

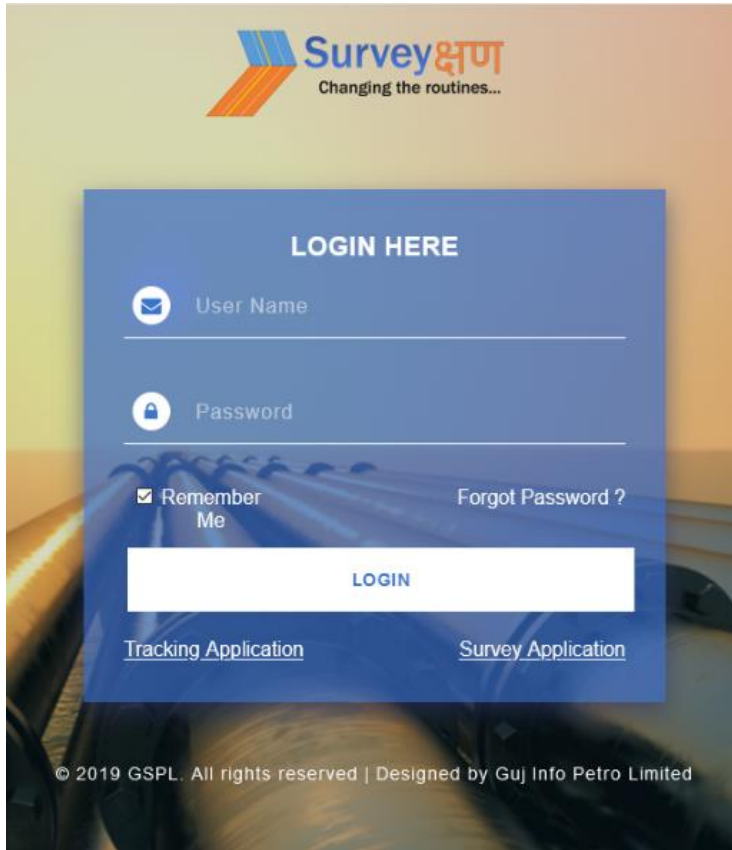


# Surveyक्षण

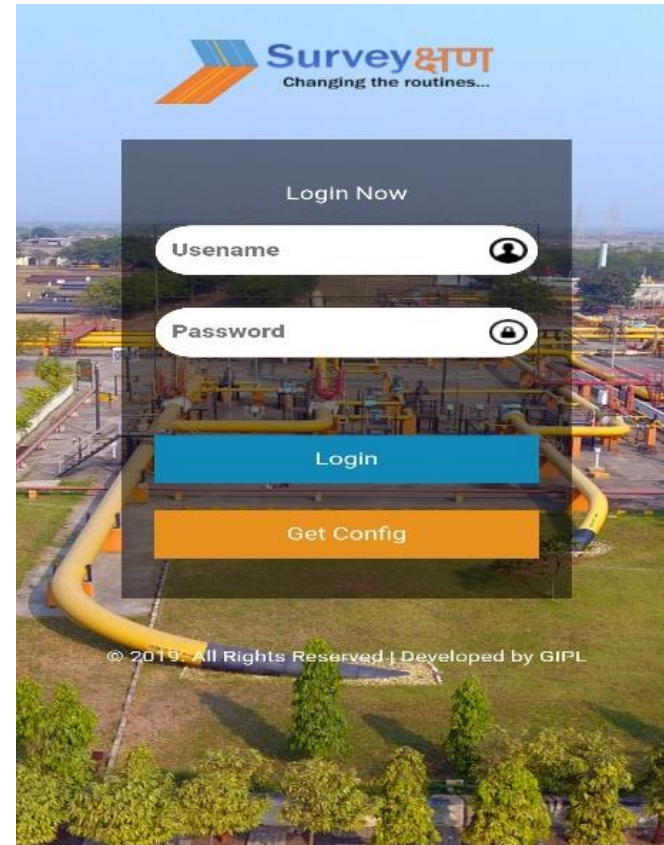
Changing the routines....

1

## Web Application



## Mobile Application



Presentation By

**Gujarat State Petronet Ltd. (GSPL)**

# Need



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- Patrolling team has to walk and note down the observations related to missing markers, washouts, encroachments and illegal mining etc. Due to involvement of hired manpower/ manual noting the observations, authenticity of data reported by them are always under doubt because we can't be sure that whether the team has covered all the route of pipelines in actual or generated the report for some stretches without actual walk over.
- Considering these challenges, GSPL has developed mobile GPS based online tracking system of RoU patrolling. Upon using this mobile based GPS application, Owner will not only trace the actual path of route covered by the deployed person for patrolling but also the real time walk over tracing will be tracked at Base offices or Master Control Room (MCR) level at their desktops.

# Uniqueness of this Application



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- Ability to **track patrolling person** from starting point to destination point in real time basis.
- Visually represent the **geographical locations** of the patrolling person while doing the foot patrolling.
- Ability to provide **accurate route of pipeline**, unauthorized halt, deviation from predefined route which will be highlighted through exception reports.
- Provide **cross-checking (in Nos.)** and real time **conditions (actual photos)** of installed ROU assets like various **ROU markers** and **Test Lead Points (TLP)** for CP.
- Notify **illegal mining** and **encroachments** with visual evidence.
- System will be viewed by users at different locations (Base & MCR levels) and also with different set of users.
- All **encrypted** and **auditable data** in digital logs.
- **Real time report** generation. No hard copy documentation.
- Integrated with **SAP- PM**.

# Screen shot of web application



**310**  
Patrolling In Progress

**100**  
Patrolling Approval Pending

**411**  
Patrolling Approved

Demand Note Generated : 185  
Site Visit Pending : 120

## UPCOMING PATROLLINGS

Sr. No.	Base Name	Sub-Base Name	Pipeline Segment	Chainage From - To	Patrolling Date	Patroller Name
1	Surat	Vapi	VAPI-SPUR-0002-SARIGAM	0.000 - 4.380	09/02/2021 - 09/02/2021	Deepak Jaiswal

## WORK PROGRESS

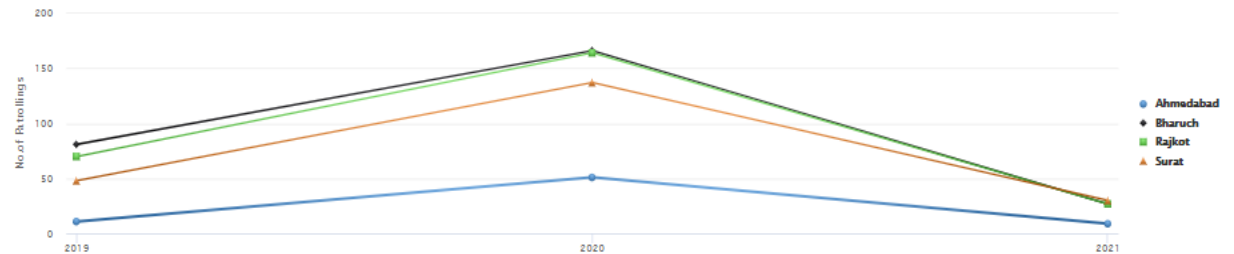
BARODA-BPPL-0273(18/12/2019 - 18/12/2019)	61%
RAJKOT-RJPL-0109-ESSRSPUR(10/09/2020 - 30/09/2020)	80%
BARODA-ADPL(21/11/2020 - 21/11/2020)	17%
BARODA-AVPL-0005(30/11/2019 - 30/11/2019)	87%
BARODA-BPPL-0273(16/06/2020 - 16/06/2020)	56%
BARODA-PDPL(16/11/2019 - 17/11/2019)	45%

## BASEWISE ONGOING PATROLS

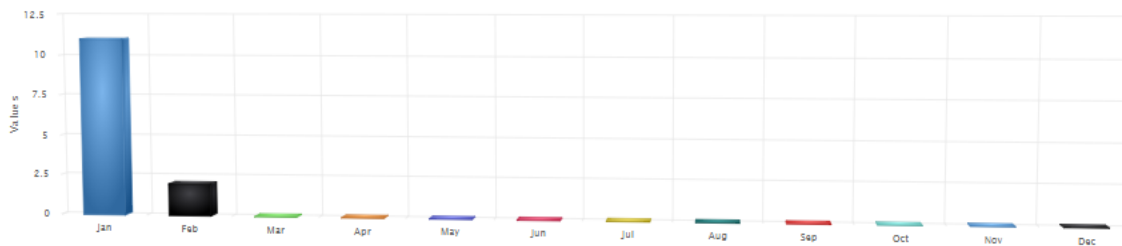


● Ahmed... ● Bharuch ● Rajkot  
● Surat

## YEARWISE PATROLLING COUNT



## MONTHWISE THIRD PARTY CROSSING APPLICATION RECEIVED COUNT



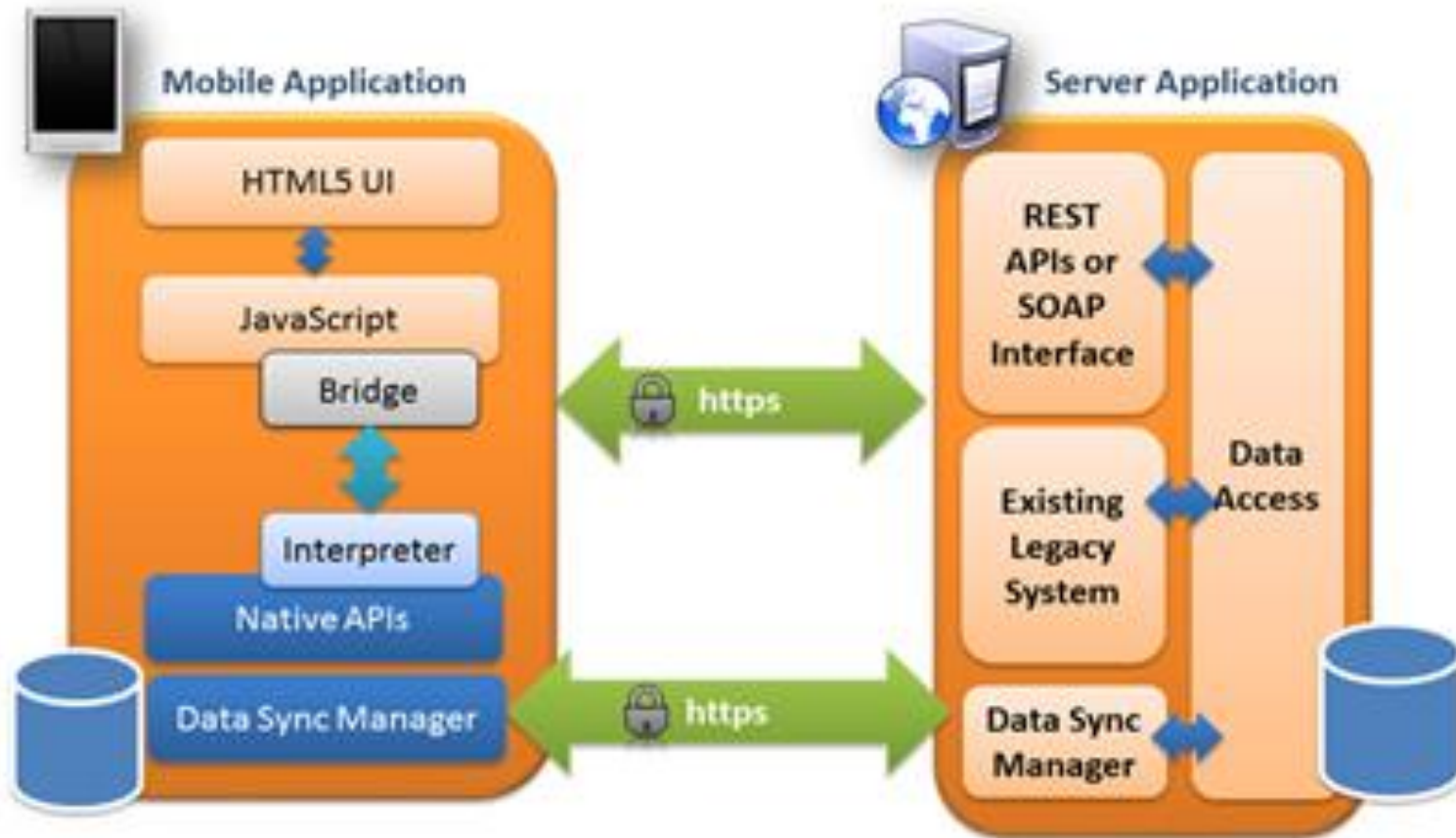
## BASEWISE GENERATED DEMAND NOTE COUNT



# Application Architecture



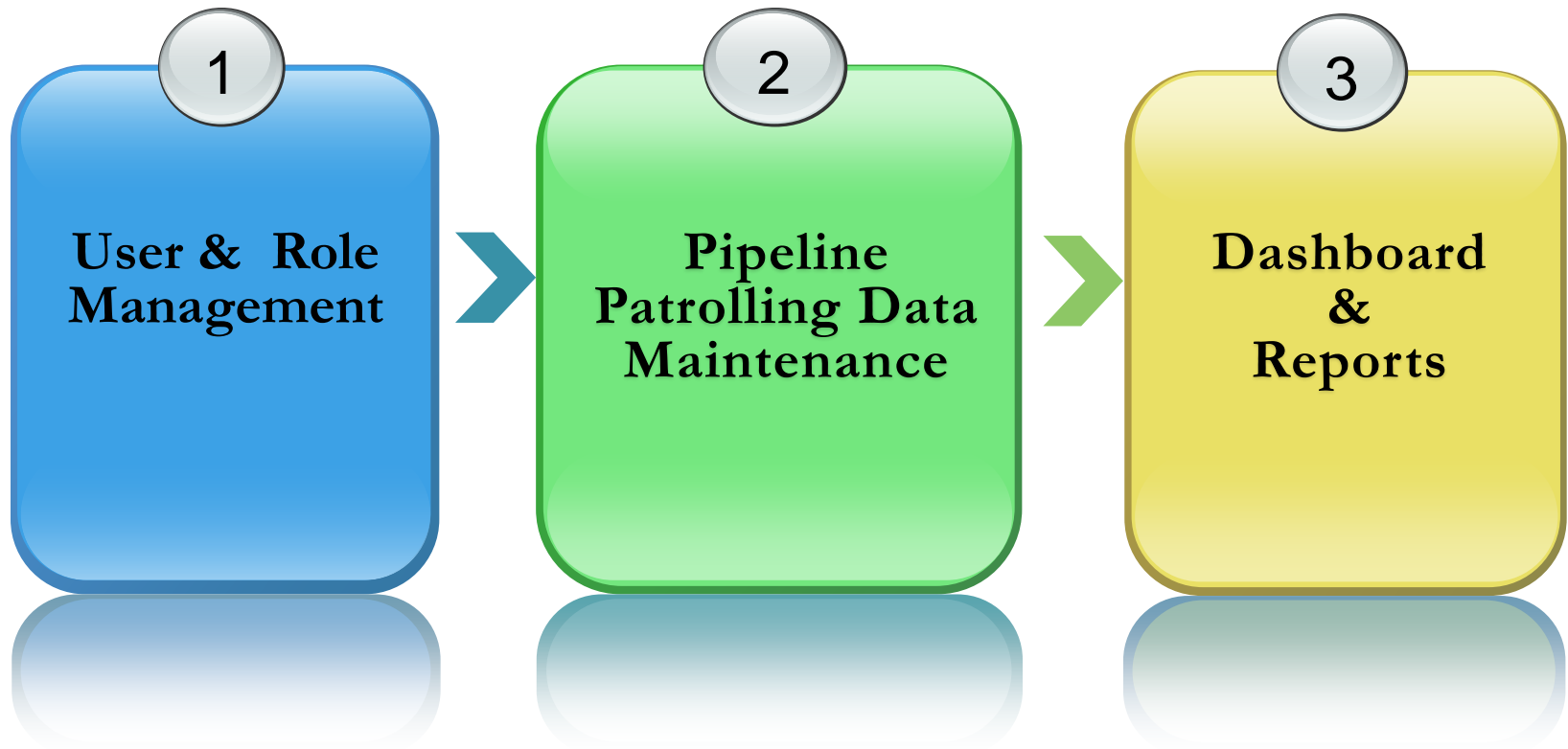
5



# Conceptual Diagram



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# Mobile App Feature List



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- Patrolling with Android Mobile Device & Collect respective data with GPS Coordinate
  - ▣ Transmission Pipeline
  - ▣ River Crossing
  - ▣ Rail/Road /Canal
  - ▣ Pipe to Soil Potential
- Capture Multiple Photo on Particular Chainage or any illegal activity happen on any location.
- User can save data when network is not available & after getting network it will be sync to server so it will work as offline mode

# Web Application Feature List



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## **Patrolling Management**

- Base wise Pipeline Segment Details
- Pipeline Segment wise Chainage & Marker Details
- Patrolling Data
- Assign Base & Pipeline Segment to Multiple User for Patrolling
- Generate Notification based on Assignment

## **GIS Features**

- Marker wise collected patrolling data displayed on Google Map
- Date wise patrolling data of User

# Web Application Feature List



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## Reports & Dashboard

- Generate Daily, Monthly MIS Reports
- Upcoming Patrolling List
- Work in Progress Patrolling List
- Year wise Patrolling count
- Base wise Patrolling
- Patrolling In progress, Pending & Approved Count
- Patrolling Type wise Daily work Status

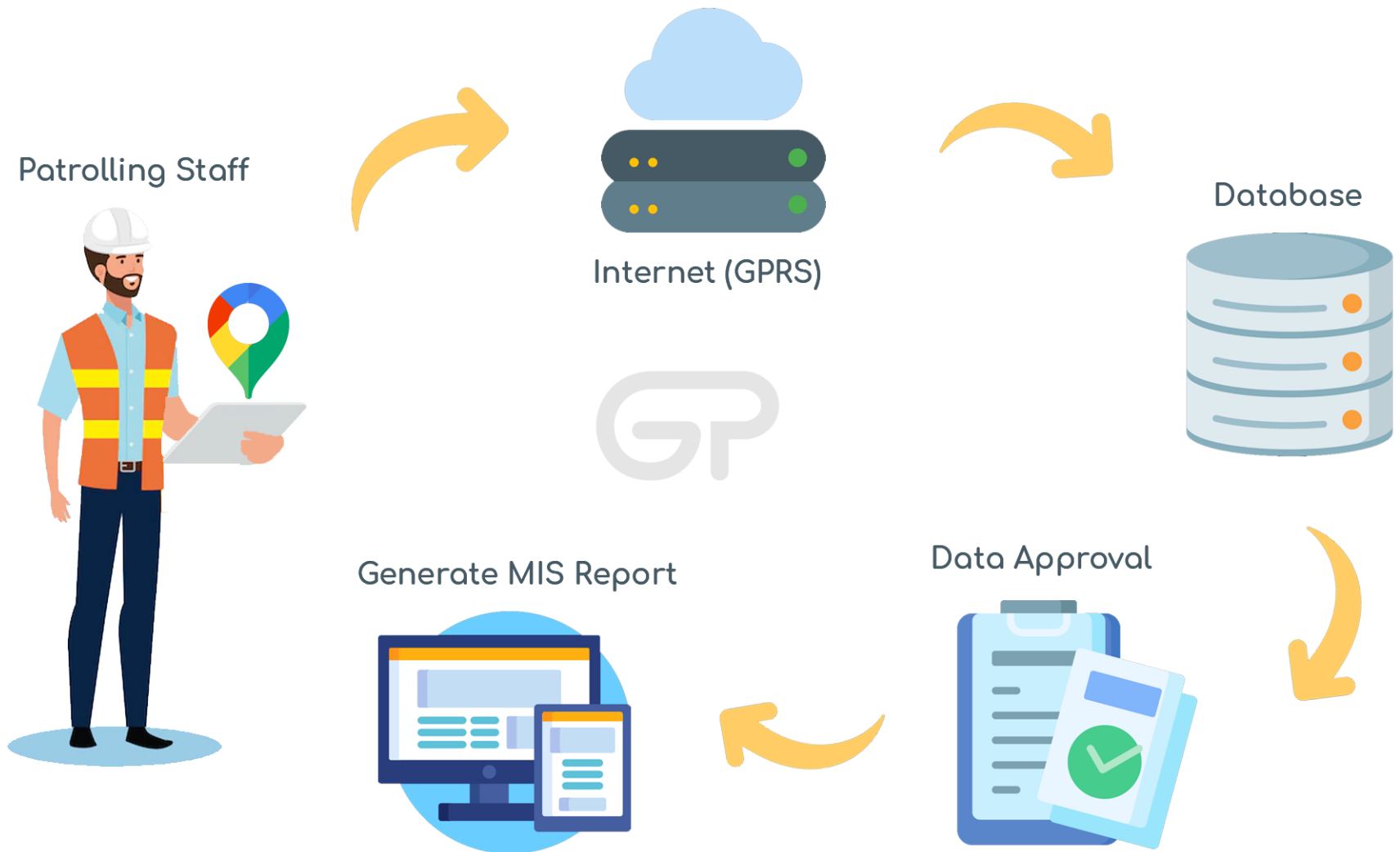
## Administration

- User Management
- Role and Rights Management
- Audit Log

# Flow Diagram- Patrolling



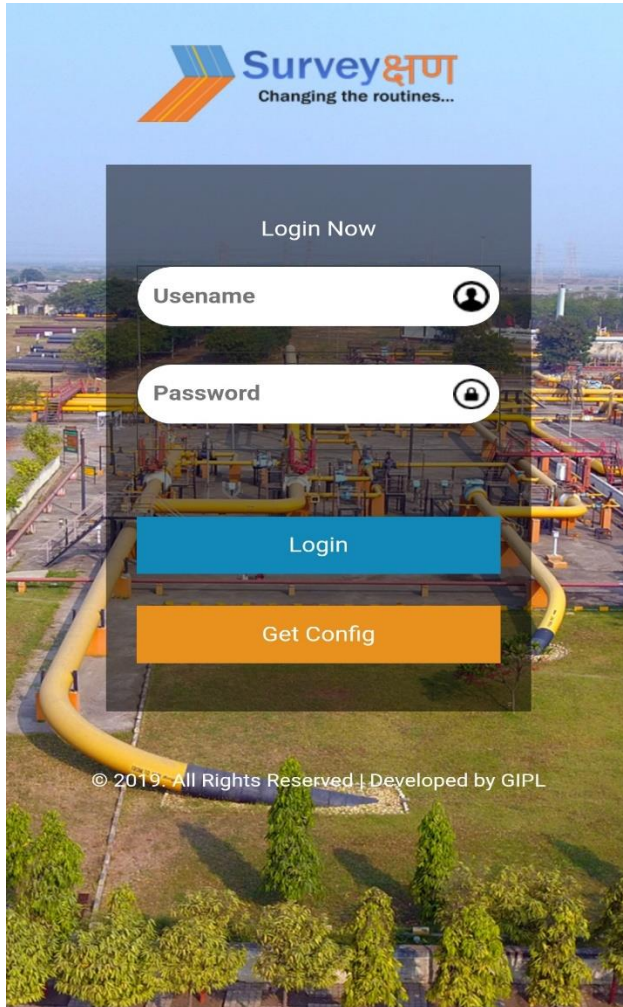
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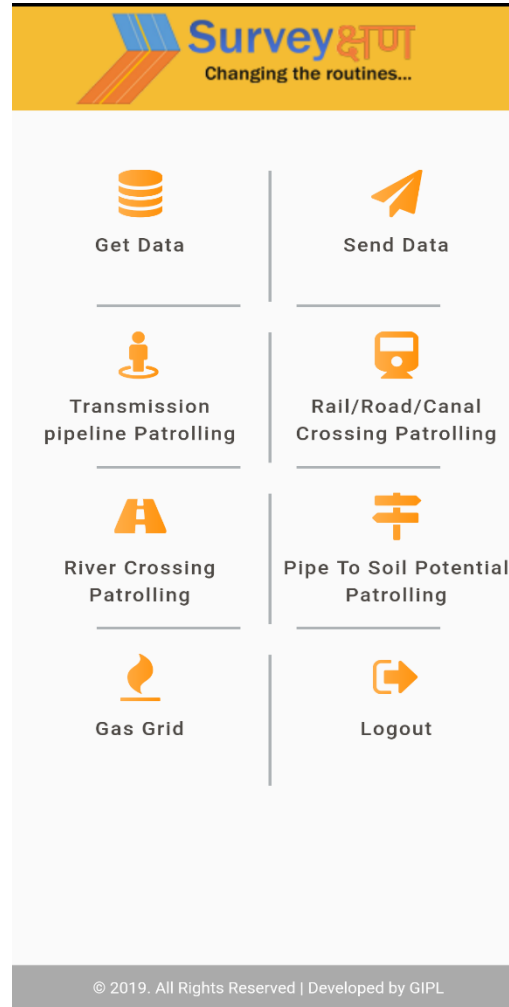
# Mobile Screen shot



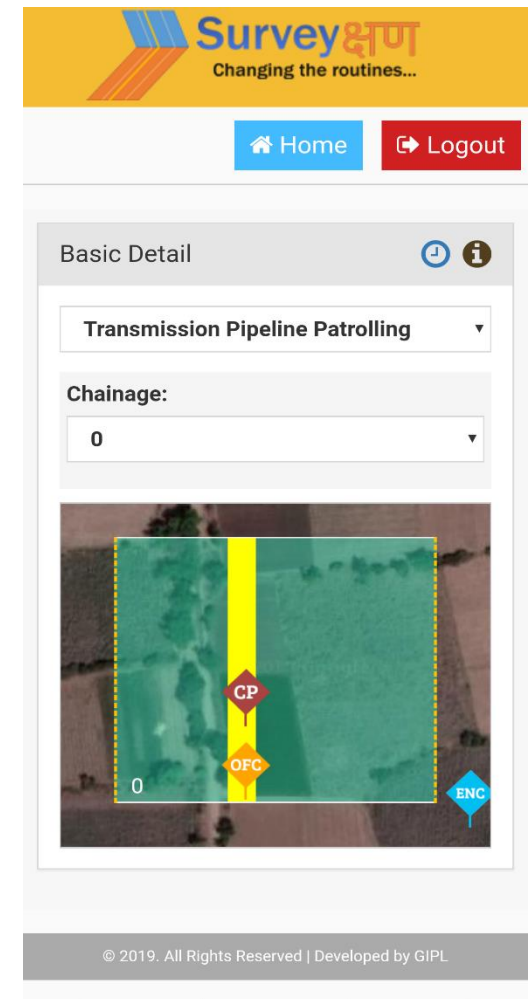
## Login



## Home



## Transmission Pipeline



# Mobile Screen shot



## Pipeline Detail

10:37 | 4G | 85% | LYEG

### Pipeline Details

**Base :** Surat


**Sub-Base :** Vapi

**Pipeline Segment :** Vapi -MVPL

**Patrolling By :** Ranjan Pateliya

**Chainage Covered:** 0 - 72.407 KM

**Patrolling Date :** 16/09/2019 - 30/09/2019



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## Marker Detail

### Marker Details

**BM** : ROU Marker      **K** : KM Marker


**TP** : TP Marker      **CP** : CP Marker

**W** : Warning      **A** : Aerial Marker

**Marker**

**OFC** : OFC Marker      **N** : Navigation

**NB** : Notice Board




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## Entry Form

### Transmission Pipeline ( 0 KM )


Latitude: 23.22284460067749  
Longitude: 72.64737904071808  
GPS Accuracy Error (Unit: meters): 50.58531951904297

**Marker Name :**  
CP Test Point

**Upload Photo** 



**Remarks**



# Mobile Screen shot



## Rail/Road/Canal

**Rail/ Road/ Canal Patrolling ( 1.984 KM - Road )**

Latitude: 23.2228258  
Longitude: 72.6473795  
GPS Accuracy Error (Unit: meters): 12.213000297546387

Entity Name :  
**Asphalted Road Crossing**

Soil Washout :  
 Yes  N/A  No

Vent Pipe / Drain Pipe Status :  
 Yes  N/A  No

Markers on Rail/Road/Canal :  
 Yes  N/A  No

Other Observations

**SAVE**

## Pipe to Soil Potential

**Pipe To Soil Potential Patrolling ( 0 KM )**

Latitude: 23.222827  
Longitude: 72.6473813  
GPS Accuracy Error (Unit: meters): 11.638999938964844

TLP Type :  
**E**

TLP No :  
**1**

Is CP Test Point Available? :  
 Yes  N/A  No

TLP Reading :  
TLP Reading

Other Reading :  
Other Reading

Location Reference :  
Location Reference

Remarks

**SAVE**

## Gas Grid

**Surveyक्षत**  
Changing the routines...

[Home](#) [Logout](#)

Gas Grid

Map data ©2021 Google. Terms 100 km

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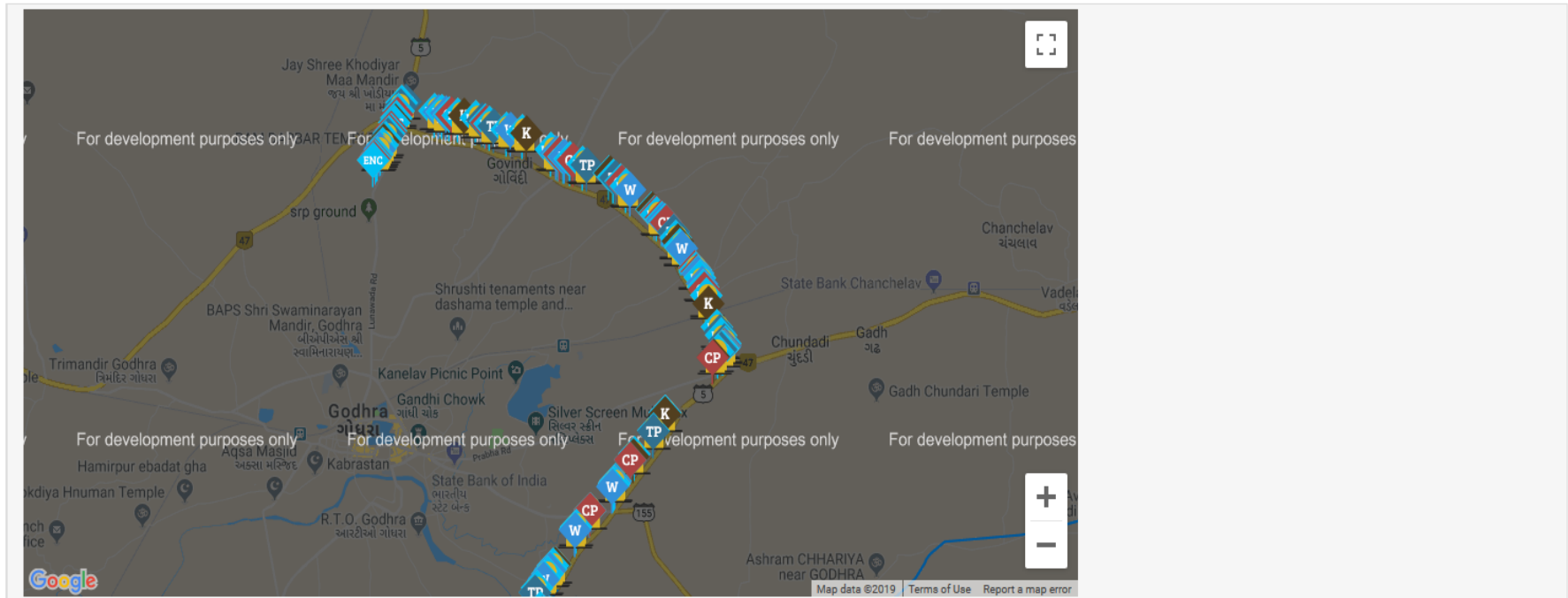
# Patrolling Screen shot



View Map

Back to Patrolling List

Base Name :	Bharuch	Sub-Base Name :	Godhra
Pipeline Segment :	BARODA-PMSP	Patrolling Type : *	Patrolling of Transmission Pipeline
Patrolling Date : *	03/09/2019	<a href="#">View</a>	<a href="#">View Legends</a>

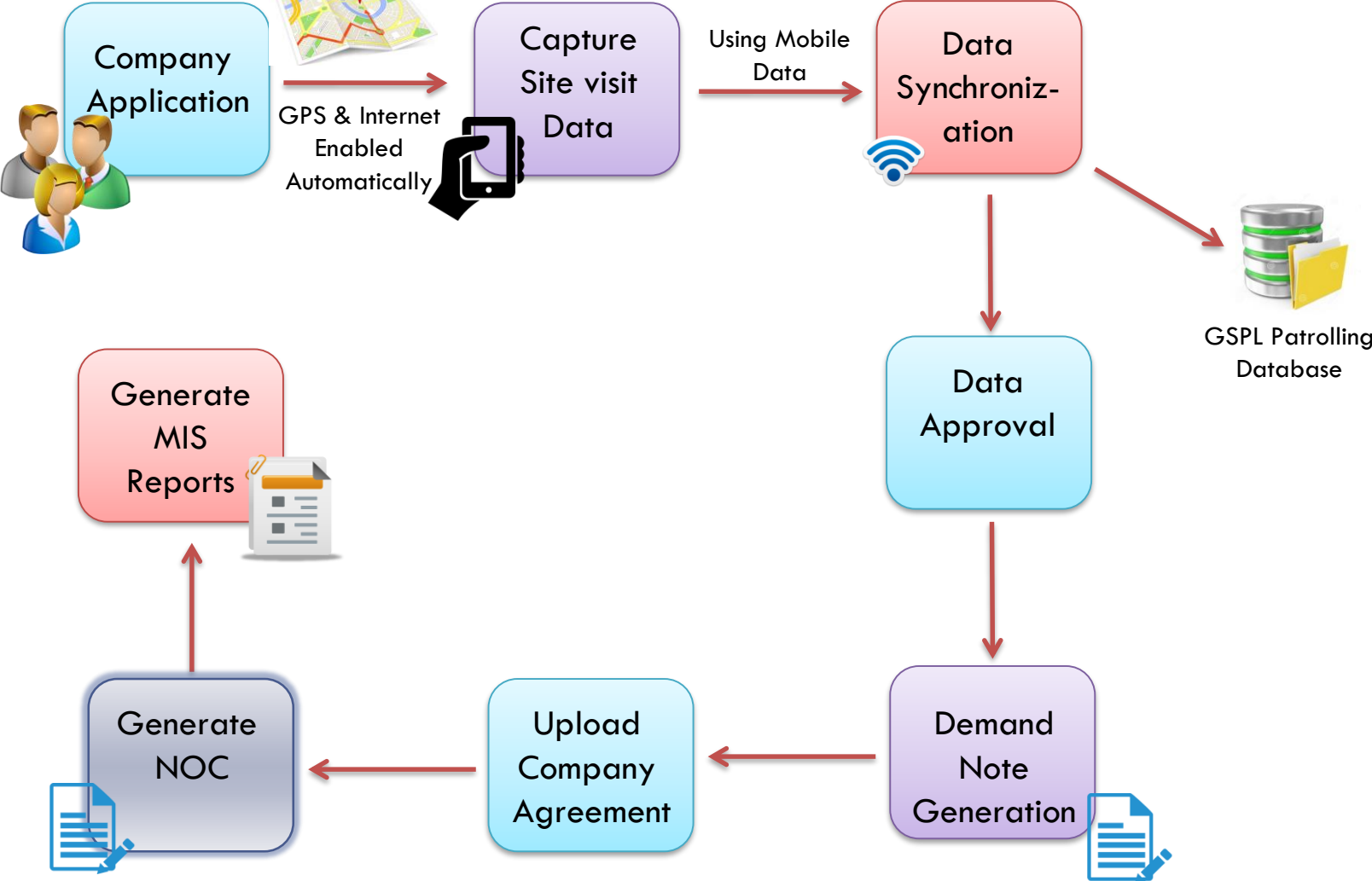




# Flow Diagram-Third Party Crossing / NA-NOC



### Process Start





THANK YOU!

# Flow Diagram- Patrolling



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