

Touch IoT with SAP Leonardo - Prototype Challenge

“Berts Wine Cellar”

Story

Wine is the leading alcoholic beverage in most countries, far ahead of beer.

Because wine is a natural, perishable food product, all types – including red, white, sparkling, and fortified – can spoil when exposed to heat, light, vibration or fluctuations in temperature and humidity. When properly stored, wines can maintain their quality and in some cases improve in aroma, flavor, and complexity as they age.

We will follow Bert to a wine cellar. Bert is the cellar master and responsible for the proper storage of the diverse types of wine within his winery, in bottles or barrels.

To do his job best he needs to have the overview and control of the storage conditions in the different areas/rooms of his cellar.

Point of View

As a Cellar Master I need a way to see room conditions of our wine cellar areas in real time as well as be updated on the barrel contents so that I can manage the wine cellar (warehouse), react to climate changes in the rooms or component changes in the barrels in time to keep a high quality of our natural product and provide info to my manager on the current stock.

Persona



BERT

The Cellar Master

“Storing a natural product is challenging. I need to ensure the quality of the product along the complete lifecycle within our winery.”

About

- 45, married, 1 son, 5 years of experience as a winery cellar master.
- Being the person who makes the decision where to store which wine type I have to be able to track all influencing factors in real time.
- The wine cellar is quite large and I need to be able to react to environmental changes like temperature or humidity quickly.

Responsibilities

- I am responsible for the wine cellar.
- I am responsible for all the barrels and bottles stored in this cellar throughout the storage time, for different wine types within this cellar.
- I spend most of my time in the cellar checking on storage conditions.

Needs

- I always need to know the characteristics of the product along the storage time.
- Currently I have to walk through all areas of our cellar regularly to be informed about the storage conditions, reading thermostats or hygrometers in each area.
- I need the ability to see the conditions in real time to be able to react to changes quickly. Reorganizing our barrels and bottles needs time and the product could spoil being too slow.
- The status of the wines stored in barrels also needs to be tracked; too high percentages of e.g. acid in the wine can ruin the product.

Main Goals

- I need to be in control of the stock in our wine cellar. As this is a natural product I need to be able to react to external influences in time.
- Better management of all barrels and bottles and the storage areas at all times

Pain Points

- It's hard for me to know the exact conditions of our storage areas in real time, having to walk through the whole cellar and read thermostats etc. in each area several times a day.
- Walking through the cellar takes a lot of time as we store many barrels and bottles in different areas.
- Need to provide historic data to my manager / winery CEO as well as to our quality department showing components of the barrels.

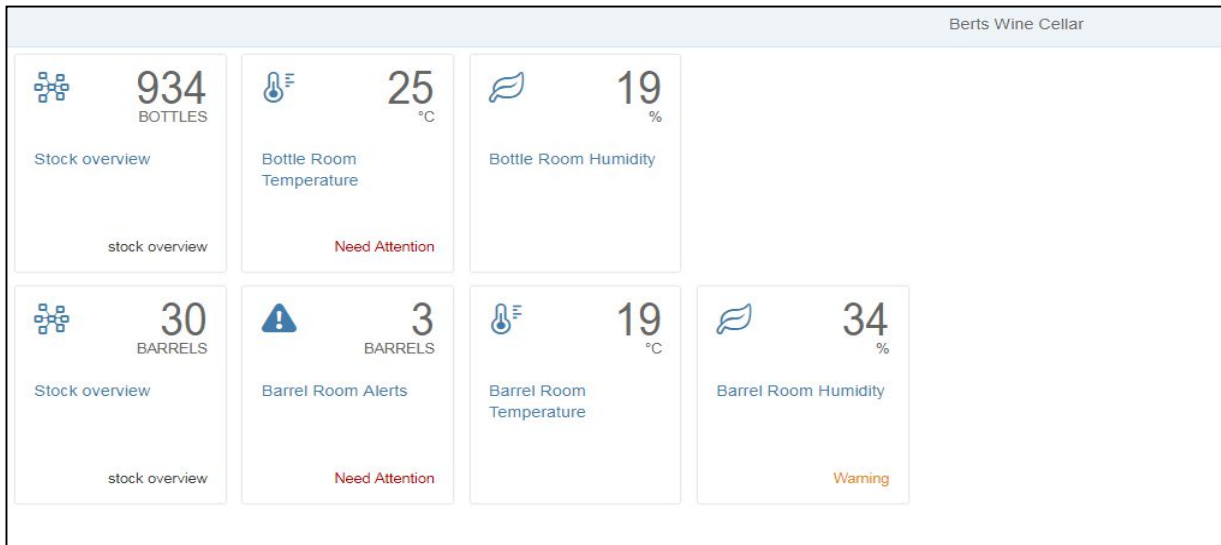
User Experience Journey

ACTIONS	receive the barrels/bottles	find storage area in the cellar / move into stock	track storage condition and time	wine tastings	sell wine / move out stock
MINDSET	<ul style="list-style-type: none"> New barrels and bottles arrive and I need to know my storage space 	<ul style="list-style-type: none"> Need to find the right storage place and room conditions 	<ul style="list-style-type: none"> Need to know room conditions at all times Any disturbance during storage can ruin the product Always need to walk down to check e.g. temperature Need to watch barrel content and the component for each wine; fluctuation or changes of components makes the wine become vinegar 	<ul style="list-style-type: none"> My favorite part! If the wine was stored the right way, the tasting will be a success 	<ul style="list-style-type: none"> Need to pack and move out the sold wine Need to clean up the barrels and make space for new wine
FEELING	😊				
	😞				
TOUCH POINTS	<ul style="list-style-type: none"> Winemaker Cellar rat 	<ul style="list-style-type: none"> Cellar rat 	<ul style="list-style-type: none"> Cellar rat 	<ul style="list-style-type: none"> Winemaker Customer Winery manager Sales team 	<ul style="list-style-type: none"> Sales team

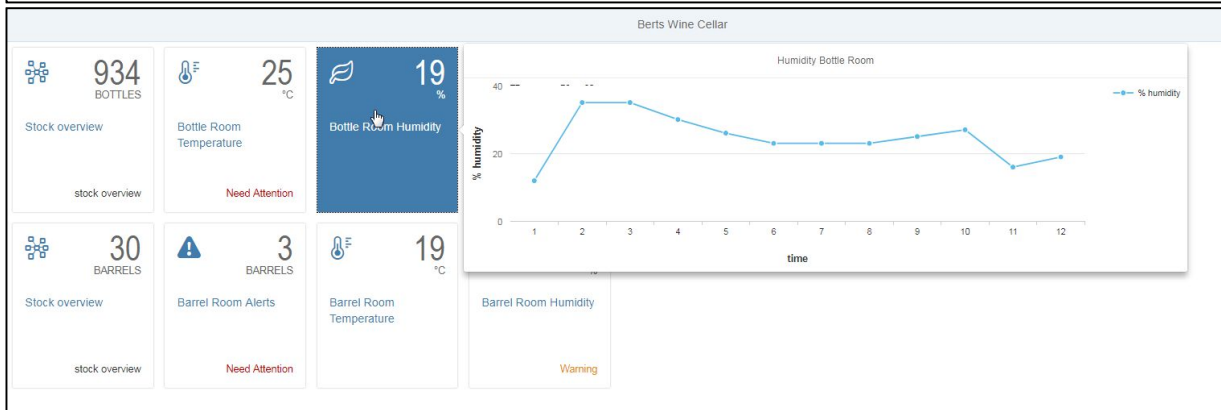
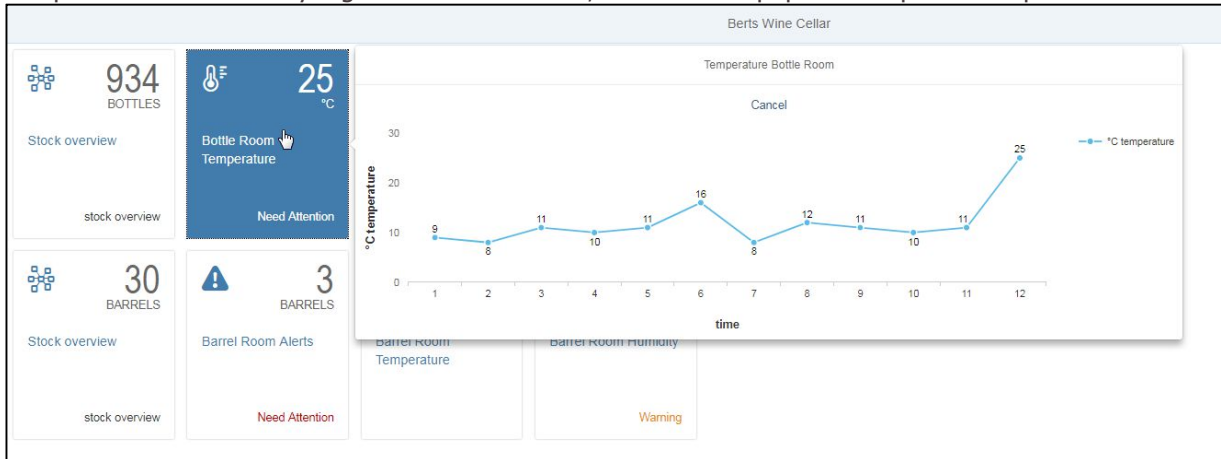
Mockups

https://standard.build.me/prototype-editors/api/public/v1/snapshots/402e2d59a83b14c30e1be79c/artifacts/latest/index.html#/launch_page

Launch Page: Berts Wine Cellar shows information on the stored bottles in the first line and about the stored barrels in the second line. Each stock overview tile will lead to the according room; the Bottle Room resp. the Barrel Room. Room conditions like temperature and humidity as examples are shown in additional tiles. For the barrels, an alerting tile was introduced. For the barrels, an alerting tile was introduced.



Temperature and Humidity e.g. of the Bottle Room; realized with popovers to provide a quick view.




934
 BOTTLES

Stock overview

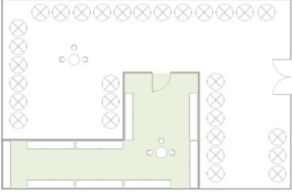
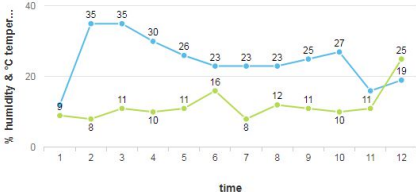


stock overview

Bottle Room:

shows the cellar floor map, highlighting the bottle room in green. Temperature and humidity are shown as well as if one of these conditions are alerting. Below is a list of all Racks, three in this example, with a Popover window when clicking on Rack 1 in the list which shows how many bottles of each wine brand are stored in this rack.

Cellar - Bottle Room

% humidity & °C temper...

— % humidity
— °C temperature

Temperature too high
Humidity ok!

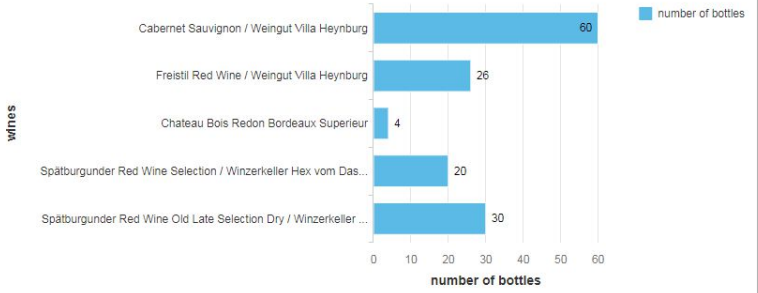
Ok

List of racks	Number of bottles in the rack	Fill level
Rack 1	140	75 %
Rack 2	69	69 %
Rack 3	164	100 %

Ok

List of racks	Number of bottles in the rack	Fill level
Rack 1	140	75 %
Rack 2		
Rack 3		

Rack 1



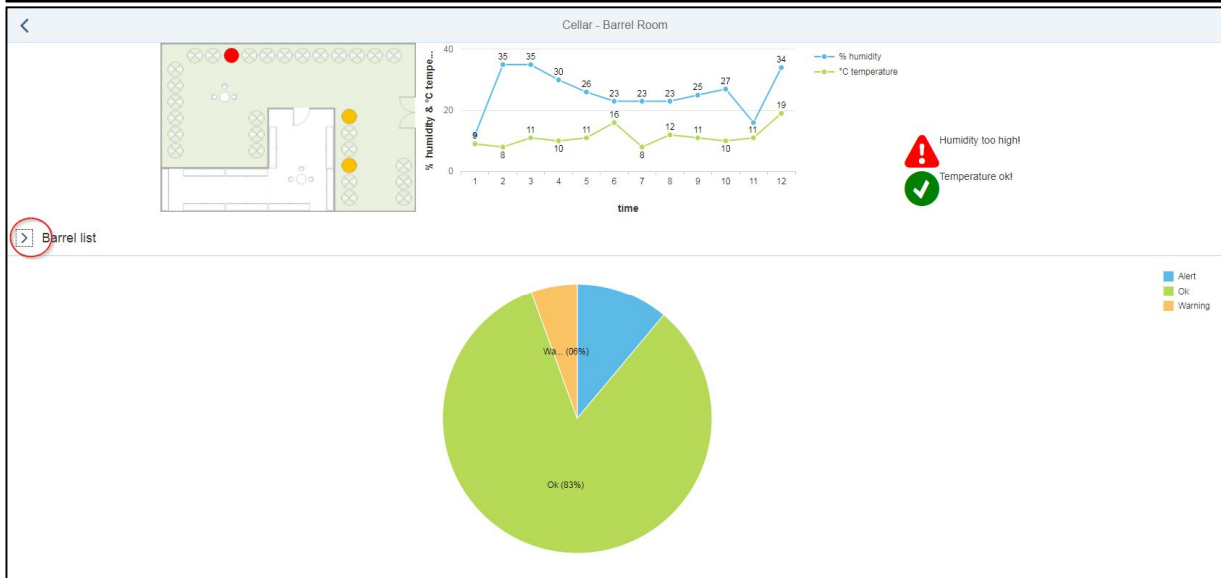
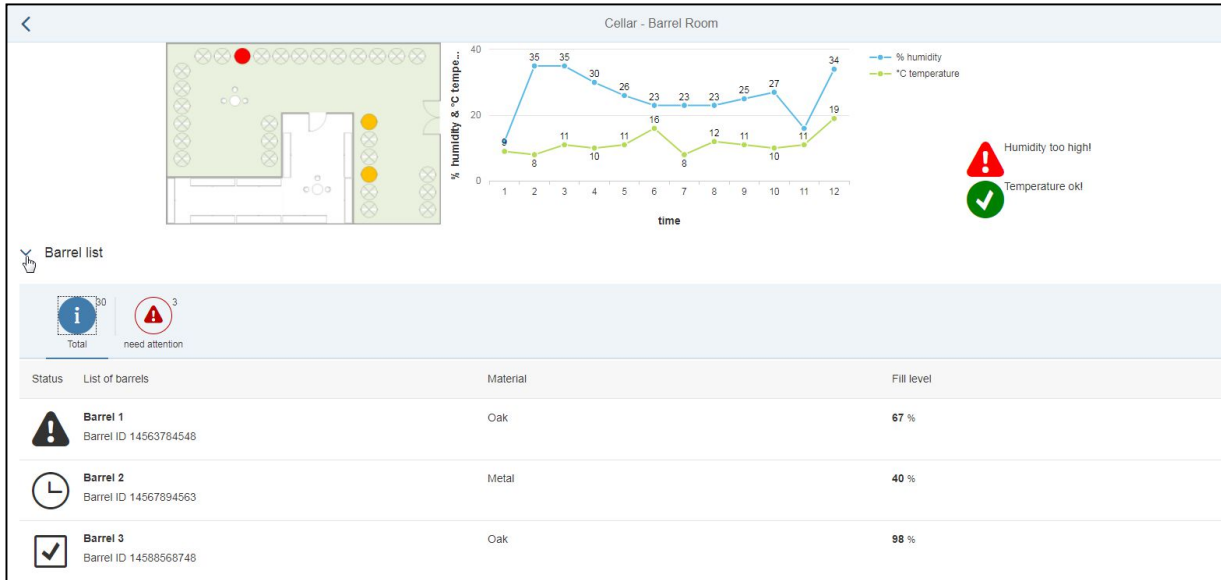
wines

number of bottles

wines	number of bottles
Cabernet Sauvignon / Weingut Villa Heynburg	60
Freistil Red Wine / Weingut Villa Heynburg	26
Chateau Bois Redon Bordeaux Superieur	4
Spätburgunder Red Wine Selection / Winzerkeller Hex vom Das...	20
Spätburgunder Red Wine Old Late Selection Dry / Winzerkeller ...	30



Barrel Room: shows the cellar floor map with the barrel room highlighted in green barrels with warnings (orange) or alerts (red) are pointed out. Below the (un)foldable barrel list showing all the barrels and the one with issues on a separate tab; with the barrel ID, material the barrel is made of, fill level and alert/warning reason, there's a diagram on the percentage of oak /metal barrels in the cellar. There's a link to an example barrel 'Barrel 1' which has an alert on the acid level of the wine inside (also accessible by the "Barrel Room Alerts" tile on the Launch Page).





Barrel 1 has an alert on the acid level of the stored wine. On the cellar floor plan the barrel is highlighted, the table shows the alerted component and what the min / max percentage should be, and the component analyses shows on the right top of the page.

