**Detailed Plumber APP interface and PAAS cloud data management system.**

**IN SCOPE REQUIREMENTS.**

***PAAS system of reporting geyser leaks and Sewage blockages.***

Automated system that uses leak sensors/leak devices installed on our client’s property to read and report leakages or sewage blockages via (GSM signalling network) that is connected to our **PAAS system**.

**The Essence of the PAAS SYSTEM as Data management and analytics system is to;**

2. Cloud PAAS automatically uses data input of clients **geyser condition** to process and determine actions;

3. Then Uses weather patterns to calculate amount of corrosion building up on a geyser to action required steps

A. Automatically Schedule wear and tear maintenance for home and business owners based on amount of corrosion build-up.

B. and alert clients of required wear and tear maintenance dates.

USES PLUMBER DATA INPUT to analyze fittings and geyser condition given as data by plumbers to then give critical report of the situation and gives the client option to call a plumber.

This system is built to report leaks or sewage blockages as soon as they start to happen so that it can automate steps to deal with the situation as means to prevent catastrophic damages to property and avert the disease risks and discomfort so associated with sewage spills by automating response/calling plumbers.

And will **Store data**.

**Plumber prices determined in real time**

Depicts how much it will costs to fix the problem depending on the amount of water leaking on their geyser using real time.

Uses real time data on plumbing prices, customer feedback and vetting system to find the reputable plumber and tells the client how much the plumber will charge to fix

***Bidding platform(optional)***

*Plumbers can bid for upcoming Scheduled Maintenance work in their Area*

Plumbers can bid for maintenance work that is scheduled by the PAAS system based on the Plumbers Location and the clients Location.

And **PAAS** confirms everything of the WIINING BIDDER/PLUMBER, Dates or chosen by that client.

Provides a location of that plumber and how much it will take for that plumber to arrive by calculating the distance using GPRS.

Bidding can only be done by plumbers who have AI or block-chain ID that uses a GPRS on their registered Phone to track their location.

Plumbers who have done our training on device installation and documenting reports required as data by our PAAS system will be considered first.

***ID for verification***

The ID are used to confirm using GPRS on their cell phone to confirm if plumbers have arrived for scheduled work to fix a leaking geyser, maintenance or unblocking a sewer manhole.

***Secure payment system (for payment option)***

1. **Customers**

Allows customers to sign-up to our website to have block chain accounts **where they can pay/ have saved money** for scheduled regular wear and tear maintenance of their geyser by a professional plumber and can have an option to use it for any necessities should they need too.

**2. Plumbers**

Plumbers need to sign-up on our website to have an account to receive payment.

***Link to verify Certificates of Compliance***

Only an electronic COC document is required for plumbers to receive payment.

Only a customer can authorise payment by confirming to the System that they have received COC for work done.

The COC can only be an electronic document that will be stored by the AI/IOT system for reference and verification purposes.

**Plumbing industry board** offers electronic COC for plumbers and plumbers can buy their COC online from the Industry Board Block-chain Account.

So the AI/IOT system will use block-chain to confirm and verify with the Industry board using COC issue numbers.

***Automtic Scheduled Maintenance***

for wear and tear maintenance using **PAAS** to communicates to the client of the scheduled dates for maintenance **Payment** ACCOUNT TO INSTANTLY PAY THE PLUMBER FOR THE WORK DONE.

Only a customer can allow payment to be made by confirming on their **secure payment** account that a Certificate of compliance has been issued to them by that plumber.

Allows for customers to change or stick to one plumber based on the service that was provided by that plumber. Allows customers to;

Rate plumbers

Give feedback

And recommend plumbers based on those results.

The system will always emphasize to customers the need to do regular wear and tear maintenance by reminding or communicating to customers that they must do maintenance including payment for that maintenance.

A customer can also do their own wear and tear maintenance and confirm that they have done so

But they bare all the risks related to noncompliance***.***

***PAAS Wear and tear maintenance reports and updates***

For the PAAS to know that wear and tear maintenance is done.

Plumbers must submit job spec and reports to the AI system for updates including any changes that are made to that geyser including components **SABS/SANS** fittings numbers.

Certified Plumbers must tell the AI system what was the problem and what caused a leak and what fitting was failing/causing the leakage.

Plumbers must confirm to the system if the fitting was replaced and provide their SANS/SABS number.

If not replaced, the plumber must say why.

So all components of a geyser must be registered on the AI including;

Age of that geyser or components/ how old is the Geyser

Size of the Geyser/Capacity of the Geyser.

Heating elements voltage.

Type of a Geyser

Brand

Valves, sizes and compliance SABS approved number of that fitting must be known by the AI system.

Plumbers must recommend scheduled maintenance dates first and system can run analyses based on other geyser of the same kind, same year and components fitted.

***For the PAAS system to know, plan and schedule wear and tear maintenance***

To do that, it will use/need real time data (provided above).

1. ***Real time weather predictions to predict amount of corrosion***
2. ***Age of geyser/use data disclosed by client of how old is their Geyser***
3. ***Data supplied by plumber of Components fitted***
4. ***Data of fittings and how long they are built to last***
5. ***COC issued by plumber to verify correct installation***
6. ***When last was the geyser been maintained***
7. ***Fittings replaced and SABS APPROVAL***
8. ***Place of geyser (inside a roof or outside)***

All that data will be used by the PAAS to plan and schedule wear and tear maintenance.

It can give real time data to why it won’t schedule maintenance to some geyser’s.

***APP***

Can be downloaded from Play store and APPLE store that is integrated to the PAAS.

Integrated to PAAS which handles all transactions, data and reporting.

***Website***

Bidding can only be done on our website

And Plumber can only bid on our website

***Key Partners the system link with***

1. **Plumbing Industry Board**

To Verify COC

1. **SABS/SANS**

To verify plumbing components

1. **IOPSA**

To verify qualified plumber

1. **Insurance companies and Municipalities**

Funding and acquisition (CLIENTS)

1. **Plumbing companies**

**To respond, bid and attend to jobs**

1. **Johannesburg water**

**To service JHB water.**

**THE PLUMBER APP 2 interface**

**Opening screen**

**1. Initial opening screen**

* 1. **Register as a Plumber**.(general plumber interface)
  2. Plumbers will register using their name and password and plumber Qualification Number.

On the general plumber App interface-

* 1. **Log in** Job Cards when called by clients.
  2. Plumbers can Purchase Plumbing Industry Registration Board (PIRB) COC's.
  3. This functionality will allow a PIRB registered plumber to view their registration details
  4. Log a COC Call out Rates:
  5. Plumbers can work out their hourly call out rate when charging a customer.
  6. **Bid** For Maintenance Jobs on the App posted by the Cloud PAAS system.
  7. **Submit Job Cards** that will be emailed to client remotely.

(Includes details of what components of the geyser was fixed, sabs compliance products)

* 1. Plumbing FAQ: latest plumbing Frequently Asked questions (FAQ)

1. **Screen Number TWO ( Johannesburg water plumbers interface )**
   1. **Log In as JHB water plumber**

-Log In for Johannesburg Water plumbers will need to enter their

**Employee number or RANK Number** to access the JHB WATER PLUMBERS app.

***Johannesburg Water Plumber SERVICE APP interface.***

***Functionalities of the interface are***

Problem to solve is- Johannesburg Water is in need of a system that will report leaks directly from affected manholes using Sewblock devices installed inside manholes.

The Sewblock Devices will adopt to an APP using GSM communication.

**The APP for field plumber service Crew will;**

1. Generate **Job cards** for field plumbers nearby.

2. Field Plumber crew can open job cards when attending to other jobs.

3. Use GPRS to quickly match affected manhole with proximity of nearby JHB Field Crew who can quickly attend to the blockage.

4. JHB Field Crew plumbers can choose to **accept** the job and attend to it or **reject** it with prior reason stating they are on a job already. (ie. Crew can press On Job button).

-Upon rejection The Job card will be relayed to another nearby located plumber or be on hold until other job cards are completed.

5. The App will allow them to submit Job cards by taking manhole pictures and uploading it on the APP to confirm it has been dealt with.

6. The App will integrate or submit completed job cards as data to a cloud data management system that will rerun updates and submit reports to the JHB Offices SAP or EPR system.

7. It will then offer JHB Water Link to share reports with serviced municipalities through Automated Emailing system.

This solution will optimize the reporting process system for the JHB water.

**Starter Interface**

**Log In –using employee number or rank number.**

(Only Team drivers can log in per team)

**Johannesburg water plumber will**

1. **Job Cards opening**
   1. Plumber field crew can open a new Job Card and **press** what is the job related too.

(i e. Leaking tap, leaking pipe, leaking water meter etc).

\*Scenario example- when field plumbers are called to attend to a clean water leak inside a house,

1.2. **Call center** receiving calls of water leaks can Post Job cards on the APP for field plumber to ACCEPT.

***System Relay message to client***

\*In the scenario that a posted job card is not accepted within 2 hours.

An automated SMS will be sent to client who reported the problem and be notified of the delay due to plumbers still attending to another job.

*\*Incorrect addresses scenario*- An sms will be sent to client as notice of incorrect address and request a recall.

**2. Automated Sewage Job Cards**

Job cards can only be generated automatically by the **Sewblock devices** installed inside sewer manholes and are posted on the APP for attention to plumber Field Crew available.

**3. JOB Cards Submission.**

3.1. Sewage job cards can only be submitted by a picture of the manhole unblocked.

3.2. Water leaks Job Cards can be submitted by pressing the fixed button which will generate an automated sms to client as confirmation.

3.3. The client will have to call the call center if the job was not completed.

**4. GPRS locating updates.**

4.1. The App will request plumbers to always switch on location on their Smart-phones.

4.2 This is then used by the App to submit location to the cloud data management system that will constantly run updates and refresh location of field crew plumbers.

4.3. When a sewage blockage is detected and sent to the cloud data management system.

Location Updates are then processed to find nearby field crew plumbers that can attend.

5. **Accepting or Rejecting of Job Cards.**

JHB Field Crew plumbers can choose to **accept** the job and attend to it or **reject** it with prior reason stating they are on a job already (i e. Crew can press On **Job button** or On **Lunch break**).

**5.1. Upon rejection**.

The Job card will be relayed to another nearby located plumber or be on hold until other job cards are completed.

***System Relay message to client applies after 2 hours***

\*In the scenario that a posted job card is not accepted within 2 hours.

An automated SMS will be sent to client who reported the problem and be notified of the delay due to plumbers still attending to another job.