

Prototype Challenge – Fire Extinguishers

The Story:

Fire Extinguisher



1,345,500 - Total Fires Reported in US in 2015

3,280: Civilian Fire
Deaths

15,700: Civilian
Fire Injuries

\$ 14.3 Billion: in
property damage.

Every 23
Seconds:

A fire department
reponding to a fire.

*www.nfpa.org

- In case of emergency Fire Extinguishers can be used to extinguish or control small fires.
- Many times these devices are inoperable because of:
 - Low pressure
 - Unavailability at the designated spot or stolen or vandalized
 - Inaccessible, because it's path is blocked
- IOT, connected goods can provide the resolution of these problems and aid with inspection, maintenance and testing of these devices as required.
- Help with the compliance of many laws and regulatory standards.
- Overall, connected Fire extinguishers can help in saving precious life as well as property damages.

Persona:

Nottu Peters **(Service Technician)**

“ I like to ensure that my clients are prepared to prevent fire damages and losses and meet their regulatory requirements.”

ABOUT

- 40, married, 10 years of licensed service technician.
- Very mobile, moving from one client to another during the day
- I work with the Client administrator, security and assigned emergency response coordinators.

RESPONSIBILITIES

- I am responsible for the inspection and testing of fire extinguishers for my clients.
- I am responsible for multiple clients – offices, manufacturing plants , factories etc.
- I spend most of my time at client location inspecting fire extinguishers.
- I keep track of client’s future inspections and proactively coordinate and manage the schedule.

MAIN GOALS

- Help client to prevent property damage and loss of life because of small fires.
- Being the change agent to prepare my client for future emergency situation.
- Help my client to proactively meet the regulatory requirements

NEEDS

- I need a cockpit to know the status of all equipment at client locations/geographical locations.
- I need to know if pressure in the fire extinguisher is dropped from standard pressure set for the device.
- I need to know if fire extinguisher is removed from it’s location.
- I need to know if fire extinguisher is accessible for the user in case of fire and is not blocked.
- I need to know if the fire extinguisher is removed from the client’s office or stolen.
- I need to test the equipment based on date of manufacturing – Hydrostatic testing/ Recharge/Refill etc.

PAIN-POINTS

- Inability to know the pressure of fire extinguisher periodically. Reading is possible only with manual inspection which is on monthly basis. Risk for the client if equipment is not useful till next inspection.
- Inability to know if fire extinguisher is removed from it’s location or client’s office (theft/vandalized)
- Inability to know if fire extinguisher is accessible for the user in case of fire and is not blocked.
- Complex manual scheduling for each equipment’s maintenance and testing– Hydrostatic testing/ Recharge/Refill



User Experience:

Inspecting the Fire Extinguishers

ACTIONS	<ul style="list-style-type: none"> Check excel sheet to find the fire extinguisher with pending inspection/testing today. 	<ul style="list-style-type: none"> Check/issue current inventory for the fire extinguisher. Go to client's location 	<ul style="list-style-type: none"> Inspect the fire extinguisher Pressure is less than the standard set for this model 	<ul style="list-style-type: none"> Replace the fire extinguisher Take the defective fire extinguisher for repair. 	<ul style="list-style-type: none"> Update the inspection card Update the excel sheet for next inspection date.
MINDSET	<ul style="list-style-type: none"> Ahhh! Again this excel file I hope I am not missing any data. 	<ul style="list-style-type: none"> Don't know if fire extinguisher at this location really needs any repair. I hope I am carrying enough and correct models, just in case if any repair is required. 	<ul style="list-style-type: none"> After last inspection, how long ago was this pressure so low? This device may not be useful during any fire. 	<ul style="list-style-type: none"> I am not carrying correct model. I have to provide a better model till repair is completed. 	<ul style="list-style-type: none"> Why do I need to maintain duplicate records? Ahhh! Again this excel file
FEELING					
TOUCH POINTS	<ul style="list-style-type: none"> Excel file in office 	<ul style="list-style-type: none"> Inventory of Fire Extinguishers. 	<ul style="list-style-type: none"> Fire extinguisher Inspection Card 	<ul style="list-style-type: none"> Fire extinguisher to be repaired Fire extinguisher as replacement 	<ul style="list-style-type: none"> Inspection card Excel file in office



Point of View:

As a

- fire extinguisher service technician

I need a way to

- record the pressure of each fire extinguisher owned or serviced by my company in real time

So that

- fire extinguisher can be recharged/refill/repaired/replaced immediately, instead of periodic inspection (monthly etc.) and
- Client is prepared to prevent property damage and loss of life because of small fires

Fire Extinguishers:

Nottu's Cockpit for zip code: 94304

SAP
Connected Goods

Nottu's Cockpit

ZIP CODE

94304

CITY

Palo Alto

PRODUCTS

Fire Extinguishers

MODELS

All

CODE

Alerts Only

DISPLAY

List

* Google maps

Model	Device No	Alerts	Status	Client	PSI	Geo-Fence	Accessible
	ABC-5.0-CA-94304-00791	1	ON ⚡	SAP	100	Connected 📶	Yes 👁️
	ABC-5.0-CA-94304-00801	1	ON ⚡	ABC	50	Connected 📶	Yes 👁️
	D-2.5-CA-94304-00921	1	OFF ⚡	DEF	NA	Breached 📶	No 👁️
	D-2.5-CA-94304-00925	1	OFF ⚡	DEF	NA	Breached 📶	No 👁️
	ABC-5.0-CA-94304-00931	1	ON ⚡	DEF	195	Connected 📶	No 👁️




Fire Extinguishers:

Details for

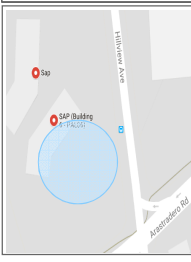
ABC-5.0-CA-94304-00791



SAP
Connected Goods



3450 Hillview Avenue
Palo Alto, CA



ABC-MOD 5.0
 ABC-5.0-CA-94304-00791

● Mapped
● Connected
⚡ On

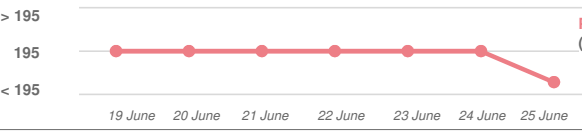
Bob Caswell + SAP Palo Alto

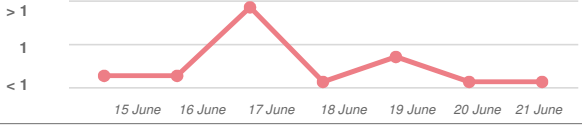
Notify

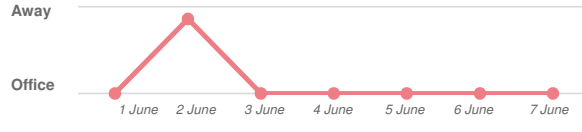
Pressure in PSI

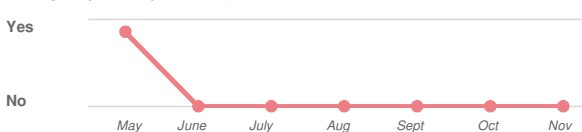
195 PSI

Pressure below 195 PSI	June 25, 2017
Removed from stand	June 25, 2017
Access blocked for 1+ hours	June 17, 2017
Removed from location for repair	June 2, 2017
Hydrostatic Testing required	May 30, 2017

Pressure in PSI


Access Blocked for 1+ hours


Removed from office (Geo-Fence)


Testing Required (Hydro-Static)


Model	Device No
	ABC-5.0-CA-94304-00801
	D-2.5-CA-94304-00921
	D-2.5-CA-94304-00925
	ABC-5.0-CA-94304-00931

Summary

By connecting the fire extinguishers and checking their statuses in real time user can:

- Perform on-time service/maintenance/testing
- Ensure accessibility
- Control theft and vandalism
- Compliance with law and regulatory standards
- Prepare for safety in case of fire.

Following components are included in this IOT scenario:

- A story
- Persona
- User experience journey
- Point of view
- Prototype/mockup



Thank You