






# Project design phase-2

Customer journey

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Team Id	PNT2022TMIT50840
Project Name	Gas leakage monitoring and alerting system
Marks	4 marks

# Customer journey map

STAGE	Awareness	Consideration	Decision	Service	Loyalty
CUSTOMER ACTIONS	View online ad, see social media campaign, hear about from friends	Conduct research, research competitors, compare features and pricing	Make a purchase	Receive product/service, contact customer service, read product/service documentation	Make another purchase, share experience
TOUCHPOINTS	Traditional media, social media, word of mouth	Word of mouth, website, social media	Website, mobile app, phone	Phone, chatbot, email	Word of mouth, social media, review sites
CUSTOMER EXPERIENCE	Interested, hesitant 	Curious, excited 	Excited 	Frustrated 	Satisfied, excited 
KPIs	Number of people reached	New website visitors	Conversion rate, online sales	Product reviews, customer service success rate, waiting time	Retention rate, customer satisfaction score
BUSINESS GOALS	Increase awareness, interest	Increase website visitors	Increase conversion rate, online sales	Increase customer service satisfaction, minimize wait time	Generate positive reviews, increase retention rate
TEAM(S) INVOLVED	Marketing, communications	Marketing, communications, sales	Online development, sales, marketing, customer service	Customer service, customer success	Online development, customer service, customer success

## CUSTOMER



### Goals

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### Pain points

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### Expectations

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## JOURNEY

1 2 3

### Consideration

- Thinking
- Feeling
- Doing
- Touchpoints

10 11 12

### Post-purchase

- Thinking
- Feeling
- Doing
- Touchpoints

4 5 6

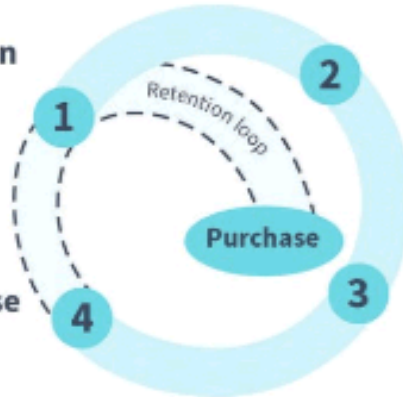
### Evaluation

- Thinking
- Feeling
- Doing
- Touchpoints

7 8 9

### Closure

- Thinking
- Feeling
- Doing
- Touchpoints



## EXPERIENCE

### Touchpoints

Positive

Negative



## INSIGHTS

### Consideration opportunities

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### Evaluation opportunities

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### Closure opportunities

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### Post-purchase opportunities

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## WHAT IS IT?

- VISUAL REPRESENTATION OF THE PROCESS A CUSTOMER GOES THROUGH TO ACHIEVE A GOAL

- REPRESENTS A SERIES OF TOUCHPOINTS AND FEELINGS THAT CUSTOMERS HAVE TOWARDS YOUR PRODUCT OR SERVICE



A **gas detector** is a device that detects the presence of [gases](#) in an area, often as part of a safety system.

A gas detector can sound an alarm to operators in the area where the leak is occurring, giving them the opportunity to leave.

This type of device is important because there are many gases that can be harmful to organic life, such as humans or animals.

Gas detectors can be used to detect [combustible](#), [flammable](#) and [toxic](#) gases, and [oxygen](#) depletion.

This type of device is used widely in industry and can be found in locations, such as on oil rigs, to monitor manufacturing processes and emerging technologies such as [protontronic](#). They may be used in [firefighting](#).

**Gas leak detection** is the process of identifying potentially hazardous [gas leaks](#) by [sensors](#).

# GOALS

1. FACILITATE A COMMON UNDERSTANDING
2. IDENTIFY GAPS IN THE CX
3. EXPLORE OPPORTUNITIES

One of the preventive measures to avoid the danger associated with gas leakage is to install a gas leakage detector at vulnerable location.

The objective of this work is to **present the design of a cost effective automatic alarming system, which can detect liquefied petroleum gas leakage in various premises.**

Pipeline leak detection is used **to determine if and in some cases where a leak has occurred in systems which contain liquids and gases.**

Methods of detection include hydrostatic testing, infrared, and laser technology after pipeline erection and leak detection during service.

Gas detectors measure the level of different gases within the air, and are used **to prevent anyone from being exposed to toxic gases that could poison or kill.**

Most leak detectors are primarily responsible for **locating the leak, determining the extent or rate of leakage,** and keeping track of increases or decreases in leakage.

## BUILD PRODUCTS CUSTOMERS LOVE



EMPATHY METER

Decomposition of  $\text{Cu/CuO}$  impregnate  $\text{ZnO}$  thin films suitable for sensing LPG gas.

This type of sensor has been in use for nearly a century and works by measuring the temperature difference between two beads - one inert one and one coated in a chemical catalyst.

As they are heated, the one with the catalyst will heat more.

They respond to a full range of flammable gases, including hydrogen, methane, butane, propane, and carbon monoxide.

Still, they can be prone to poisoning when exposed to high concentrations of flammable and combustible gases.

When calibrated to a single gas, these detectors may also provide inaccurate readings for all other gases.

# INTERACTION



These detectors use catalytic combustion to measure combustible gases at Lower Explosive Level (LEL) concentrations.

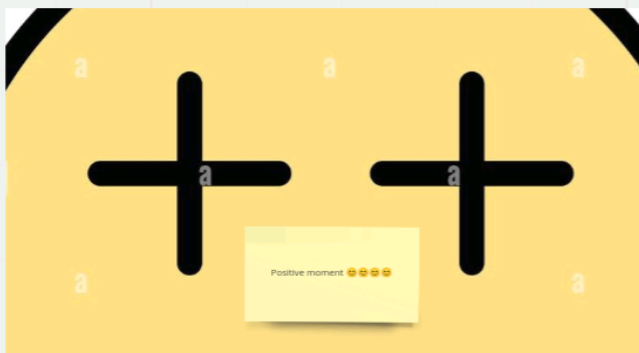
Single crystal variable path interferometer working at 2MHz

The observed change in sensitivity of those films upon exposure to  $\text{Ipg}$  gas.

Molecular volume and molecular sound velocity have been calculate.

The obtained result have been used to explain the nature and strength of intermolecular interaction prevalent in the liquid and it's effect over the sensing activity

Keywords:  $\text{Zno}$ ,  $\text{cu/cuo}$ , acoustics, gas sensor.



An IoT-enabled gas monitoring system is designed specially to prevent explosions and fire disasters in the facilities and thus save human lives.

A human nose has around 400 different types of scent receptors that enable us to smell approx.

Gas detection sensors are most commonly used to develop an IoT-powered system and identify the variation of toxic gases around an industrial facility.

advanced level gas sensors or gas monitoring systems help the manufacturers to procure accurate and real-time information regarding accidental gas leaks.

The latest versions of gas sensors are powered with IoT concepts to create live alerts in case of a gas leak or toxic atmosphere.

A gas monitoring solution not only detects toxic gases but also identifies changes in air quality.



### Negative moment



It provides the fool proof security to industries and homes. The system consists of Alarming system, smart SMS alert and e-mailing on need.

Liquefied Petroleum Gas (LPG) leakage poses great danger in this era where its use has become an important source of energy for industries, homes and vehicles alike.

A means of avoiding dangers associated with LPG leakage is to install LPG leakage detectors at susceptible areas.

Public security and environment safety is a big issue in the present day.

Smoke, fire, vibration, gas, and temperature can cause too many issues and causes accidents at home and industrial areas.

To decrease chances of such accidents it is essential to take necessary steps such like entertain security based projects.