factors for the rice crop yield.

EXISTING PROBLEM

Initially the raw data set was collected and it is subjected to preprocess for noise removing (replacement of missing values) and computational methods. From that dataset, it is subjected to Feature selection for make a predictive modeling. In this proposed approach it is mainly focused on Regression Techniques. Various regression analysis should be performed and it was compared and tested. Regression analysis is a form of predictive modeling technique which investigates the association between a dependent (target) and independent variable(s) (predictor). This technique is used for forecasting, time series modeling and discovers the causal effect relationship between the variables. Regression analysis indicates the significant relationships between dependent variable and independent variable and it indicates the strength of impact of multiple independent variables on a dependent variable.

REFERENCES

1. Apolo-Apolo OE, Martínez-Guanter J, Egea G, Raja P, PérezRuiz M. 2020. Deep learning techniques for estimation of the yield and size of citrus fruits using a UAV. European Journal of Agronomy. 115. doi:<https://doi.org/10.1016/j.eja.2020.126030>. [Crossref], [PubMed], [Web of Science ®], [Google Scholar]
2. Apolo-Apolo OE, Pérez-Ruiz M, Martínez-Guanter J, Valente J. 2020. A cloudbased environment for generating yield estimation maps from apple orchards using UAV imagery and a deep learning technique. Frontiers in Plant Science. 11. doi:<https://doi.org/10.3389/fpls.2020.01086>. [Crossref], [PubMed], [Web

of Science ®], [Google Scholar]

3. Chlingaryan A, Sukkarieh S, Whelan B. 2018. Machine learning approaches for crop yield prediction and nitrogen status estimation in precision agriculture: A review. Computers and Electronics in Agriculture. 151:61–69. doi:<https://doi.org/10.1016/j.compag.2018.05.012>. [Crossref], [Web of Science ®], [Google Scholar]

4. Dharani M, Thamilselvan R, Natesan P, Kalaivaani P, Santhoshkumar S. 2021. Review on crop prediction using deep learning techniques. Paper presented at the Journal of Physics: Conference Series. [Crossref], [Google Scholar]

PROBLEM STATEMENT DEFINITION

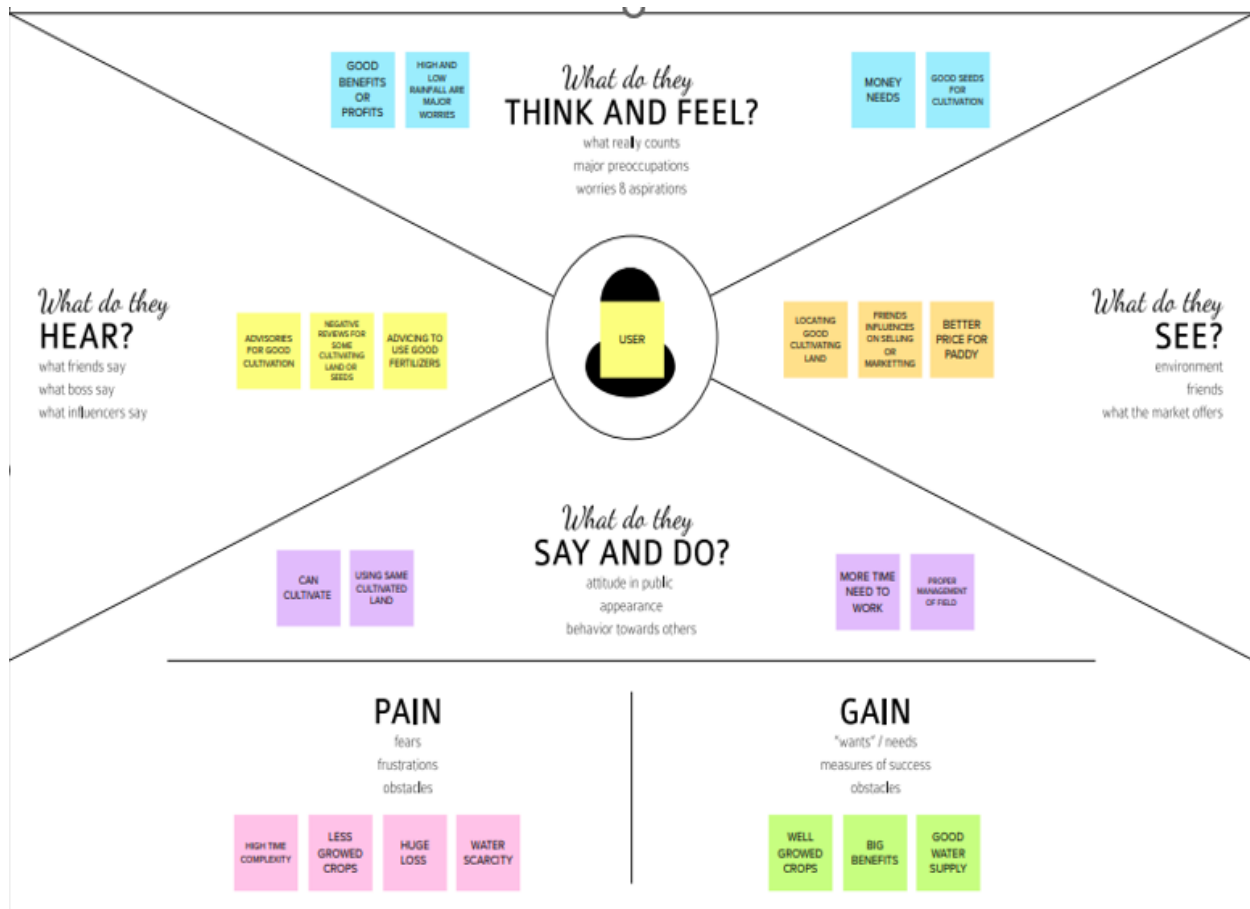
Data based on prior crop prediction, soil quality analysis to achieve high crop yield throughout technology solution. The main objectives of this project is to predict crop-yield which can be extremely useful to farmers in planning for harvest and sale of grain harvest.

1.What does the problem affect?	1.Water availability 2.Air pollution 3.Temperature etc...
---------------------------------	--

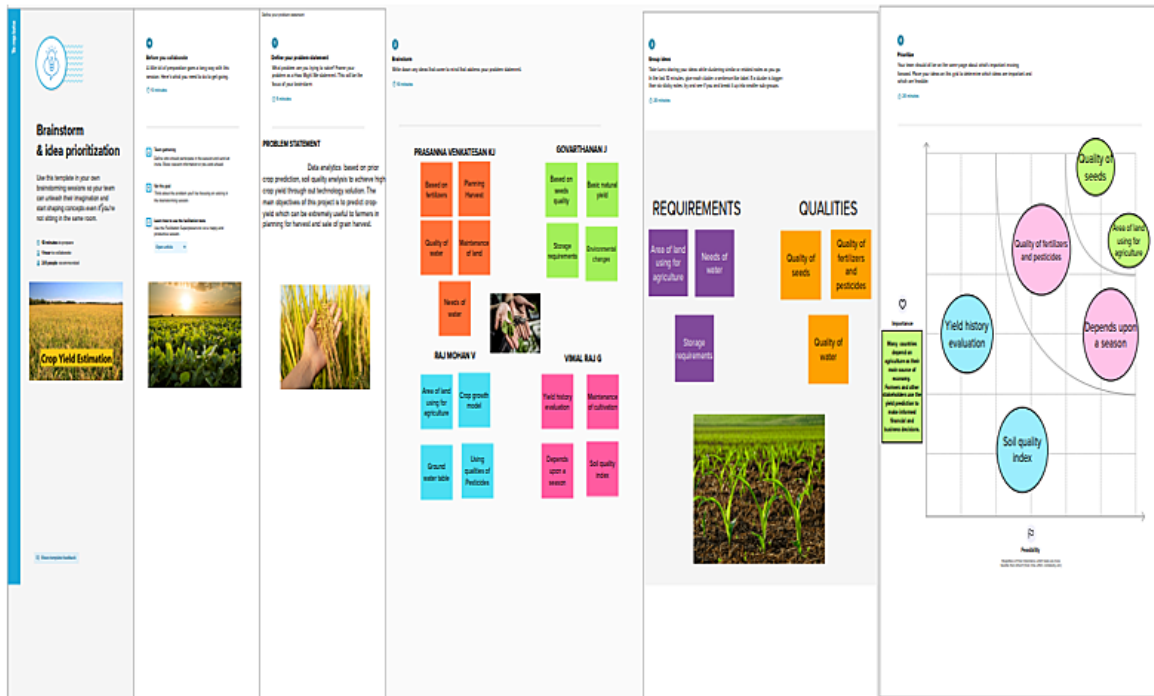
2.What are the boundaries for the problem?	Boundary line analysis is one way to examine how soil variables influences crop yield in large datasets
3.What is the issue?	1.Changing of climate 2.Sudden change in Weather
4.When does the issue occur?	1.No Proper maintenance 2. Over dose of pesticides and fertilizers
5.Why it is important that we fix the problem?	Improving the yields in crop on a global basis will allow farmers to meet global demand for feed, fuel and food while minimizing the need to bring amount of the new land into the crop production.
6.What methodology used to solve the issue?	1.Monitoring crops growth 2. Regular Scouting 3.Crop protection
7.where does the issue occur?	Using the fertilizers and pesticides above the limited levels it can be caused the Crop severely.

IDEATION & PROPOSED SOLUTION

EMPATHY MAP CANVAS



IDEATION & BRAINSTORMING



PROPOSED SOLUTION

In this proposed system, the datasets are collected and refined based on the commonality. The input parameters are given. By analysing and predicting using KNN algorithm, the result are produced and some suggestions are given.

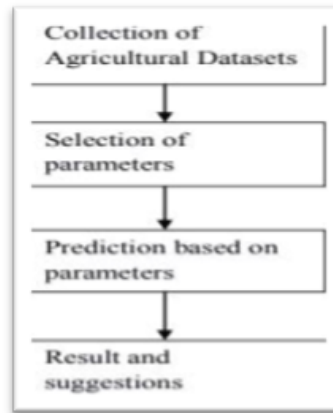


Fig. -1: Proposed Architecture

Step 1: The datasets have been collected and refined based on commonality uses such as location, crop, Area, soil type, temperature, humidity etc. From these parameters name of the crop and net yield rate of the crop can be predicted.

Step 2: Based on various analyses the parameters location, soil type and area are taken as input and prediction have been undertaken. The attribute soil type specifies the type of soil in a particular region such as Coastal alluvials, Laterite soil and Dark brown alayey soil and the attribute location specifies the 4 different areas such as Mangalore, Kodagu, Hassan, Kasargod.

Step 3: By using KNN algorithm, the particular crop has been analysed and predicted by taking various parameters into an account such as soil type area and location.

Step 4: By analysing and predicting the crop name and price of particular crop can be found out. This helps the farmers to take the correct decision to sow the crops such that yield rate can be increase.

PROBLEM SOLUTION FIT

Problem-Solution fit canvas 2.0 Purpose / Vision

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Who is your customer? i.e. working parents of 0-5 y.o. kids Farmers who involved in 6 months cultivation of land and or doing farming as a fulltime job	6. CUSTOMER CONSTRAINTS CC What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices. Need effective fertilizers, enough water supply, better growing seeds ,enough money to buy all the item	5. AVAILABLE SOLUTIONS AS Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking Ground water is used as alternative for low rainfall ,they tried to use other lake water to grow the crops earlier ,the groundwater level (deceases)is a major cons .	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS J&P Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides. Recommend user to cultivate according to climate and water availability and explain about previous profits and losses	9. PROBLEM ROOT CAUSE RC What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations. Water scarcity when the crops growing and changes have been taken to grow the crops in different manner	7. BEHAVIOUR BE What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace) Directly Related : Easy to use ,can predict the water availability correctly and accurately Indirectly Associated : Required high water and money	
Identify strong TR & EM	3. TRIGGERS TR What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news. Nearby lands are cultivated by high yielding seeds that's triggers you to use same seeds in your land	10. YOUR SOLUTION SL If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour. 1)use high yield producing seeds and fertilizers 2)cultivate at right time at right place according to season 3)using other resources (water resources) eg. Ground water	8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 Uploading land location ,area and soil moisture etc... 8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development Taking survey of land and checking moisture and land or sand fertility by experts	Extract online & offline CH of BE
	4. EMOTIONS: BEFORE / AFTER EM How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design. Loss - when high rainfall insecure – animals interrupt (birds) in control – whole land by personnel			

Problem Solution fit canvas is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 license
 Created by Daria Naprahona / Amaltama.com

AMALTAMA

REQUIREMENT ANALYSIS

FUNCTIONAL REQUIREMENT

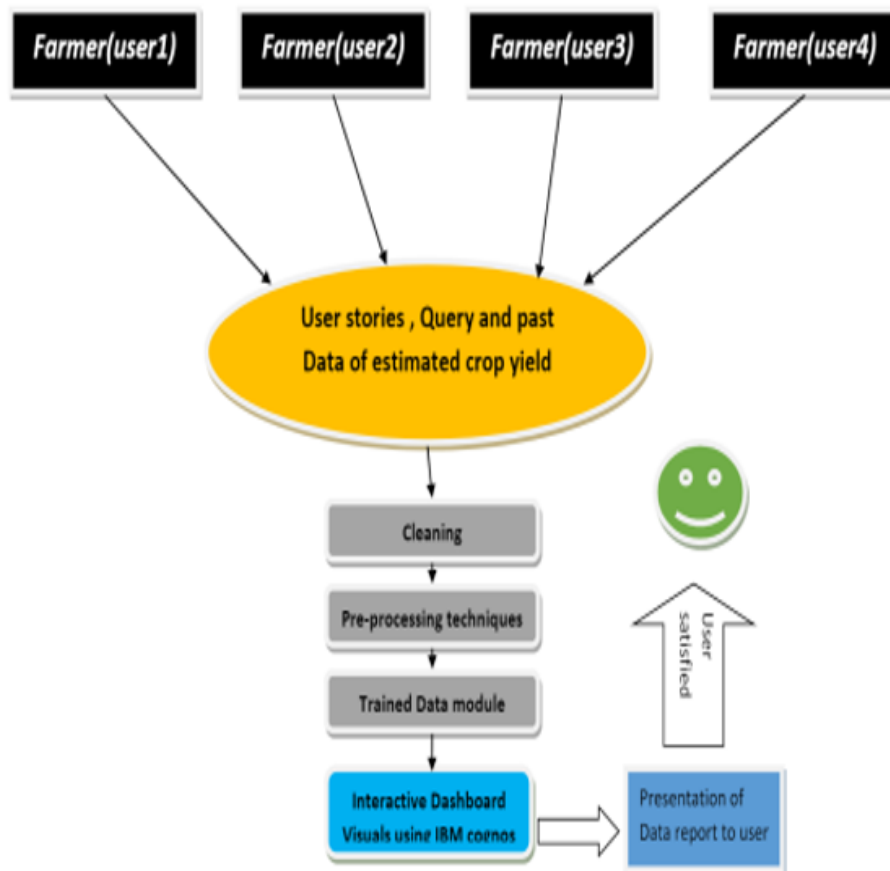
The Functional Requirements Definition reports and tracks the basic information expected to effectively portray business and handy necessities. The Functional Requirements Definition report is made in the midst of the Planning Phase of the endeavor. Its objective gathering is the endeavor boss, errand gathering, wander bolster, client/customer, and any accomplice whose information/respect into the necessities definitions system is required

NON-FUNCTIONAL REQUIREMENTS

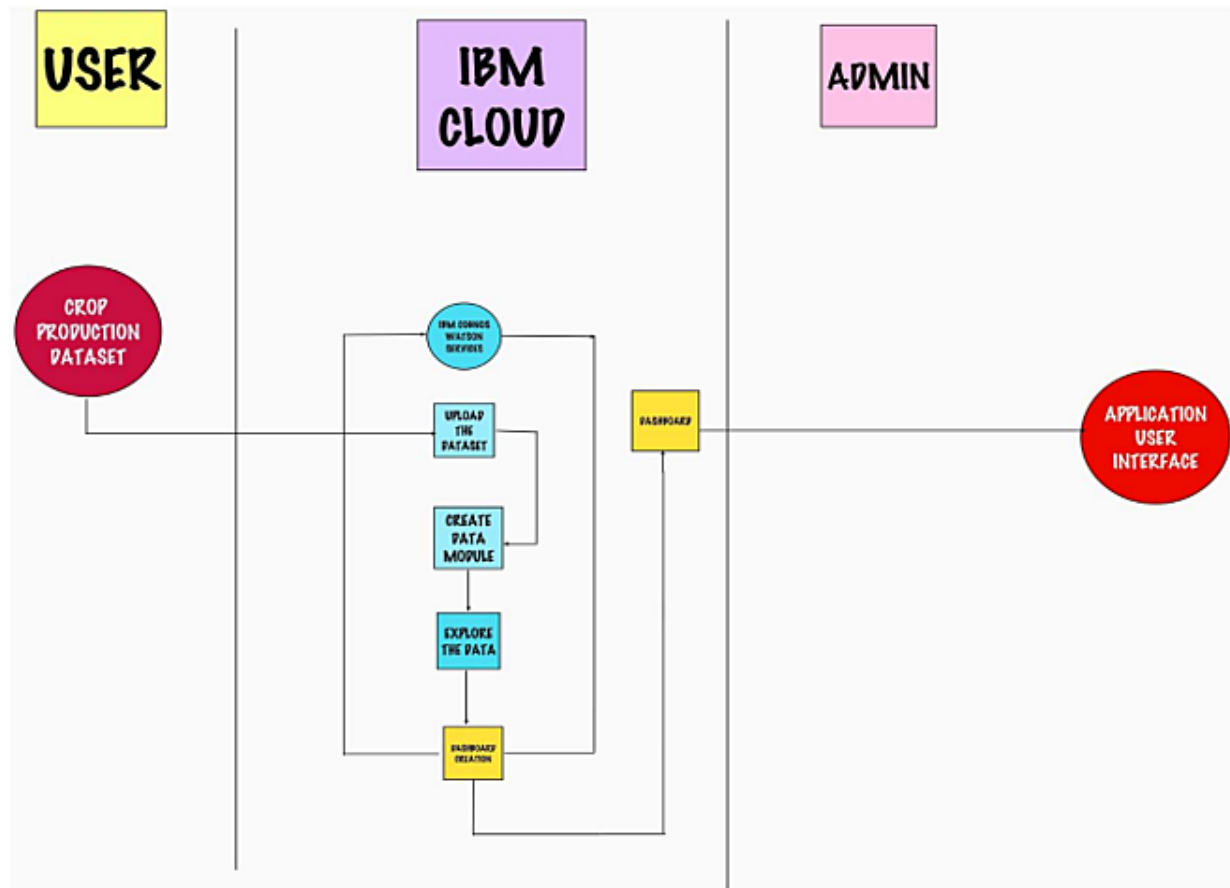
A non-functional requirement (NFR) is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. Non functional requirements specifies the quality attribute of a software system. The software system can be judged based on reliability, security, maintainability, performance, portability, scalability and flexibility

PROJECT DESIGN

DATA FLOW DIAGRAMS



SOLUTION & TECHNICAL ARCHITECTURE



USER STORIES

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Farmer)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Whatsapp , Facebook	I can register & access the dashboard with Whatsapp , Facebook Login	Low	Sprint-1
	Required Data	-	Cropping history , profit and loss in their farming	Past dataset of cropping and field estimation of crop yield	High	Sprint-2
	Analysis		Clean and analyse to data according to the set past data		High	Sprint-3
Customer Care Executive	Customer Care Executive (Communication)		As a user, i can provide support systems for companies that often communicate with the customers	I can maintain strong relationships with customer and client ,so I can ease their queries and increase productivity	medium	Sprint-4
Estimator	Estimation		As a user,i can see all the items we will try to estimate this session	I have a feel for the size of the various items in the product based	Medium	Sprint-4

PROJECT PLANNING & SCHEDULING

SPRINT PLANNING & ESTIMATION

Log in to IBM

IBMid

[Forgot IBMid?](#)☐ Remember me ⓘ[Continue](#) →Don't have an account? [Create an IBMid](#)Need help? [Contact the IBMid help desk](#)

Products

Trials

1 Offering

**Cognos Analytics on Cloud
Trial for Students****Active**

Expires on Sep 6, 2023

[Launch](#)[Manage](#)[Need help? Get product support](#)**Let IBM provide you technology and business solutions to fit
your needs**IBM's extensive list of offerings helps you find products that fit your technology and
business needs. Get started with a free trial today![View catalog](#)

IBM Cognos Analytics with Watson

Search content

Open menu

Alert: Scheduled maintenance completed. Click More Info for details and to subscribe to future events


Dismiss

More info


Hello. Welcome to Cognos Analytics with Watson.

You can get started right away by taking a look at our introduction video, product tour and Getting Started tab.

[Watch video](#)[Take a product tour](#)




Quick launch




Upload data

Upload or drag and drop spreadsheets, csv files, and other




Prepare data

Use data modules to clean and connect data from multiple



Exploration

Quickly find unbiased answers by identifying trends in your data with



Present data

Create sophisticated, multi-page, multi-query dashboards, reports,

Login Page

File | C:/Users/ASUS/Documents/login.html

Login Form

Username

Enter Username

Password


Enter Password

Login

☒ Remember me [Forgot Password?](#)

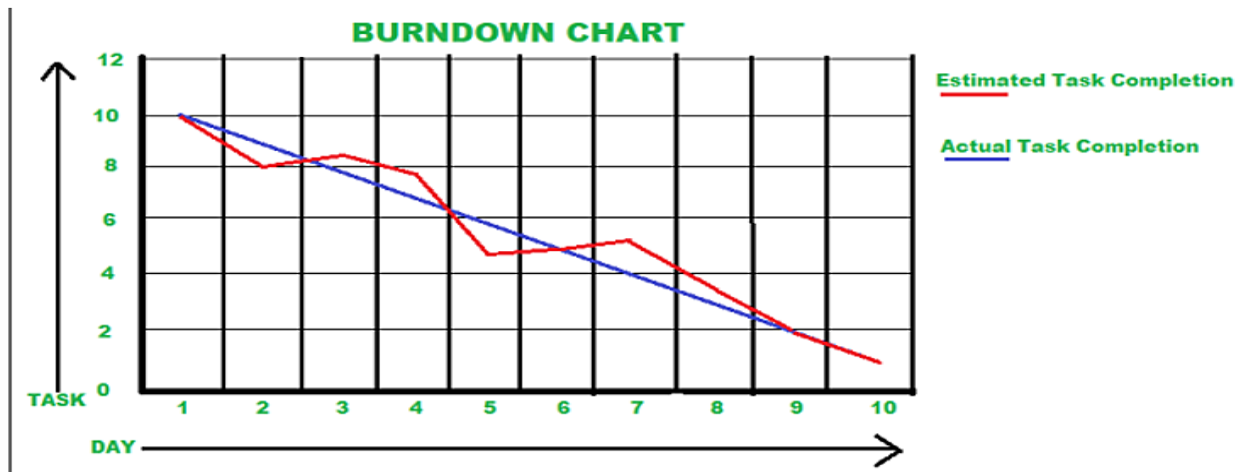
T277

Raining now



ENG 11:46 AM 11/12/2022

SPRINT DELIVERY SCHEDULE



REPORTS FROM JIRA

Roadmap

GJ R VG Status c

Sprints	
UDA Sprint 1	
> ECYUDA-15 Registration	
> ECYUDA-16 Login	
> ECYUDA-17 Working with Dataset	
> ECYUDA-18 Data visualization chart	
> ECYUDA-19 Creating Dashboard	
> ECYUDA-20 Export the Analytics	

Your work

Projects

Filters

Dashboards

People

Apps

Create

Estimate the crop yield

Software project

PLANNING

Roadmap

Backlog

Board

Reports

DEVELOPMENT

Code

Project pages

Add shortcut

Project settings

Assigned to me

Recent

Boards

WORKED ON

Export the created Dashboard

ECYUDA-14 · Estimate the crop yield using data analytics

Export the Analytics

ECYUDA-20 · Estimate the crop yield using data analytics

Create the Dashboard by using the created visualizations.

ECYUDA-13 · Estimate the crop yield using data analytics

Creating Dashboard

ECYUDA-19 · Estimate the crop yield using data analytics

Build Visual analytics to represent the Sates with Seasonal Crop Production using a Text representation.

ECYUDA-12 · Estimate the crop yield using data analytics

Build the required Visualization to showcase the Crop Production by State.

ECYUDA-11 · Estimate the crop yield using data analytics

Build a visualization to show case top 10 States in Crop Yield Production by Area.

ECYUDA-10 · Estimate the crop yield using data analytics

*Showcase the Yearly usage of Area in Crop Production.

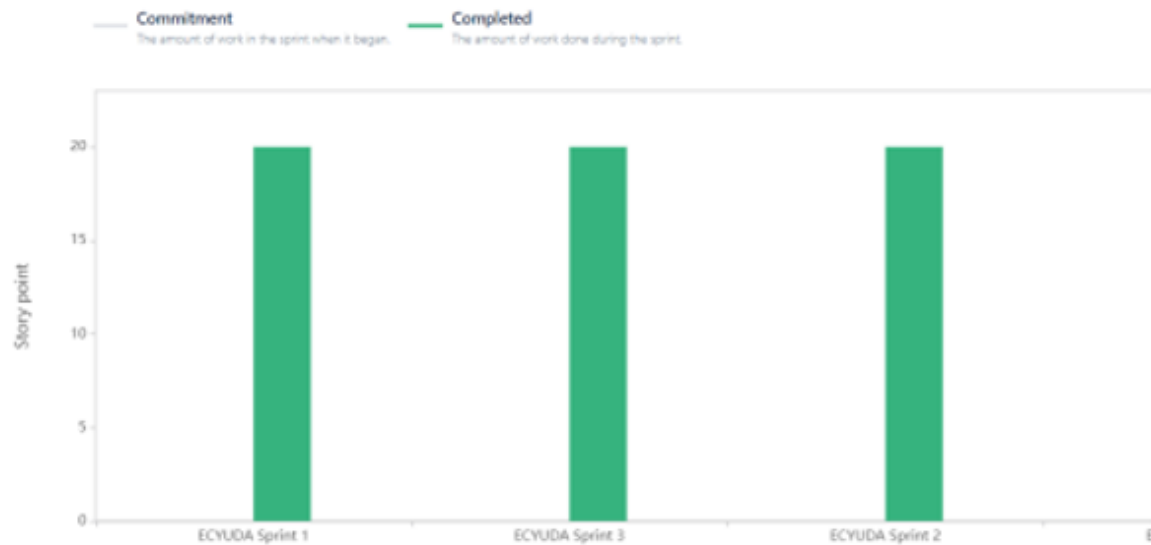
ECYUDA-9 · Estimate the crop yield using data analytics

Using the Crop production in Indian dataset, create various graphs and charts to highlight the insights and visual...

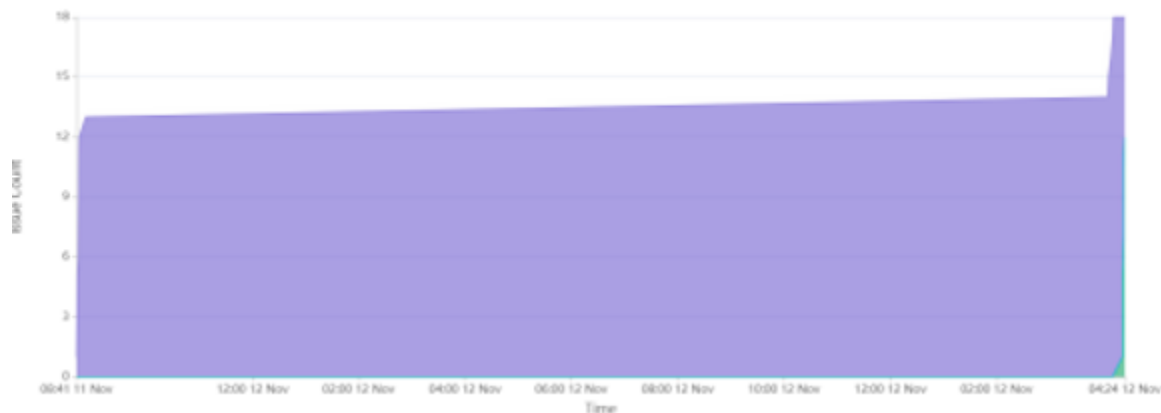
ECYUDA-8 · Estimate the crop yield using data analytics

Go to Your Work page

Velocity report



Cumulative flow diagram



CODING & SOLUTIONING (Explain the features added in the project along with code)

FEATURE 1

LOGIN

```
<!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/AAAAAAAAABE64/QYlUh6421co/s1600/2d
```

```
e5113b6a62d0360130b90442106237_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

REGISTRATION

```
<!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"></scr
ipt>
    <!-- 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>
```

```
<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">
```

```
<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</span>
            <input type="radio" class="radio2"
name="gender" value="Female"><span
                class="radioname" required
autocomplete="off">Female</span>
            </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----"
        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 -->

```

File Home Insert Page Layout Formulas Data Review View Tell me what you want to do...

B8 X ✓ fx Functional

	A	B	C	D	E	F	G	H	I	J	K
1					Date	03-Nov-22					
2					Team ID	PNT2022TMD3270					
3					Project Name	Project - Estimate the crop yield using Data Analysis					
4					Maximum Marks	4 marks					
5	Test case ID	Feature Type	Component	Test Scenario	Pre-Requirement	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Comments
6	LoginPage_TC_001	Functional	Home Page	Verify user is able to see the LoginSignup popup when user clicked on My account	nil	1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify loginSignup popup displayed or not	https://shopnizer.com/	LoginSignup popup should display	Working as expected	Pass	
7	LoginPage_TC_002	UI	Home Page	Verify the UI elements in LoginSignup popup	nil	1.Enter URL and click go 2.Click on My Account dropdown button 3.Verify loginSignup popup with below UI elements: a.email text box b.password text box c.Login button d.New customer? Create account link e.Last password? Recovery password link	https://shopnizer.com/	Application should show below UI elements: a.email text box b.password text box c.Login button with orange colour d.New customer? Create account link e.Last password? Recovery	Working as expected	Fail	Steps are not clear to follow
8	LoginPage_TC_003	Functional	Home page	Verify user is able to log into application with Valid credentials	nil	1.Enter URL(https://shopnizer.com/) and click go 2.Click on My Account dropdown button 3.Enter Valid username/email in Email text box 4.Enter valid password in password text box 5.Click on login button	Username: chalam@gmail.com password: Testing123	User should navigate to user account homepage			
9	LoginPage_TC_004	Functional	Login page	Verify user is able to log into application with Invalid credentials	nil	1.Enter URL(https://shopnizer.com/) and click go 2.Click on My Account dropdown button 3.Enter Invalid username/email in Email text box 4.Enter valid password in password text box 5.Click on login button	Username: chalam@gmail.com password: Testing123	Application should show "Incorrect email or password" validation message.			
10	LoginPage_TC_004	Functional	Login page	Verify user is able to log into application with Invalid credentials	nil	1.Enter URL(https://shopnizer.com/) and click go 2.Click on My Account dropdown button 3.Enter Valid username/email in Email text box 4.Enter invalid password in password text box 5.Click on login button	Username: chalam@gmail.com password: Testing123678686786876876	Application should show "Incorrect email or password" validation message.			
11	LoginPage_TC_005	Functional	Login page	Verify user is able to log into application with Invalid credentials	nil	1.Enter URL(https://shopnizer.com/) and click go 2.Click on My Account dropdown button 3.Enter Invalid username/email in Email text box 4.Enter invalid password in password text box 5.Click on login button	Username: chalam password: Testing123678686786876876	Application should show "Incorrect email or password" validation message.			
12											
13											

Shopnizer Testcases Testscenarios

Ready Count: 2 70%

Type here to search

USER ACCEPTANCE TESTING

PURPOSE OF DOCUMENT

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

DEFECT ANALYSIS

This report shows the number of 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 report shows the number of test 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 Report Output	4	0	0	4
Version Control	2	0	0	2

RESULTS

Performance Metrics

Model Performance Testing:

Project team shall fill the following information in model performance testing template.

S.No.	Parameter	Screenshot / Values
1.	Dashboard design	No of Visualizations / Graphs – 5 - 6 visualization/5 - 6 graphs
2.	Data Responsiveness	Users and Analyst or Developers
3.	Amount Data to Rendered (DB2 Metrics)	7 districts
4.	Utilization of Data Filters	Simple or Gravity ,hot and Vacuum Filtration
5.	Effective User Story	No of Scene Added – 40 user stories
6.	Descriptive Reports	No of Visualizations / Graphs – 4 visualization / 4 graph

ADVANTAGES

Crop yield prediction is also used by farmers to make decisions about when to plant and harvest crops based on soil moisture content, pest infestations, and other factors 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 are 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 useful for the farmers for the prediction of a specific crop.

FUTURE SCOPE

The future work aimed at the analysis of the entire set of data and will be devoted to suitable strategies for improving the efficiency of the proposed algorithm. Use of such kind of approach to forecasting is not restricted to agriculture alone. The clustering and regression is one of the capable tool in field of data mining which can be used in several different ways.

APPENDIX

GitHub = <https://github.com/IBM-EPBL/IBM-Project-6862-1658841101>

Project Demo Link = <https://clipchamp.com/watch/z0HVeseYaq8>