

openSAP: Touch IoT with SAP Leonardo

Internet of Things: Prototype Challenge

Challenge: Quality Control Lab 4.0



The Challenge

In the pharmaceutical industry, it's essential to meet all quality and regulatory requirements in every corner of your business structure. The Quality Control Labs testing the finished products before they're used to help patients are often the core of avoiding any kind of failure.

In many companies the QC labs are mostly operated manually by users. The received data out of test/sample results is manually transferred in between the testing devices and systems. This situation isn't very user-friendly nor does it avoid human errors.

The challenge created for this 'Internet of Things: Prototype Challenge' is too improve the situation in QC labs and to create a vision of the 'Quality Control Lab 4.0'.

The Personas

Uhura --- Quality Control Scientist

"Currently I have to enter redundant information, why?"

Responsibilities: Record sample based test results

Main Goals: Streamline process; Remove redundant actions

Needs: Possibility to enter test results with output from testing machines

Pain Points: Multiple systems in lab; same data to be entered multiple times for each test



Spock --- Quality Assurance Analyst

"I need details about the test results. If possible, consolidated"

Responsibilities: Decide if product can be released based on results.

Main Goals: Receive information to be able to release product fast

Needs: Overview about testing results; In case of deviations, possible actions

Pain Points: No consolidated report; all results provided in a different format by test type



James T. Kirk --- Quality Supervisor

"Our current process is cumbersome! I don't have any transparency."

Responsibilities: Avoid delays with product releases at low costs and high quality

Main Goals: Keep employees and management happy by balancing cost, quality, time

Needs: Monitoring about business operations in his QC labs

Pain Points: Doesn't know what happens in his business and work flow.



Point of View

Uhura's Point of View

As a

Quality Control Scientist

I need a way to

record my sample based test results

so that

Quality Assurance has all information they need to release the product.

Spock's Point of View

As a

Quality Assurance Analyst

I need a way to

release the finished product batch based on the test results

so that

we can sell our high quality product as quickly as possible.

Kirk's Point of View

As a

Quality Supervisor

I need a way to


ensure that our business operations

so that

my department operations are in time, at low costs and at high quality.

User Experience Journey

This User Experience Journey represents the current process:



Action	Enter the QC Lab	Wait for instr.	Start testing	Record test results	Perform decision if product can be released
	Start testing instruments	Make sample ready	Perform tests	Provide test results to Quality Assurance	Release product
Mindset	"Let's get this done quickly, so that I go on with my more exciting project!"	"Why is this one instrument always so slow?"	"I love doing the scientific tests!"	"Why do I have to manually enter the instrument data into the system?"	"The provided data is in many different formats and I always have to interpret them."
	"Will this product pass my tests?"	"Wow - this product needs a lot of different testing procedures."	"Yes, this is the result I expected from the product."	"This is boring..."	"This product can be released."
Feeling	: -)				
	: -(
Touch Points	Product to be tested	Product to be tested	Product to be tested	Paper-based testing procedures	Testing result tracking system
	Testing instruments	Paper-based testing procedures	Testing instruments	Testing result tracking system	Product release protocol
	Fancy lab clothes		Paper-based testing procedures		

Mock-up

Mock-up created in BUILD. Please follow [this link](#) to check it out or copy and paste this link manually:

https://standard.build.me/prototype-editors/api/public/v1/snapshots/b317a48470b8e3500e202ad6/artifacts/latest/index.html#/launch_page

Some screenshots in case the link doesn't work or you don't have an account:

Launch page

Connected Goods - QC Lab 4.0



2

NOTIFICATION

Reagent Cooler

Needs Attention



2


NOTIFICATION

Clinical Biochemistry Analyzer


Needs Attention

Reagent cooler

Connected Goods - Reagent Cooler



Enterprise Pharmaceuticals, Inc., Vancouver, Canada, Bldg. 801, Room 3214



Reagent Cooler

SOL-RC-119 ● Mapped Geo-Match 📶 Connected ⚡ On 👤 Contact Person McCoy, Loenard Notify

LIVE TEMPERATURE
3.7 °C
Feb 17, 2017 00:00:00

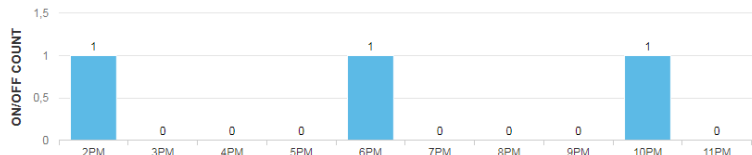
Notifications (4)

The cooler is running at a high temp
The cooler has no door activities

Feb 15, 2017
Feb 15, 2017
[See All](#)

ON/OFF STATUS

Hourly
▼



Time	ON/OFF COUNT
2PM	1
3PM	0
4PM	0
5PM	0
6PM	1
7PM	0
8PM	0
9PM	0
10PM	1
11PM	0

Clinical Biochemistry Analyzer

Connected Goods - Clinical Biochemistry Analyzer



Enterprise Pharmaceuticals, Inc.; Vancouver, Canada; Bldg. 801; Room 3214



Clinical Biochemistry Analyzer

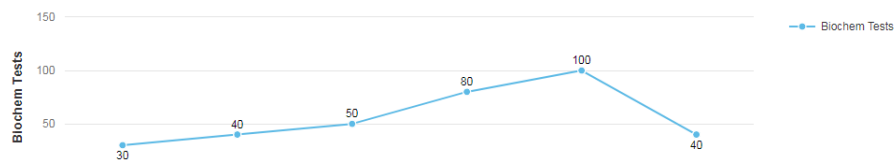
SOL-CBA-08 ● Mapped Geo-Match Connected On Contact Person Chekov, Pavel Notify

Maintenance Cycle
62 %
2 mins ago

Notifications (2)
SOL-CBA-08 transfered results of test 17248303 successfully
SOL-CBA-08 finished test 17248303 for Mat 1234567890; batch 123456

Feb 15, 2017
Feb 15, 2017
[See All](#)

Number of performed Biochem Analysis



Notifications

SOL-CBA-08 ● Mapped Geo-Match Connected On Contact Person Chekov, Pavel Notify

Maintenance Cycle
62 %
2 mins ago

Notifications (2)
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Feb 15, 2017
Feb 15, 2017
[See All](#)

Notifications

Notifications (2)

SOL-CBA-08 transfered results of test 17248303 successfully ● Feb 15, 2017

SOL-CBA-08 finished test 17248303 for Mat 1234567890; batch 123456 Feb 15, 2017

OK

Hourly ▼

— Biochem Tests