

Internet of Things – Prototype Challenge

Story

Mr.Roff, Sales Manager from a gas agency office is responsible to receive booking calls via telephone / mobile. There are always chances for him to **miss the booking calls** that really end up in customer complaining facts. Sometimes **poor tracking of stock replenishment** becomes chances for him to lose the sale. He **fails to promise the delivery date** to his customers. Sometimes delivery process kept hold due to lack of **shipment resource**. To overcome such factors, Roff is looking for an improvised assistance for communicating with his customers. So it is time now to introduce him our prototype of IoT, “Atlas”.

Atlas is an IoT prototype that tracks the consumption level of cooking gas in one’s kitchen. It is a digital weighing scale which is connected with the vendor’s database. It tracks the weight of gas cylinder and at a configured cut-off weight the device acts as a sensor and sends information to the vendor’s system. **By this, it is possible for the gas agency to have a prospective idea on customers who needs their gas cylinder to be renewed.** The surprise here is, even before the customer would come to know about the replacement of gas, the gas agency takes care of the situation. This IoT serves consumers, gas cylinder manufacturers and the sales agencies.

Implementing “Atlas” with the gas cylinders can bring data at regular interval of time that makes the procurement & sales process for agency easier. Connect Atlas, with its data is now helping Roff with a dashboard of information for the future sale, stock & shipment plan and **service alerts for defect replacement**, which is unique with this system. He is able to send reminders to customers and receive orders instantly. He is able to track the type of customers (industry/restaurant/home) and serve them based on priority. This also increases opportunity for manufacturers to expand their business based on the number of newly registered customers with the agencies.



PERSONA**Mr.Roff***Sales Manager*

I handle sales division in a gas company. Customers call our office for booking gas cylinders. I like to retain customers by fulfilling their needs without any delays.

Responsibilities:

To receive all the order calls, ensure the stock availability from stores, promising delivery date and processing shipment of gas cylinders. Follow-up with customer complaints.

Main Goals:

To attend the customer calls, to do stock verification, to process the needs in time and at the end to increase the satisfactory index.

Needs:

I receive customer calls, it would be very easy if the calls are for advance booking. So that we have more time to find resources to fulfill the sale. Also to have the updated stock statement on daily basis.

Pain Points:

1. It is difficult to have customer orders for urgent delivery.
2. Even if we are taking orders, what if there is no supply of stock from manufacturer.
3. Sometimes even we miss the calls from our regular customers.
4. Sometimes we are in short of transport or person for enabling the shipment process.
5. If we are delaying our delivery process, customers lose trust on us.
6. There is always chance to miss the FIFO process; due to this we lose the leads.

POINT OF VIEW

As a Sales Manager I need a device that interacts with me about the consumption level of gas so that, I reach customers to get the renewal process done.

User experience journey – Getting orders for gas renewals

Actions	Mindset	Feeling	Touchpoints
Day 1			
1. Arrive at the desk 2. Checks telephone for calls.	Should be from customers. I missed them.		Customer catalog & telephone
Attends a call from a restaurant	Have we received stock yesterday?		Inventory catalog & telephone
Asks customer to hold for a moment	Good, we have stock for today.		Inventory catalog & telephone
Day 2			
Attends call from a house owner for advance booking	Not sure about the stock		Order catalog & telephone
Walks to warehouse to count the stock	No stock, it's a luck that the delivery is for tomorrow.		Notepad & Pen
Hears phone ringing	No, what will I do now if its urgent delivery		
Accepts the call, makes note of details	Ask for excuse for urgent delivery		Telephone, Notepad & Pen
Day 3			
Receives call for stock replenishment	I must reach customer who reached us yesterday.		Telephone & Notepad
After verifying stock, calls customer for confirming booking	They should be ready to take it.		Telephone
Speaks to customer and gets order for delivery today.	Now let me check for delivery options. Driver not available till noon. That's bad.		Telephone, mobile.
Arranges alternative person for delivery.	Tough day.		Invoice, Mobile

Prototype

Mockup-1 below shows the sensor data under inbox tab. Any device that records consumption level more than or equal to 70% will be listed in inbox. And if any safety warnings that are detected will be listed in alert tab. To get more details on the line, click the line and move to next page. There is a button “Send Reminder”, just for sending notification for customer actions.

Customer's Gas Agency Co. WII
Registration No. 9889
City Centre
Hotline: 10009000
info@cga.com

Mockup page 1 and its tab pages

Sales Data
Stock Summary: No. of cylinders in stock: 34 Units
Atlas Device Summary: No. of devices in business: 24 Units
Required Units Today: 0
Required Units Total: 1
Active: 22
Inactive: 2

Customer Follow-Up Action / Gas leakage detected.

Customer	Device	Device Connection	Gas Consumption	Action	
CAT918	Mr.Asus	ATJG009	Garden view	49%	Send Reminder

Customer Follow-Up Action

Customer	Device	Device Connection	Gas Consumption	Action	
CAT914	M/S New Restaurant	ATJG434	Industrial area	75%	Send Reminder
CAT915	M/S Information Systems	ATJG667	Industrial area 2	73%	Send Reminder
CAT916	Ms.Diva	ATJG877	Garden view	70%	Send Reminder

Customer Follow-Up Action

Customer	Device	Device Connection	Gas Consumption	Action / Delivery	Payment Status	
CAT917	Mr.Smith	ATJG611	North Yard	78%	Booked 27-Jun-2017	Net Banking Paid

Customer Follow-Up Action

Customer	Device	Device Connection	Gas Consumption	Action / Delivery	Incharge	
CAT912	Mr.Thomson	ATJG665	North Yard	79%	Dispatched 26-Jun-2017	Mr.Samson

Customer Follow-Up Action

Customer	Device	Action / Delivered On	Delivered By	Payment Status		
CAT911	Mr.Creg	ATJG987	City Centre	26-Jun-2017	Mr.Samson	C.O.D Paid

Mockup-2 will be the detailed view of the selected line item from mockup-1.

Customer's Gas Agency Co. Wil.
 Registration No. 9889
 City Centre
 Hotline: 10009000
 info@cga.com

Atlas Data
 Gas consumption level: 83.33%

Leakage Plotted

Hours	Usage
06-08	0.6
08-10	0
10-12	0
12-14	0.18
14-16	0.04
16-18	0.16
18-20	1.12
20-22	0.12
22-24	0
24-02	0
02-04	0
04-06	0

Weekly Consumption

Week	% Consumed
Week 1	20.9
Week 2	12.3
Week 3	18
Week 4	15
Week 5	17.13

Device ID : ATJG001
 Model : TG5560
 Weight : 7 Kg
 Installed On : 02/03/2015
 Location : City Centre

Cylinder Usage
 83.33 % Consumed
 Time for renewal: No. of days in use: 35
 Leakage Plotted

Customer Data
 Customer ID: ATG00101
 Full name: Mr. Greg Russels
 Mobile: 98887678
 Telephone: 2343343
 Email: homemail@email.com
 Address: No5, City complex, City centre, Pincod : 800009

Send Reminder

Send reminder to the registered mobile no : 87656777.

Dear Customer, Gentle reminder from Connect Atlas.
Your gas cylinder is nearing its renewal date.

OK Cancel

Send Reminder

Send reminder to the registered mobile no : 87656777.

Dear Customer, Gentle reminder from Connect Atlas.
Your gas cylinder is nearing its renewal date.

Reminder Sent Successfully

OK Cancel

Prototype in detail:

Atlas: An IoT digital weighing scale used to track the consumption level of gas from cooking gas cylinder.

Connect Atlas: The IoT device is connected to the application **Connect Atlas** to which all the sensor data are sent.

Key Users: Suppliers or Gas Agencies, Customers. A Sales Manager from a Gas agency Company will be our persona for this prototype.

Key benefits: The main purpose of this prototype is to make the renewal process of cooking gas cylinders easier. Also, to send critical alerts to users when there is any gas leakage is detected from cylinders. It is a kind of survey analysis through which sales orders are fulfilled.

Atlas Master Settings: Atlas uses weight measurement concept to capture data. It needs to be configured with certain inputs during installation. Map the customer ID to the device. The agency will supply only standard model of cylinders so, input the cylinder model, Tare weight & Weight of cylinder when it is empty. Input the clock settings or RPD (Records Per Day). This is 12 by default, which is sensor data captured once in every 2 hrs. If require change the frequency. Input the consumption cut-off percentage. This is 70 by default, still modifiable. The in-built leak tracer with notification option comes as mandatory settings. This detects gas leak in air and immediately sends reminders to users. Input the user e-mail and mobile number for sending notifications. All these settings are for hardware level.

Connect Atlas Details: All the renewal reminders are sent to the **Inbox** of connect atlas. All the leak traces are listed in the **Alert** tab as highly critical notifications. Inbox and Alert notifications have navigation to Atlas Page, where complete details about device, cylinder consumption, customer, leak trace are found. In all the notifications there is **Send Reminder** option, for sending reminders to customers. All the approved reminders from customers for renewal process are listed under **Booked** tab of connect atlas. And for all the booked customers, cylinders are delivered.

Conclusion: Thus, the prototype serves the need of a suppliers and customers for a better service. Since this is role-based application different personas can also be explained. Hope you liked the concept behind this IoT Prototype. Your evaluation on this is most valuable to us. Hope to enhance this IoT concept with better & cool features on upcoming projects.

Kindly refer to the Build Application for better clarity.

Thank you

This prototype is dedicated to my wife