

# Growing the Grapes

## Growing the Grapes (Tank 1)

The "Growing the Grapes" Tank can be broken down into the following key components:

- The Daily Log
- The Runbook
- The Dashboard

The Daily Log is a visual calendar that allows [costaflares.com](http://costaflares.com) website VISITORS to view daily, monthly, and yearly views of two primary elements:

1. What human activities are taking place in the vineyard?
2. Historical data for temperature (max and min), subsoil humidity index, and solar irradiance.

## The Daily Log

These are the **functional** requirements for the Daily Log. The Daily Log is a visual representation of what activities happen in the vineyard throughout the year, and environmental conditions (temperature, water, sun).

Req ID	P	Definition	Owner	Notes
1.1.1	1	The daily log should have three views available for visitors: daily, monthly, and yearly.		Ideally, this could be circular or spiraling.
1.1.2	1	From the log, the user should be able to visualize the tasks that were executed on each day, and open the Runbook entry for each by selecting the task.		
1.1.3	1	The yearly view of the log should present tasks as relevant to the different stages of the grape growing season.		For <a href="#">example</a> ...
1.1.4	1	The daily log should present data in the three views (daily, monthly, and yearly) for: Temperature (max and min) – daily only. Subsoil humidity (.5m, 1m, and 2m) – daily only Solar irradiance totals (daily, weekly, monthly totals)		Much of the data will be collected using Reiner Van der Lee's <a href="#">VINDUINO</a> . (this needs a separate requirement ID section).
1.1.5	2	Users should be able to visualize differences from one year to the next, of multiple years.		One example: {+} <a href="http://www.subaru.com/csr/environment.html#!/2012/05/28+">http://www.subaru.com/csr/environment.html#!/2012/05/28+</a>
1.1.6	1	The log should have a field indicating the last time the daily log was updated.		
1.1.7	1	These tasks should be extracted by the content management system (Magnolia) from the runbook ticketing platform (Jira) and represented in the different views (calendars).		
1.1.8	1	The daily log must be localized in the following languages: English, Spanish, with a documented procedure for adding support for additional languages (documented in the project Wiki).		

## The Runbook

These are the functional requirements for the Runbook.

The Runbook is the platform where activities performed on the vineyard (tasks) are recorded by the people performing them (Farmers).

The purpose of the runbook platform is to document all the activities that take place during the year in the vineyard. We document these activities so that we can:

- Analyze the amount of time spent, and tools required for each task
- Compare the different timing of activities from one year to the next
- Provide a didactic description (text and video) of viticulture tasks
- Map tasks according to specific locations in the vineyard (row, claro, plant)

Req ID	P	Definition	Owner	Notes
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1.2.1	1	The Runbook entry (ticket) must include the following fields for each task: <ul style="list-style-type: none"> <li>Name (fixed set of tasks)</li> <li>Description (steps 1...n, and video description)</li> <li>Farmer</li> <li>Tools</li> <li>Chemicals Used (and amount)</li> <li>Start Time</li> <li>Finish Time</li> <li>Start Location (row, claro, plant) - End Location (row, claro, plant)</li> <li>Note (observations)</li> </ul>	SMF	The tools, chemicals and farmers are <b>finite lists</b> .  <b>Name</b> is a drop down list. Description is fixed to the name of the task.  All other fields are user selectable.
1.2.2	1	The Farmer must be able to create a new ticket, review and update an existing ticket, and delete a ticket both from a smartphone app (android?) and web application.	Mr. Sinatra	Use a ticketing platform like Jira?
1.2.3	1	Tickets should be chosen from a defined and finite number of task entries, selected from historic vineyard logs. (Dropdown)	Mike Barrow	Created from the list from existing bitácora entries.
1.2.4	1	The tool used by the Farmer to create, review, update, and delete tickets must be in Spanish.	Mr. Sinatra	
1.2.5	1	Tasks should be mapped, both textually and visually, to indicate location by row, claro, plant, giving the farmer the option to input start location and end location, with an option for ALL for each of the three categories of row, claro, plant. <i>This should be agile and simple for farmers to use.</i>	Mr. Sinatra	Tasks only need to be mapped textually for data entry (when creating/modifying the ticket), but visually for reports for end users.
1.2.6	2	The runbook "Tools" data should be extracted from a fixed database with the following fields: <ul style="list-style-type: none"> <li>Name</li> <li>Description</li> <li>Image</li> <li>Serial Number</li> <li>Last Maintenance date</li> <li>Storage locations</li> <li>Value</li> </ul>	Mr. Sinatra	This information will be useful for creating a tool inventory and calculating asset values.  We might use the ERP inventory db for this?
1.2.7	1	The "Chemicals" data should be extracted from a fixed inventory database with the following fields:  Product Name Product Description Product amount in stock	Mr. Sinatra	This will allow us to determine data, such as: Total amount applied from year-to-year (May 6-May 5)
1.2.8	1	Chemicals used during each ticket should be subtracted from the inventory automatically.	Mr. Sinatra	For example, when a farmer uses 2Kg of Copper, this needs to be subtracted from the copper stock in the chemicals inventory.
1.2.9	1	Logistics stakeholders (i.e. Mike, Mica) should be able to assign, delete, and update tasks to a queue for the group of farmers (Santos and Yolanda) to execute. Tasks should be assignable to begin at a future date and/or included in a queue.	Mr. Sinatra	
1.2.10	1	The Runbook entries (all fields) must be localized in English and Spanish, with a documented procedure for adding support for additional languages (documented in the project Wiki).	Mr. Sinatra	

## The Dashboard

These are the functional requirements for The Dashboard.

The Dashboard is a real-time presentation of the current state of the vineyard. The idea behind the dashboard is to have one location where visitors (and all other stakeholders) can visualize real-time information about the vineyard (for example, weather information), and accumulated year-to-year counters regarding.

Req ID	P	Definition	Owner	Notes
1.3.1	1	All stakeholders should be able to visualize the dashboard (read-only)	Mr. Sinatra	

1.3.2	1	<p>The Dashboard should present current weather information:</p> <ul style="list-style-type: none"> <li>Temperature</li> <li>Subsoil humidity</li> <li>Wind speed and direction</li> <li>Solar Irradiance</li> <li>Barometric pressure</li> <li>Relative humidity</li> </ul>	Mr. Sinatra	Mike will provide the data stream for the weather information.
1.3.3	1	<p>The dashboard should present the following cumulative statistics for the year (May 6-May5). This data should be extracted from the Chemicals DB, showing the total amounts applied per hectare and total for:</p> <ul style="list-style-type: none"> <li>Co (Copper)</li> <li>S (Sulfur)</li> <li>Diatomaceous Earth</li> <li>Guano</li> <li>Other chemical products</li> </ul>	Mr. Sinatra	Mike should compile the complete listing of chemicals.
1.3.4	1	<p>The dashboard should present, for each of the three varietals present in the vineyard (Malbec, Petit Verdot, and Cabernet Sauvignon) indicators for sugar, total acidity, and pH (Bx, TA, pH). <a href="#">These values</a> should be extracted from a database with the following fields:</p> <ul style="list-style-type: none"> <li>Varietal (choice from three)</li> <li>pH</li> <li>Bx</li> <li>TA</li> <li>Sample date</li> <li>Kilos</li> </ul>	Mr. Sinatra	<p>For most of the year, these values will reflect the values from last year's harvest. This information can be created in categories in Magnolia and updated manually.</p> <p>Presenting historical data for these values in the log would be ideal.</p>
1.3.5		<p>The dashboard should also indicate the stage within the growing cycle for each varietal:</p> <ul style="list-style-type: none"> <li>• bud burst - 21/september</li> <li>• flowering - 1/November</li> <li>• setting - 1/December</li> <li>• thinning and culling 1/January</li> <li>• veraison 1/february</li> <li>• harvest 21/march</li> <li>• pruning 21 / june</li> </ul>	Mr. Sinatra	This could be iconographic.
1.3.6	3	<p>The dashboard should include annual totals for the following:</p> <p>Show total number of hours of work executed for the year.</p>	Mr. Sinatra	
1.3.7	3	Create a customized bottle shaped bar chart detailing the distribution of tasks in the vineyard.	Mr. Sinatra	
1.3.8	1	The dashboard should include access to a Costaflores vineyard cam.	Mr. Sinatra	