Irrigation Advisory - FI005.0

Last modified by

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Current document version

V1.0

Module Name

F-Intel

Contents

1. Document History

VERSION HISTORY							
DATE	**CLIENT NAME**	**VERSION**	**DESCRIPTION OF CHANGE**	**AUTHOR**	**REQUIREMENT ID**	**CCB ID**	**STATUS**
28/08/2024	F-Intel	V 1.0	New Document	Pramod K			Pending

2. Overview -

2.1 Service objectives or Business requirements and the business values added by the service

Use Case: Optimized Water Management for Crop Health

The Irrigation Advisory Card is a versatile tool designed to help farmers and irrigation managers optimize water usage based on the specific needs of their crops. It provides tailored irrigation recommendations by displaying the suggested water quantities in liters for the current date, recent past, and upcoming days, all calculated according to the crop's water requirements.

Users can manually input the actual amount of water applied, allowing for precise tracking and adjustment of irrigation practices. Additionally, the card incorporates expected rainfall forecasts, enabling users to make more informed decisions and ensure efficient water management, reduce waste, and promote healthy crop growth.

3. Pre-requisite Services

#	MODULE NAME	SERVICE NAME	SERVICE CODE
1		Third Party Weather API integration Name: OpenWeather Links: https://openweathermap.org/current	
2		The Data Science team should be granted access to the Weather API, as well as farm registration details (including farm and crop infrastructure) and actual irrigation quantities, to provide suggested irrigation amounts in liters.	
3			
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7			
8			
9			

4. Add form

4.1

Notes

- Not applicable

Feature:

4.2

Notes

- Not applicable

Field Descriptions

4.4.1. Add form field descriptions

#	FIELD NAME	FIELD DESCRIPTION	ACCEPTANCE DATA/CRITERIA	- ERROR MESSAGE	Sample Example	PREREQUISITE	Mandatory Y/N
			-	-			
			-	-			

5. Customizations Summary Table

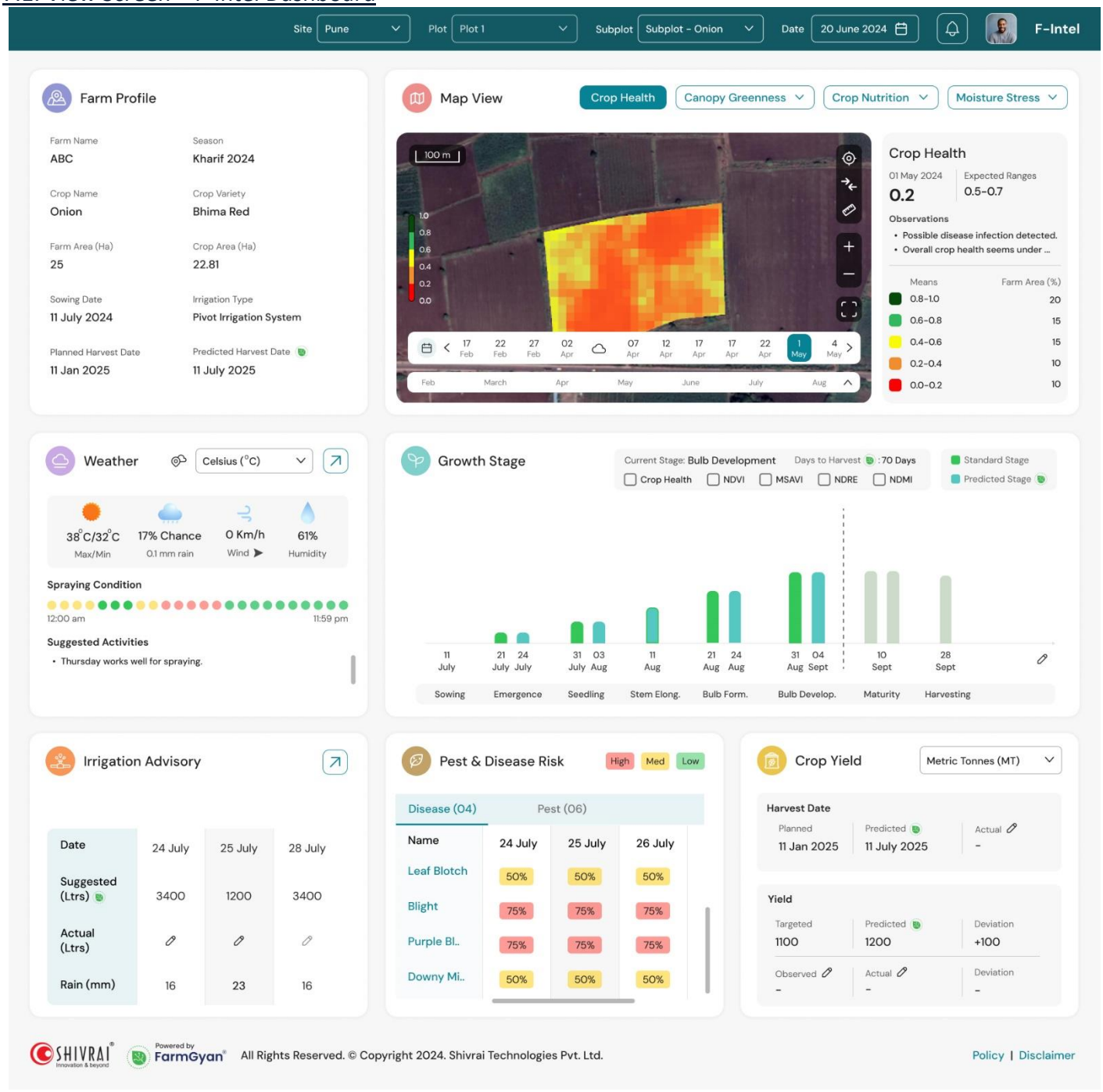
DATE	CLIENT NAME	REQUIREMENT ID	CCB ID	IMPACTED AREA	Change Category	REQUIREMENT STATUS

6. Customization Details/ Use Case

Requirement ID	DevOps ID
Requirement:	

7. View form

7.1. View Screen – F-Intel Dashboard



Notes

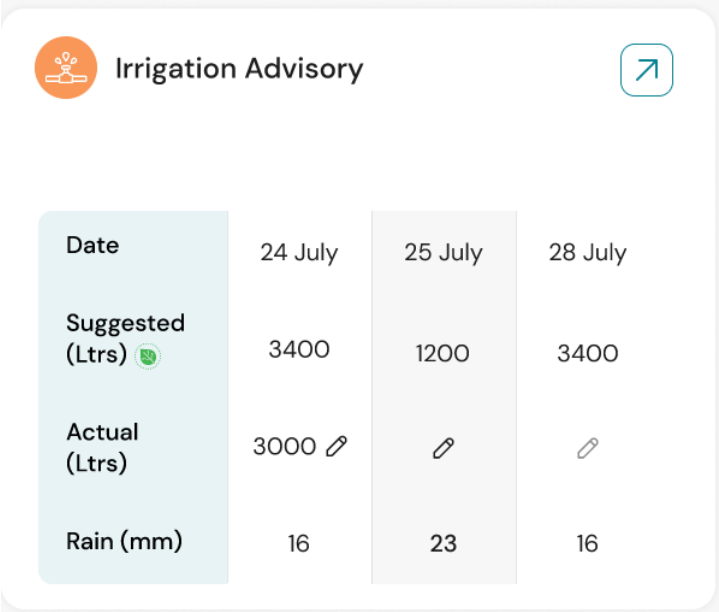
Introducing the F-Intel dashboard, designed to deliver a comprehensive range of insights:

- **Farm Profile**: Provides detailed information about the farm.
- **Map View**: Offers map-based insights into crop health, nutrition, canopy greenness, and moisture stress.
- **Weather Details**: Displays current weather conditions with hourly and daily updates, including suggestions for spraying conditions and recommended activities.

- **Crop Growth Stage**: Tracks the crop's current stage, age, and days to harvest. It also offers insights into crop performance using satellite-based time series data like NDVI, MSAVI, NDRE, and NDMI.
- **Irrigation Advisory**: Recommends the optimal amount of water for irrigation, factoring in actual irrigation and rainwater contribution.
- **Pest and Disease Risk**: Highlights the percentage risk of pests and diseases, complete with images, details, control measures, and expert recommendations.
- **Crop Yield**: Shows planned and predicted harvest dates, allows for input of actual harvest dates, and compares targeted vs. predicted yields. Users can also log field observations during the growing season and actual yields after harvesting to track deviations.

The dashboard presents insights based on the selected site, plot, subplot, and date.

7.2. Feature – Irrigation Advisory

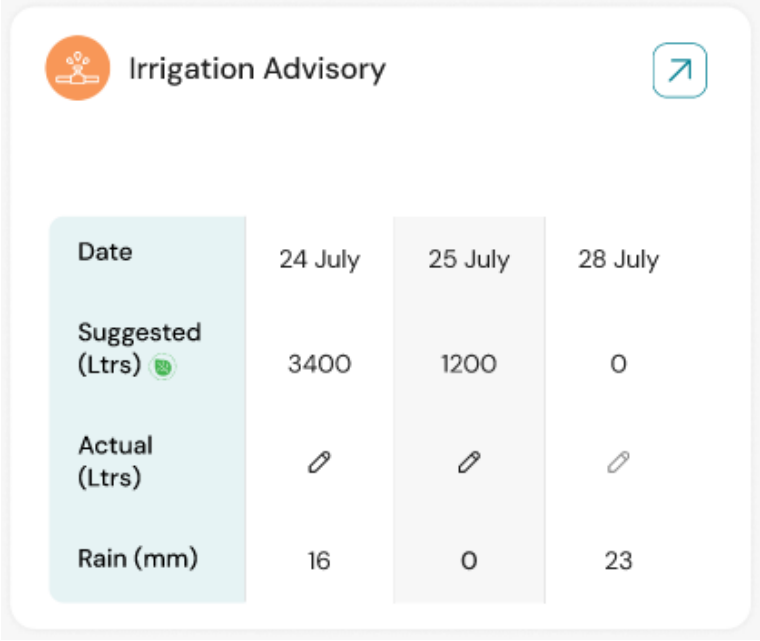


Notes

- The irrigation advisory feature provides recommendations on the required irrigation amount based on suggestions.
- Irrigation advisory card will display advisories for the three dates as explained below
    - The highlighted background indicates the current or closest date.
    - To the left of the highlighted background is the previous advisory date.
    - To the right is the upcoming advisory date.
- Suggested irrigation quantities, provided by the FarmGyan API, will be shown in liters. A leaf icon will be placed next to "Suggested (Liters)" and will display "Powered by FarmGyan" when hovered over.
- Users can input the actual irrigation amounts for the highlighted current or nearby date and the immediate previous date. Data must be recorded for these dates.
- The input field for the next day's actual irrigation amount will be disabled to prevent future date entries.

- Rainfall amounts will be displayed based on data from a third-party weather API.
- Clicking on the expand page icon will open the following page as shown in section 7.2.1 in a popup.

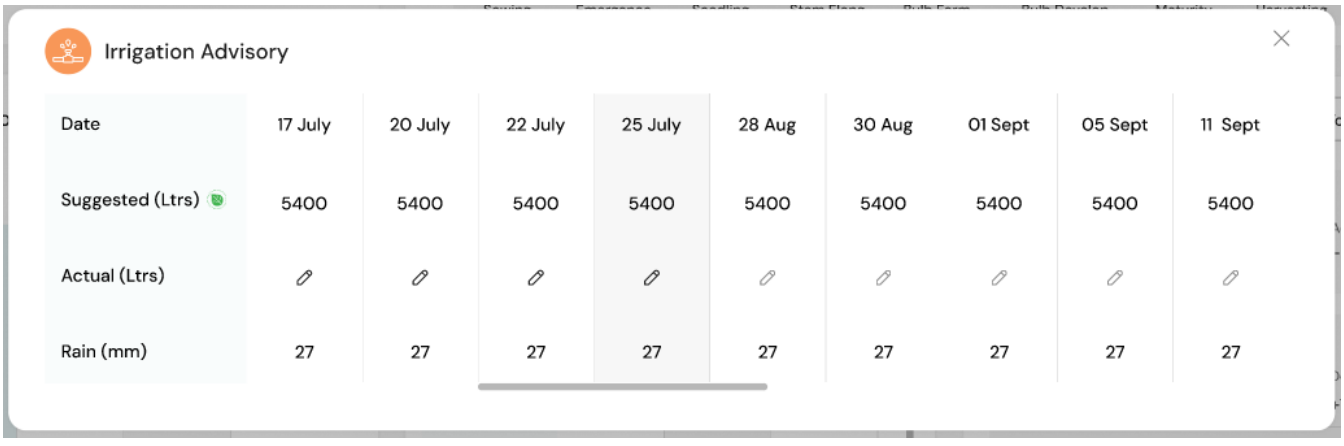
7.2.1. Feature – Irrigation Advisory – when no data available



Notes

- If the suggested (Ltrs) and forecast rain (mm) data are not available for a specific date, the data science team should return "0" for those fields via the APIs.
- A "0" should be shown in the specified fields, as seen in the image, when there is no rainfall forecast and no suggested (Ltrs) data available.

7.2.2. Feature - Irrigation Advisory – Forecast



Notes

- Here are the past and future irrigation advisories are provided for the user.
- Irrigation advisory forecast popup have to display advisories as explained below
    - The highlighted background indicates the current or closest date.
    - To the left of the highlighted background are the 7 previous advisory dates.
    - To the right are the 7 upcoming advisory dates.

- Suggested irrigation quantities, provided by the FarmGyan API, will be shown in liters. A leaf icon will be placed next to "Suggested (Liters)" and will display "Powered by FarmGyan" when hovered over.
- Users can input the actual irrigation amounts for the highlighted current or nearby date and the immediate previous 7 dates. Data must be recorded for these dates.
- The input field for the next 7 day's actual irrigation amount will be disabled to prevent future date entries.
- Rainfall amounts will be displayed based on data from a third-party weather API.
- If the suggested (Ltrs) and forecast rain (mm) data are not available for a specific date, the data science team should return "0" for those fields via the APIs.
- A "0" should be shown in the specified fields, as seen in the image, when there is no rainfall forecast and no suggested (Ltrs) data available.
- The popup should have a close icon.

7.3. Cancel & Close Functionality

Notes

- Not applicable

7.4. Reverse Functionality

Notes

- Not applicable

7.5. Field Descriptions – Irrigation Advisory card

#	FIELD NAME	FIELD DESCRIPTION	ACCEPTANCE DATA/CRITERIA	ERROR MESSAGE	PREREQUISITE	Enabled/Disabled
1	Date	This will show the date for irrigation details	- This is label - This will show date of irrigation advisories - It will show only three dates i.e. current or nearby date, immediate previous date and immediate future date of current or nearby date	NA	NA	NA
2	Suggested (Lts)	This will show the suggested liters of water for irrigation	- This is label - This will show the suggested water liters for irrigation - These suggestions data will appear from FarmGyan API	NA	API Name: WaterRequirementAPI API Code: CLCI001-WR	NA
3	Actual (Ltr)	This is to add the actual irrigated water quantity by the user	- This is textbox field - This will show the actual irrigation water quantity for the previous date and user can be able to change the quantity manually	NA	NA	NA

			- Actual (Lltrs) should be disabled for future date			
4	Rain (mm)	This will show the quantity of rain in mm	- This is lable - This will show the quantity of rain in mm for all dates - Data will appear from third party weather API.	NA	NA	NA

Notes

7.6. Field Descriptions – Irrigation Advisory forecast

#	FIELD NAME	FIELD DESCRIPTION	ACCEPTANCE DATA/CRITERIA	ERROR MESSAGE	PREREQUISITE	Enabled/Disabled
1	Date	This will show the date for irrigation details	- This is label - This will show date of irrigation advisories - It will show dates i.e. current or nearby date, immediate previous 7 dates and immediate future 7 date of current or nearby date	NA	NA	NA
2	Suggested (Lts)	This will show the suggested liters of water for irrigation	- This is label - This will show the suggested water liters advisories for the highlighted current or nearby date, the immediate previous 7 dates, and the immediate next 7 dates from the highlighted current or nearby date - These suggestions data will appear from FarmGyan API	NA	API Name: WaterRequirementAPI API Code: CLCI001-WR	NA
3	Actual (Ltr)	This is to add the actual irrigated water quantity by the user	- This is textbox field - This will provide an optional to user manually input the actual irrigation amounts for the highlighted current or nearby date and the immediate previous 7 dates. - Data must be recorded for these dates. - The input field for the next 7 day's actual irrigation amount will be disabled to prevent future date entries	NA	NA	NA
4	Rain (mm)	This will show the quantity of rain in mm	- This is lable - This will show the quantity of rain in mm for all dates	NA	NA	NA

			- Data will appear from third party weather API.			

7.7. Scenarios

#	SCENERIO NAME	SCENERIO DESCRIPTION & IMPACT
1	No data available	If the suggested (Ltrs) and forecast rain (mm) data are not available for a specific date, the data science team should return "0" for those fields via the APIs. A "0" should be shown in the specified fields, as seen in the image, when there is no rainfall forecast and no suggested (Ltrs) data available.

Notes

8. Common Validations

Add Form

#	FIELD NAME	FIELD DESCRIPTION	Applicable Y/N

View Form

#	FIELD NAME	FIELD DESCRIPTION	Applicable Y/N
1			
2			

9. Edit Functionality

Notes

- Not applicable

10. Account Postings

Ledger details	Explanation	Ledger Name	Dr	Cr	Dr	Cr

Notes

- Not applicable

11. Detailed View

Notes

- Not applicable

12. Print View

Notes

- Not applicable

13. Configuration Settings

#	CONFIG SETTING ID	CONFIG SETTING NAME	CONFIG SETTING IMPACT DETAILS

14. Post-Impacted Services & Reports

#	MODULE NAME	SERVICE NAME	SERVICE CODE	DESCRIPTION / IMPACT

Notes

- Not applicable

15. Email Alerts

Notes

- Not applicable