Template Description
This is a template that can be used for the Prototype Challenge included as part of the openSAP course “Imagine IoT.”
Summary

Automated continuous supply in Stationary Gas Tanks.

Storyline

In Mexico, the use of Gas it is very common in the life of families and some businesses / companies every day. Gas enables the food preparation in homes, restaurants; and water heating in homes, hotels and businesses.

Currently the gas distribution is done in two formats: natural gas and LPG (Liquefied Petroleum Gas). There are natural Gas distribution companies nationwide, however, it has greater acceptance in the northeastern part of Mexico, we can say that there is a distribution of 65% of LPG in Mexico, having largest market in the central and southern regions.

The natural gas is distributed continuously; companies have a bi-monthly meter that indicates what level of consumption at the end of this period is. The LPG is distributed on demand, as a request by the final consumer, so if the customer forgets to place its order on time, can run out of gas supply and interrupt its normal activities in its daily life (food preparation that needs to be heated, hot water for bath), and it is transcendental for businesses who live depending on this type of fuel.

The LPG in Mexico usually has two types of formats: cylinders of 10 and 20 liters (kilograms); and fixed stationary tanks in homes, businesses or companies. These types of cylinders or stationary tanks do not have a current level meter of gas, and therefore is complicated to know the exact time to request the refill.

A system of gas level sensor is proposed, that process automatic orders the next day when the current level of gas is less than or equal to 5% of the level (for cylinders with +20 liters’ capacity and for stationary tanks), preventing house / business / companies run out of supply of this fuel. The distributor company will optimize its routes.
Person (Customer)

Juan Pérez
Chef and habitant of Mexico City

"He likes to cook and hates having to look for suppliers of LP Gas when the supply runs out, working in the restaurant and at home".

About

- 35 years old, married, he lives in a small apartment in Mexico City.
- He is being working by 11 years as a chef and manager of a Mexican food restaurant.
- He likes to cook and do all his necessary activities without leaving his space.
- He hates having unexpected problems, and is much better if he can solve any problem without calling by phone

Responsibilities

- Responsible of the Food prepared in the restaurant, the quality and taste.
- Responsible for the service given in the restaurant.
- Responsible for restaurant supplies, food and gas.
- Responsible in his home to pay and provide services such as gas, electricity, telephone.

Needs

- A meter to indicate the level of LP Gas in the restaurant and home.
- A medium that warn him to check the gas level in the restaurant and home.
- An automated medium (cellphone application) that helps him to request for Gas.
- An electronic medium that indicates his Gas consume and money amount of gas purchases.

Main Goals

- Achieve Gas service continuity in the restaurant and at home.
- Know exactly the consume of Gas liters and money.
- Can be able to charge his gas consumption to a credit / debit card.

Pain Points

- There are no level meters for LP Gas cylinders and stationary tanks.
- The distribution of LPG is currently done when the customer requests it by phone.
- There is no notion of how many liters of gas are being consumed.
- Few companies have the option for paying the Gas with credit / debit card.
**Person - Provider**

**Luis López**

General Manager in “Flama Azul” Gas.

"Ten years working for 'Flama Azul' Gas in Mexico City, interested in boosting his business against competition, and likewise deliver an exceptional customer experience."

**About**

- 49 years old, lives in Mexico City, married.
- Work as head of gasoline supply for an indirect company of PEMEX
- He likes the soccer and food.
- Do not believe in technology, but with the increasing competition he has the confidence that technology will help him to gain a competitive advantage against other companies in the same line.

**Responsibilities**

- Responsible for the company to generate profits.
- Follow up the customer orders.
- Plan the demand according the orders and detonate purchase orders to his suppliers.
- Verify that customer service is given in time and in an exceptional way.

**Main Goals**

- Automate gas supply, promoting new channels such as mobile applications.
- Count with a differentiator against competing companies.
- Generate information that enables demand planning.
- Optimize routes of trucks suppliers and have a higher level of service.

**Needs**

- A tool that allows to plan customers’ orders.
- A tool that will help trigger the demand.
- A tool to open new sales channels: mobile application and web site.
  Accept various payment methods: credit / debit card.

**Pain Points**

- Several companies on the route looking for customers.
- Customers with different forms of payment: cash, credit / debit cards.
- Fluctuating demand, there is no notion of the demand.
- New customers prefer to request services without using the phone, or without going outside to look for gas supply.
Point of View

As a Chef

I need a way to have gas service always so that I will be able to cook the food of the restaurant where I work and prepare my daily food at home, likewise have hot water for my shower.
As a General Manager of “Flama Azul” Gas.

I need a medium to capture customer orders by different channels and considering different payment methods so that have a competitive advantage, a better-quality service for the delivery, better demand planning and optimizing the trucks routes for supply Gas, making the delivery process more efficient.
## User Experience Journey

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>MINDSET</th>
<th>FEELING</th>
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<tbody>
<tr>
<td>• Juan Pérez takes a hot bath at home.</td>
<td>• Juan: I have to check with suppliers the food, I have no time for other things. The gas is about to end, it’s cold outside, it’s good that I do not need to go out and check the level.</td>
<td>😞</td>
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<tr>
<td>• Juan cooks in the restaurant the daily food, it’s been 1 month since he filled the gas. Juan goes back home and prepare dinner, he notes the gas flame is about to end.</td>
<td>• Juan: I feel very sleepy, not too much time to think about things, was a long day.</td>
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<td>• At Juan’s home the gas sensor (a tank of 100 liters) has detected that the remaining gas is less than 5%, the sensor triggers a signal to order. In the restaurant at the end of day the sensor detects that the remaining gas is 5% and automatically generated an order.</td>
<td>• Luis: the demand is growing, we have orders in areas that previously we did not cover, we will need to buy one more truck.</td>
<td>😞</td>
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<tr>
<td>• At 10 PM arrive the corresponding orders for the restaurant and the Juan’s home. Luis Lopez schedule the program of the supply trucks for the next day. Luis verifies that there is supply according to the demand.</td>
<td>• Juan: hopefully the gas truck arrives without problems to my house and the concierge helps me to open the door.</td>
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<td>• Next Day: 8:00 am, in “Flama Azul” Gas is automatically scheduled the routes for the trucks according to the customer’s locations. 8:30 am departure of supply trucks.</td>
<td>• Juan: how good! Truck arrived to my home, I’ll have a dinner and water for a hot bath tonight.</td>
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<td>• At 10:45 a.m. the truck arrives at Juan’s house; the supply is performed leaving the tank full with gas. Juan is not at home; the charge of the supply is made to the Juan’s credit card.</td>
<td>• Juan: one pending less, the gas was supplied in the restaurant, I can serve customers smoothly.</td>
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<td>• At 12:15 pm the truck arrives to the restaurant where Juan works, the gas is supplied and the service is paid with cash. Juan checks on his cellular phone the gas supplied to his home and check the amount charged for the service.</td>
<td>• Juan: the amount that was charged for the gas supply was correct, it will be a great day.</td>
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<tr>
<th>TOUCH POINTS</th>
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<tr>
<td>• Gas level sensors</td>
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<td>• GPS that identifies the customer location.</td>
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<td>• Message sending of a request to the database in back-office cloud (SAP HCP).</td>
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<tr>
<td>• Order creation in SAP HCP.</td>
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<td>• Orders Backlog.</td>
<td>• Number of gas liters to be supplied.</td>
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<td>• Customer locations.</td>
<td>• Distribution zone maps.</td>
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<td>• Supply routes.</td>
<td>• Route optimization process.</td>
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<td>• Detail: number of liters and payment per customer.</td>
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<td>• List of orders to cover by truck.</td>
<td>• Truck supplies the order.</td>
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<td>• Detail: number of liters and payment per customer.</td>
<td>• Connection to payment systems.</td>
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<td>• Notification of delivery and payment.</td>
<td>• Save route information, liters of gas, amount and comments, user preferences to improve service and gas supply.</td>
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Prototype

You can use this space to insert your mockup(s):
Link for my study:
https://standard.build.me/home/projects/a58d151335cb632d0cd16f5c/research/participant/e25ee81185e1ee590cd4188b