SOFTWARE SPECIFICATION DOCUMENT
METERING SERVICE HUB Application (Meter Order, MOJEC VEND, Payment System)

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VERSION #	IMPLEMENTED BY	REVISION DATE	APPROVED BY	APPROVAL DATE	REASON
1.0	*Ajibade Hammed Awoyemi Oluwatosin*	*09/03/2021*	*Mr. Wole Solanke*	*09/03/2021*	*Initial Draft*
2.0	*Wole Solanke Ajibade Hammed Awoyemi Oluwatosin*	*03/06/2021*	*Mr. Wole Solanke*		*Reviewed Draft*
3.0	*Wole Solanke Ajibade Hammed Awoyemi Oluwatosin*	*24/07/2021*	*Mr. Wole Solanke*		*Reviewed Draft*
4.0	*Wole Solanke Ajibade Hammed Awoyemi Oluwatosin*	*02/09/2021*			

Introduction

This document is designed to detail the software specifications of the application to be used to provide solutions to the consumer technical issues beyond the installation services currently being offered by MOJEC. This software will be named the Metering Service Hub (MSH) that will take of technical problem from the client with a click and in no way represents the final name of the software.

Problem Statement

Currently, MOJEC International Ltd renders survey and installation services of smart meter to our customers, it is being discovered that beyond the installation problem, our customers might have other technical issues with or without their meter during use and sometimes might know how to get this issue resolved or who to contact on solutions. On this note, Meter Service Hub (MSH) is brought to business where it will address the problem stated as we want our customers to be able to have this technical issue service rendered to them without stress by just following the necessary steps using the MSH app at their comfort. MSH is to provide a solution to consumers going beyond the installation solution being offered by MOJEC currently, so MSH will cater to meter technical problems from the consumers.

MSH is an application should match technicians with the consumer to resolve their technical issue on request in a seamless way sharing some similarities with Uber features. By introducing MSH, our customers have an idea on who to contact and what to do when they experience any technical difficulties and the organization manages the work process of this technical issues by improving our brand reputation as reliable and certified technicians will be sent to carry out the assignment.

MSH MODULES

MSH – SERVICE ORDER SERVICE

Meter Service Hub (MSH) is an application where customers will sign up, to lodge their complaints and request service on any of their technical issues. MSH has some similarities to Uber in that it automatically matches technicians with customers to handle their technical issues in a smooth manner in a single click.

MSH – METER PAYMENT

The Meter Service Hub (MSH) also contains a meter payment module, which generates a payment reference for each meter request. And each consumer can pay for their recommended meter with a variety of payment methods. Following payment, the payment gateways send an API notification to the MSH application.

MSH – MOJEC VEND

Electricity vending service is the subject of this module. Customers can, for example, purchase electricity directly from the mobile application. This vending service is compatible with both Estate and Disco meters.

The token generating technique is implemented through the use of a Vending API. The program interfaces with TSM for estates, and the Disco API for Disco customers to vend for electricity.

TSM DOCUMENTATION

https://stsweb.prismcrypto.co.za/docs/PrismVend/TsmWeb-STS Web Vending API.pdf

MSH - CHATBOT

The role of the system is to provide a chatbot that will be able to answer questions related to the MSH services. It will provide an interface for the users to interact with the system and an administration interface.

A user is anyone who would like to visit the website and engage in a conversation. As well as talking the user should be able to submit a log of whether he is satisfied with an answer and produce a link. Other than communicating, the user should be able to rank the system. The rank of the system should be a five-star ranking system where one is poor and 5 is excellent. A user should also be able to write a review using the feedback form.

The administrator of the system shall be able to log in using a user name and a password. The responsibility of the administrator will be to maintain the system by adding questions and answers to the database and by updating current information sets when necessary. Furthermore, he should be able to view the user ranking, feedback messages and logs.

The system shall provide its users with spell checking suggestions on screen, when they make such errors. Moreover, the parsing of sentences will avoid sending to the system words that do not form a sentence.

Functional Requirements

1. Chatting:

a. The system should allow users to chat.

b. The system shall inform the user if an answer is not available.

c. The system shall inform the user about spelling mistakes.

d. The system shall inform the user about the validity of the sentence.

2. Querying:

a. The system should allow users to search for information about MSH.b. The system should allow users to search for information about tuition fees.c. The system should allow users to search for information about accommodation.

3. Logs:

a. The system should maintain a log of the current question and answer if the user is not satisfied.

1. Feedback:

   a. The user should be able to leave feedback, which is comprised of a text message and a rating.

2. Administrative system

   a. Information management: The administrator should be able to to add, update and delete questions, answers and keywords.

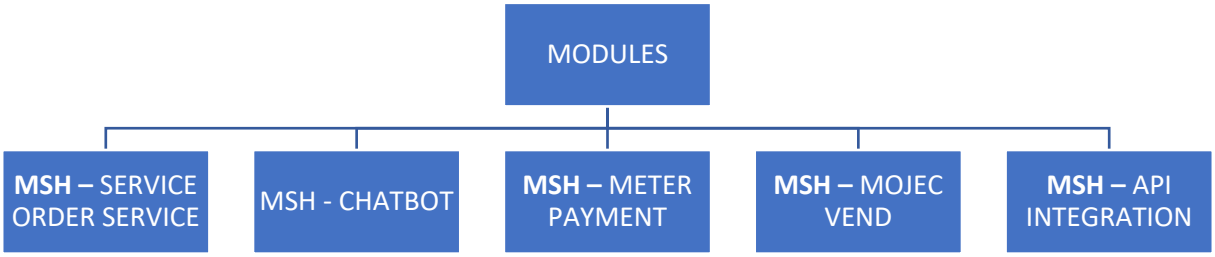
   b. Log management: The administrator should be able to view and delete logs.

   c. Feedback management: The administrator should be able to view and delete feedbacks.

MSH – API INTEGRATION

This comprises the integrations that take place between several modules of the application, as well as the various applications that help the facilitates features in the application.

MSH- METER ORDER APPLICATION MODULES



ADMINISTRATIVE USERS

1. Superadmin : Superuser accounts are highly privileged accounts primarily used for administration by specialized IT employees. These users/accounts may have almost unrestricted access to a system or ownership of it.
2. Developer: An application developer is a critical part of technical and/or project management teams responsible for ensuring user needs are met through the deployment and updates of software.
3. Project manager & Project Team: These are the personnels that handles the sevral features managing the individual operation features and funtionality of the Application.
4. Finance & Audit Team: These users have access to specific payment and accounting reports and functions.

5. Management: The management have an overview of the metrics and reports on the system to enable them make decisions based on trends and the dashboard reports they analyse

OPERATION USERS:

The Operation users of the application

a) The Customers: Users of the application who want to seek technical services through the Order Service Module are referred to as customers. Customers are also users who pay for their meters through the Meter Order Module on the system. They are also clients who use the Vending module to make purchases for their electricity.

b) Technician: The technicians are system users who have been onboarded by MOJEC INTERNATIONAL to provide technical support for the services that the clients have requested.

USER AND SYSTEM REQUIREMENT

ADMIN DASHBOARD

1. MSH SERVICE REQUEST JOB TREND (Daily, Weekly, Monthly, Yearly):
    a. Pending Request: This indicator displays the number of service requests that have been assigned but have not yet been closed out or completed.
    b. Completed Request: This is a measure that shows how many service requests have been performed. This data is also displayed as a graphical representation with a 24-hour historical record.

2. MSH PAYMENT METRICS TREND (Daily, Weekly, Monthly, Yearly):
    a. Total Daily Payment: This graph depicts the daily payment that is processed on the system.
    b. Total Payment Reference: The total number of payment references generated every day is shown below.

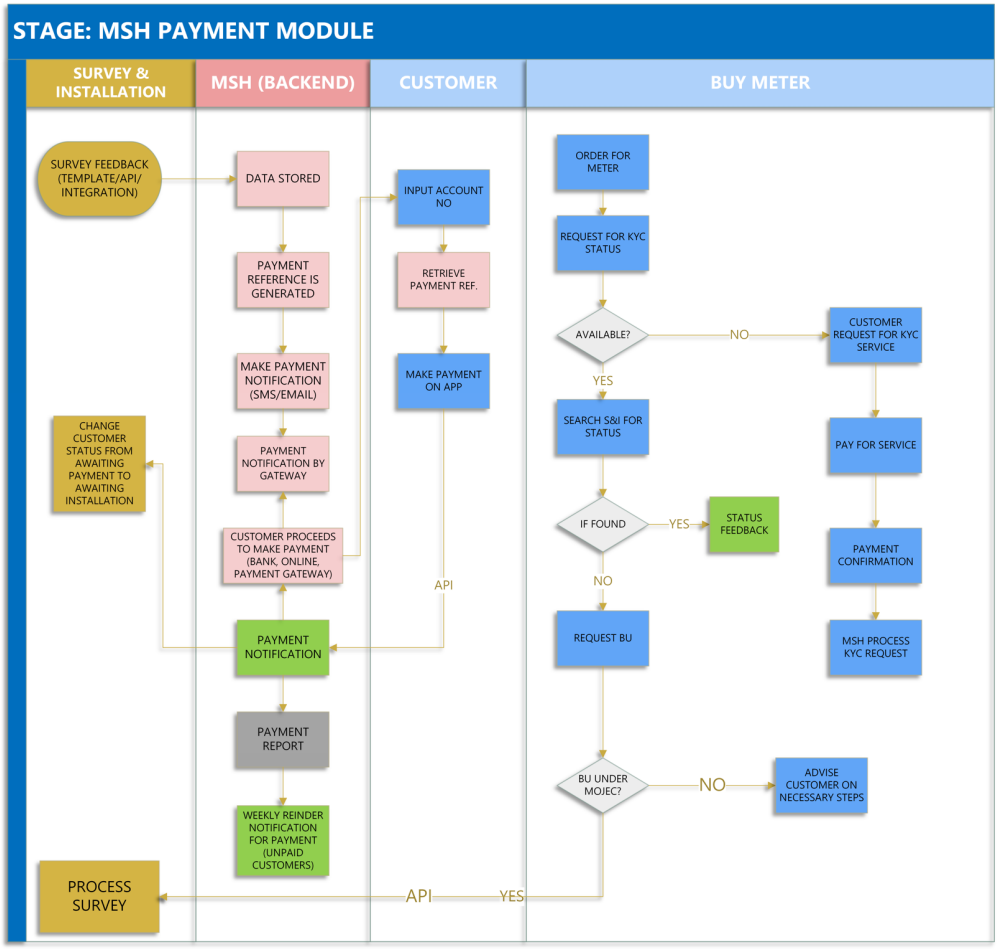
3. MSH VENDING METRICS TREND (Daily, Weekly, Monthly, Yearly):
    a. Total Daily Vending: This graph depicts the daily number of vending transactions.
    b. Total Payment Reference: The total number of payment references generated every day is shown below.

4. JOB REQUEST TYPE COMPARATION (Daily, Weekly, Monthly, Yearly):

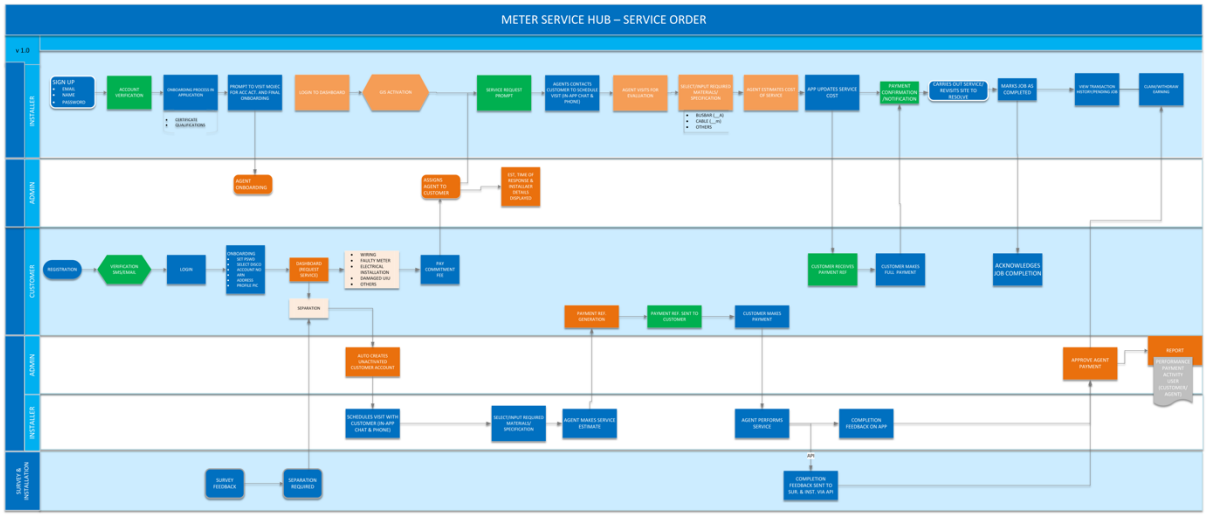
A graphical representation that depicts a comparison of the different service request over a particular period of time. This graph can be filtered (Daily, Weekly, Monthly, Yearly)

Process Flow / User Experience

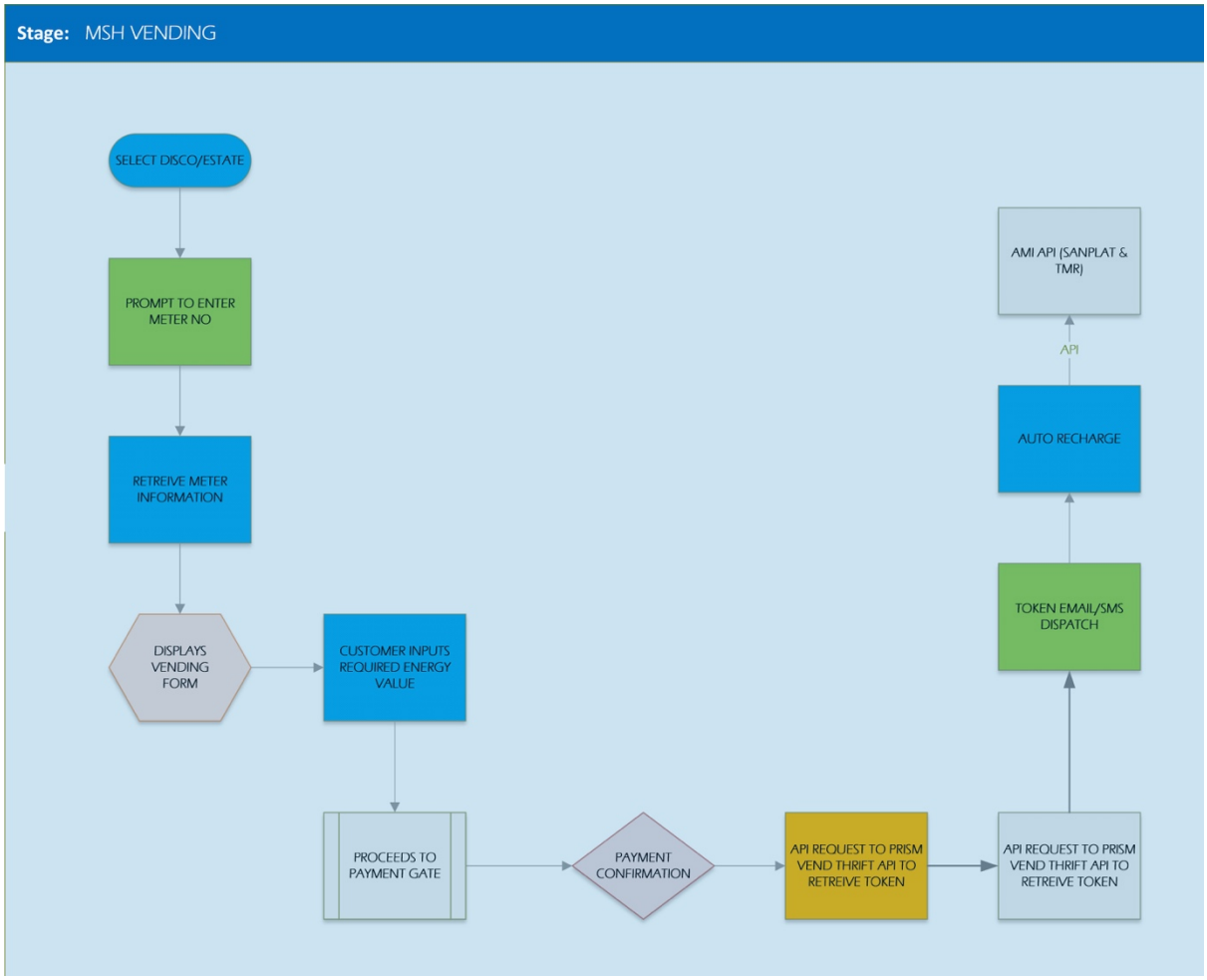
MSH- Meter Order for MAP Customers (Android, IOS & WEB)



MSH- SERVICE ORDER (Android, IOS & WEB)



MSH- VENDING (Android & IOS)



API SPECIFICATION

The is an system capable of managing orders for meters by customers (Upfront Payers and Bank Financed) within its designated areas, carrying out survey activities including tracking and monitoring installation activities for meters as well as ensuring seamless workflow transition from one stage of implementation to another.

This document describes the integration between a Integrating partners and

Overview

1. You need a valid API Key to send requests to the API endpoints. You can get your key from the integrations dashboard.
2. The API has an access rate limit applied to it.
3. The API will only respond to secured communication done over HTTPS. HTTP requests will be sent a 301 redirect to corresponding HTTPS resources.
4. Response to every request is sent in JSON format. In case the API request results in an error, it is represented by an "error": {} key in the JSON response.
5. The request method (verb) determines the nature of action you intend to perform. A request made using the GET method implies that you want to fetch something from , and POST implies you want to save something new to .
6. The API calls will respond with appropriate HTTP status codes for all requests. Within Postman Client, when a response is received, the status code is highlighted and is accompanied by a help text that indicates the possible meaning of the response code. A 200 OK indicates all went well, while 4XX or 5XX response codes indicate an error from the requesting client or our API servers respectively.

Endpoints

The API is accessed by making HTTP requests to a specific version endpoint URL, in which GET or POST variables contain information about what you wish to access. Every endpoint is accessed via an SSL-enabled HTTPS (port 443), this is because everything is using OAuth 2.0.

Everything (methods, parameters, etc.) is fixed to a version number, and every call must contain one. Different Versions are available at different endpoint URLs.

Endpoints	Parameters
PAYMENT REFERNCE GENERATION	1. **ARN** 2. **A/C No** 3. **Customer Name** 4. **Email** 5. **leT** 6. **Disco**

	7. Meter recommended
KYC UPLOAD	**8. ARN** **9. A/C No** **10. Customer Name** **11. Email** **12. leT** **13. Disco** **14. Address** **15. Landmark** **16. BU** **17. UT** **18. FEEDER** **19. DT** **20. Tariff** **21. Program (NMMP/MAP)**
Survey Feedback (Customer Data) Upload {Template or API}	**1. accountNo** **2. orderReference (Optional)** **3. Status** **4. Customer Name** **5. Phone no** **6. Address** **7. Feeder Line** **8. Total Amapage** **9. No of Service Wires** **10. Condition of Wiring**

	11. Output Cable Distance (Load Wire) **12. Input Cable Distance (Supply to Meter)** **13. Cable size 16mm or 25mm or 35mm** **14. Service Wire Traceable** **15. Meter Point Wire Distribution** **16. Reason for Replacement** **17. Correction Required By Customer Premises 1** **18. Premises 2** **19. Premises 3** **20. Meter Readiness** **21. Recommendation** **22. Meter Required** **23. Installation Type** **24. Customer Type** **25. I have read terms and conditions** **26. Signature**
SMS/EMAIL DISSEMINATION	**1. Broadcast message** **2. Meter Required** **3. Amount** **4. Payment reference**
PAYMENT CONFIRMATION	**1. ARN** **2. Account number** **3. Payment reference** **4. API status log**

Separation request from SI App	**1. ARN** **2. A/C No** **3. Customer Name** **4. Email** **5. leT** **6. Disco** **7. Address** **8. Landmark** **9. BU** **10. UT** **11. FEEDER** **12. DT** **13. Tariff**
Separation job feedback	**1. ARN** **2. A/C No** **3. Separation Status** **4. accountNo** **5. orderReference (Optional)** **6. Status** **7. Customer Name** **8. Phone no** **9. Address** **10. Feeder Line** **11. Total Amapage** **12. No of Service Wires**

	13. Condition of Wiring **14. Output Cable Distance (Load Wire)** **15. Input Cable Distance (Supply to Meter)** **16. Cable size 16mm or 25mm or 35mm** **17. Service Wire Traceable** **18. Meter Point Wire Distribution** **19. Reason for Replacement** **20. Correction Required By Customer Premises 1** **21. Premises 2** **22. Premises 3** **23. Meter Readiness** **24. Recommendation** **25. Meter Required** **26. Installation Type** **27. Customer Type** **28. I have read terms and conditions**
Get Customer status	**1. ARN /** **2. A/C No /** **3. Customer Name /** **4. Email /** **5. leT /**
API log	

Loan Paayment Request	**Param Name**	**Description**
	loanReference	Reference for the loan
	loanRequestStatus	The approval status for the loan. Possible options are
	amount	Approved loan amount
	duration	Tenure of the approved loan.
	interestRate	Interest rate on the approved loan.
	loanAuthCode	Loan authorization code.This will be unique per authorization
	loanAccountNumber	The customer account number attached to the loan
	settleAccount	The the agreed account in which the customer loan is settled
	Payment Reference	

MSH- Meter Order for MAP Customers (Android & IOS)			
User	**Action**	**Description**	
Backend	Survey Feedback (Customer Data) Upload {Template or API}	After survey has been done, the survey and installation App feeds the MSH App the survey data containing the	Template

		customer details which can be uploaded via an API or a template manually uploaded by an administrator (MOJEC). This data is stored on MSH Database.	API
API	Payment Gateway Integration	Payment gateway Integration e.g. Interswitch, Paystack, Interswitch	
	Payment Reference Number Generation	After successful batch upload of customer data to the system, the System generates payment references for each customer information batched on the system. The payment references are generated with aid of payment gateways (Remitta, interswitch etc.) integrated with the system.	
		The following parameters are passed to the payment Gateway via API to generate the Payment reference	
		• Customer name	
		• Customer Phone no	

		• ARN
		• Account no
		• Disco
		• Business Unit (BU)
		• Undertaking
		• Feeder
	SMS &Email Notification of Payment Advice	Customer is alerted and advised to make payment after successful generation of the unique reference number for payment. The customer receives this notification via SMS and email.
Customer	Payment Landing Page	Enter the Payment reference issues via SMS and Email to make payment for the meter recommended. In the case of customers that didn't get email or SMS. Customers can proceed to retrieved their payment reference by entering their account number.
		And Customer is redirected to payment dashboard to make payment if he or she has not used other method of payment.

	Proceeds to make payment & Payment Confirmation	Via web or mobile application, Customer proceeds to make payment by entering the unique reference number received via SMS or Email. The system automatically verifies the number before accepting payment, after verification, the customer is allowed to make payment after which the payment is processed.
		Payment can also be made via web page using payment reference or account number. The payment is also identified by a payment reference
		The Customer information for payment will have the following headers:
		· Customer name
		· Customer Phone no
		· ARN
		· Account no
		· Disco
		· Business Unit (BU)
		· Undertaking
		· Feeder
		· Payment Status
		· Payments reference

		In a case where customer already made payment via other method of payment e.g. bank transfer, POS, etc., the customer also login to the system using the customer account number to confirm payment and view their current status.
Backend	Payment Notification and Review	The MSH App after successful integrations with various payment gateways will receive payment notifications for all customer payments. After payment has been made by the customer, the system reviews the payment and gives feedback to Survey and Installation App via an API that a customer has make payment and send a request that the customer be moved to the status "Awaiting Installation" on the Survey and Installation App.
	Notify Survey and Installation application Via API	At this point, the MSH application sent an API request to the Survey and Installation application to move the customer that has completed payment to awaiting Installation.

		MSH application to keep log of API call status. To ensure that all API request and response are successful.
	Payment Report	Parameters being sent via the endpoint are:
		· Customer Account No
		· Payment Status
		· Unique Reference Number
		· Payment Information
		At this stage, a payment and transaction report is generated.
	View & Download Report	Payment report can be viewed and downloaded at the stage.
		Payment Report can be reached and filtered by
		. Customer name
		• Customer Phone no
		• ARN
		• Account no
		• Disco
		• Business Unit (BU)
		• Undertaking

		. Payment reference
		. Payment Status
	Filter Payment Report	Transaction report can be filtered or sort by
		· Customer that has paid
		· Customers yet to pay
		· Time payment was made
	Weekly email notification for accounts that hasn't made payment	A weekly email notification is being sent to customers as a reminder to make the payment required to get their meter.

MSH- Meter Service Hub - SERVICE ORDER (ANDRIOD & IOS)			
User	**Action**	**Process**	**Description**

CUSTOMER	Install Application	Customers would be able to download the mobile application on Playstore and Apple Store.	
	Customer signup and verification	User sign up with their email and password. Then the system verifies the email account and let the user proceed to log in and the use the application efficiently and effectively.	The system verifies the email account and send a mail to the user to verify the account. After successful authentication and verification, the user is allow to use the system efficiently and effectively.

	Customer Login	User can login on the application using the verified email and password set. So as to proceed to dashboard to update his or her profile and make request.	Authentication and verification of account details
	Profile Update and Customer Dashboard	Customer's details	User update his or her profile by inputting the following details: Name, Meter type, Disco, Card details, Account Number, Address, Phone number.
	Service Request	Maintain rapid alert system to technician with customer requests	Customers would be able to select the service they are requesting for from the list of

			services. 1. Wiring 2. Faulty meter 3. Separation 4. Electrical Installation 5. Connection
	Commitement fee	Commitment fee payment	The user makes request, directed to make a commitment fee and then he or she is paired with a technician.
	Be Assigned to a Technician	Paired a technician to customer's request	The system assigns a technician to the user after commitment fee is confirmed. Details and profile of the technician should be visible as well as scheduled date and time of technician visit.

	Service cost estimation and payment	The service cost is displayed and the customer proceed to make payment after going through the charges.	The service cost is being estimated.
		Upon acceptance, user is re-routed to payment gateway platform and after successful payment, user is brought back to the dashboard.	Payment for service rendered
		Upon rejection, The customer is redirected to his/her dashboard	
	Completion of job and Customer Review / Rating	After repair is done, user can leave a review of engineer behaviour and performance. Then rate them according to stars and badge for performance.	Review and Performance rating

TECHNICIAN	Technician Onboarding	Technician then proceeds to complete his/her onboarding by visiting the MOJEC ADMIN to complete KYC and activate account	Technician gets access to their account and functionality by carrying out the onboarding process both on the application and the MOJEC ADMIN.
	Login and User Dashboard	Authentication and verification	Technicians login in the system using the login details sent to his email and after successful login, he proceeds to the dashboard.
	Profile View & Update	Technician can see their current display and refresh as well as update.	Accepts commands and allow user to update
	Tabs	Task/Service Request Dashboard & Workflow	The technician can view the pending, task in-progress and completed tasks.

	Real-Time Engineer Tracking	The system should enable customers to track the technician's location, in case the technician is taking a longer or wrong route, the customer can call and direct them, making life easy for the customers as well as the technicians.	With the use of GIS technology, technician's mobile application would be tracked in real time.
	Service cost estimation and payment	Technicain selects from alist of items required to carry out the service with their specification.	1. Buss bar () 2. Cable (Length) 3. Damaged UIU 4. FAULTY METER etc.
	Service/Transaction History	The system should enable customer see all service requested for. Also, the system should enable technician track their past earnings with the service history.	

	Wallet (Claim payment, Earnings, Withdrawals)	Technicians can claim their wages based on a minimum specific number of work orders completed and will be re-routed to a payment gateway upon submission.
	Chat and VOIP Calling	The system should enable a call or chat option feature where customer or technician can reach out to a customer support.
ADMIN	On-boarding Technician	Admin on-board the technician after they are been certified by MOJEC and proper background check and document review is done.
	User management (Engineer, Admin, Other users)	· Add Users
		· Edit Users
		· Remove Users
		Assign roles and permission
	Assign / Reassign work order	Deserves right to assign work orders to engineers with positive reviews and ratings.
	Approve engineer's payments	Can approve engineer to be able to access the payment request button once that engineer has completed the minimum number or work orders successfully.

	Review Customer feedback and ratings	Reserves the right to review user reviews and feedback on all Engineers and remove or sanction an Engineer if such an occasion should arise.
	Review Engineer's survey report	Can review, edit and update the Engineer survey report as well as issue queries to Engineers with very low and negative ratings.
	Review Engineer's task report	Can review and update Engineer task reports.
	Review Engineer's performance report	Can review, update and generate Engineer performance report.
	Activity trail	Has access to the trail from an associated user and Engineer.
	Payment report	Can generate payment report for both Engineer and user.
MSH- Order for Meter (IOS & ANDROID)		
User	**Action**	**Description**
Customer	Select Disco	Customers are presented a form on which they will select their respective Discos
	Request KYC status	Customers are presented a select field from which they can select if they have carried out their KYC or not.

	If customer has not carried out KYC, order KYC service	At a fixed cost, customers can request for their KYC process to be carried out on the platform. The fields requested are highlighted below.
	MOJEC carries out KYC on behalf of customer and give feedback on completion	After the KYC process is completed, MOJEC gives feedback via Email and SMS.
	If customer has carried out KYC, customer supplies ARN/ACCOUNT number to order for meter.	The customer account number and ARN is being search from the DB to verify the customer's Businmess unit
	If the Customer's business unit falls under MOJEC's jurisdiction. Survey is carried out.	If the customer's Business Unit is under the MOJEC metering jurisdiction. An installer is being assigned to the customer to carry out survey to assertain the meter required by the customer.
	If the Customer's business unit doesnt fall under MOJEC's jurisdiction. The customer is being advied on the next	If the Customer's business unit doesnt fall under MOJEC's jurisdiction. The customer is being advied on the next step to procure his/her meter

	step to procure his/her meter		
MSH- API Integration			
SURVEY & INSTALLATION APPLICATION		**MSH APPLICATION**	
Endpoint	Parameter	Endpoint	Parameter
Survey feedback/Request for Payment Reference	Name Email Meter type Phone number Account number	Generate payment reference (Payment Gateway) Autosend SMS & Email to customer	
A separation request can be sent to the MSH application via API.			

Receive updated info & Change status to awaiting Installation		Receive payment notification after payment and update S/I with payment status	
Survery feedback (Separation needed)	Name Account number ARN Phone number Email Business unit Disco etc (kyc fields)	Receive request to dispatch technician to site to get estimate	
		Account automatically created on MSH for customer. This account can only be avtivated by the customer.	
		Payment reference for the estimated amount required for the service generated for the transaction	
		Payment reference is sent to the customer via email and phone number	

		Customer makes payment with the generated payment refernce	
		Payment notification	
		Technician carries out the separation service.	
		Separation feedback sent to SURVEY & INSTALLATION APP via API.	
		Separation report document	
MSH- MOJEC VEND (ANDROID & IOS)			
Process		**Details**	

Select Disco	Customers are prompted to select their Disco or Estate to get access to Vend
Enter meter number	Customer are prompted to enter their meter number after which they are directed to the vending page to enter the quanmtity of energy they want to vend
Payment for Token	Customers are redirected to the payment gateway to make the paymentb for their energy using card or other payment channels.
Token Generation	Customers gets displayed the Token to vend and recharge their Electricuty meter

- **Entity Details**

S/N	Entity	Attributes

1.	Customer Registration / Sign up and Login	Email and Password
2.	MAP Customer Login	Customer Account Number
3.	MAP Customer Payment Details	Customer Account Number, Unique Reference Number
4.	Customer Profile	Name, Meter type, Disco, Card details, Account Number, Address, Phone number.
5.	Technician On-boarding	Name, National ID, BVN, Passport photo, Address, Date of Birth, Certification (if any), Terms and Conditions
6.	Customer Service Request	Customer name, customer address, date and timestamp, explanation of the issue, assigned technician, urgency classification, and resolution.

- **Process-Oriented**

1. The system must allow technician to accept or reject a service request
2. The system must not allow technician see a new service request if engaged that is, if a technician is currently on a particular job and the request is not mark as complete, the technician should not see a new request.
3. The system should pair technician to a request using geographical area that is, if there is a request in Ikeja, only technician around that area or the closest location should see the request.
4. The system must synchronize offline payment with online payment each day

5. The system must make sure technician allow have access to their earning after the maturity period stated
6. The system should allow user to reset password if forgotten following necessary steps
7. The system should have access control features that ensures segregation of duties
8. The system must generate a unique reference number
9. The system should allow MAP customer make payment
10. The system should allow MAP customer have access to it

MSH- Meter Order for MAP Customers					
User	**Action**	**Description**		**Timeline (weeks)**	**Payment Plan**
PRE-ENGAGEMENT AND MOU SIGN-OFF		**REQUIREMENT GATHERING**	**REQUIREMENT GATHERING**	**1**	**10%**
		WORKSHOP SESSION WITH MOJEC IT	**WORKSHOP SESSION WITH MOJEC IT**		
		MOU AGREEMENT SIGN-OFF	**MOU AGREEMENT SIGN-OFF**		
Project Conception and Initiation		**Wireframe Design**	**A page schematic or screen blueprint, is a visual guide that represents the skeletal framework of a website.**	**2**	**20%**

		Sandbox Infrastructure setup	**The sandbox Environment is setup and pipeline for deployement is configured**		
		Design Prototype	**Design of a scaled-down version of the product; a simulation or sample version which enables you to test the designs**		
Backend	Survey Feedback (Customer Data) Upload	After survey has been done, the survey and installation App feeds the	Template	**2**	**15%**

	{Template or API}	MSH App the survey data containing the customer details which can be uploaded via an API or a template manually uploaded by an administrator (MOJEC). This data is stored on MSH Database.	API		
API	Payment Gateway Integration	Payment gateway Integration e.g. Interswitch, Paystack, Interswitch			

	Payment Reference Number Generation	After successful batch upload of customer data to the system, the System generates payment references for each customer information batched on the system. The payment references are generated with aid of payment gateways (Remitta, interswitch etc.) integrated with the system.		
		The following parameters are passed to the payment Gateway via API to generate the Payment refreence		
		• Customer name		
		• Customer Phone no		
		• ARN		
		• Account no		
		• Disco		
		• Business Unit (BU)		
		• Undertaking		
		• Feeder		

	SMS &Email Notification of Payment Advice	Customer is alerted and advised to make payment after successful generation of the unique reference number for payment. The customer receives this notification via SMS and email.		
Customer	Payment Landing Page	Enter the Payment reference issues via SMS and Email to make payment for the meter recommended. In the case of customers that didn't get email or SMS. Customers can proceed to retrieved their payment reference by entering their account number.		
		And Customer is redirected to payment dashboard to make payment if he or she has not used other method of payment.		
	Proceeds to make payment & Payment Confirmation	Via web or mobile application, Customer proceeds to make payment by entering the unique reference number received via SMS or Email. The system automatically verifies the		

		number before accepting payment, after verification, the customer is allowed to make payment after which the payment is processed.			
		Payment can also be made via web page using payment reference or account number. The payment is also identified by a payment reference			
		The Customer information for payment will have the following headers:			
		· Customer name			
		· Customer Phone no			
		· ARN			
		· Account no			
		· Disco			
		· Business Unit (BU)			
		· Undertaking			

		· Feeder			
		· Payment Status			
		· Payments reference			
		In a case where customer already made payment via other method of payment e.g. bank transfer, POS, etc., the customer also login to the system using the customer account number to confirm payment and view their current status.			
Backend	Payment Notification and Review	The MSH App after successful integrations with various payment gateways will receive payment notifications for all customer payments. After payment has been made by the customer, the system reviews the payment and gives feedback to Survey and Installation App via an API that a customer has make payment and send a request that the customer be moved to the		**2**	

		status “Awaiting Installation” on the Survey and Installation App.		
	Notify Survey and Installation application Via API	At this point, the MSH application sents an API request to the Survey and Installation application to move the customer that has completed payment to awaiting Installation.		
		MSH application to keep log of API call status. To ensure that all API request and response are successful.		
	Payment Report	Parameters being sent via the endpoint are:		
		· Customer Account No		
		· Payment Status		

		· Unique Reference Number		
		· Payment Information		
		At this stage, a payment and transaction report is generated.		
	View & Download Report	Payment report can be viewed and downloaded at the stage.		
		Payment Report can be reached and filtered by		
		. Customer name		
		• Customer Phone no		
		• ARN		
		• Account no		
		• Disco		
		• Business Unit (BU)		
		• Undertaking		
		. Payment reference		
		. Payment Status		
	Filter Payment Report	Transaction report can be filtered or sort by		
		· Customer that has paid		
		· Customers yet to pay		
		· Time payment was made		
	Weekly email notification for	A weekly email notification is being sent to customers as a		

	accounts that hasn't made payment	reminder to make the payment required to get their meter.		
MSH- Meter Service Hub				**15%**
User	**Action**	**Process**	**Description**	
CUSTOMER	Install Application	Customers would be able to download the mobile application on Paystore and Apple Store.		

	Customer signup and verification	User sign up with their email and password. Then the system verifies the email account and let the user proceed to log in and the use the application efficiently and effectively.	The system verifies the email account and send a mail to the user to verify the account. After successful authentication and verification, the user is allow to use the system efficiently and effectively.		

	Customer Login	User can login on the application using the verified email and password set. So as to proceed to dashboard to update his or her profile and make request.	Authentication and verification of account details		
	Profile Update and Customer Dashboard	Customer's details	User update his or her profile by inputting the following details: Name, Meter type, Disco, Card details, Account Number, Address, Phone number.		

	Service Request	Maintain rapid alert system to technician with customer requests	Customers would be able to select the service they are requesting for from the list of services. 1. Wiring 2. Faulty meter 3. Separation 4. Electrical Installation 5. Connection		
	Commitement fee	Commitment fee payment	The user makes request, directed to make a commitment fee and then he or she is paired with a technician.		

	Be Assigned to a Technician	Paired a technician to customer's request	The system assigns a technician to the user after commitment fee is confirmed. Details and profile of the technician should be visible as well as scheduled date and time of technician visit.		
	Service cost estimation and payment	The service cost is displayed and the customer proceed to make payment after going through the charges.	The service cost is being estimated.		

		Upon acceptance, user is re-routed to payment gateway platform and after successful payment, user is brought back to the dashboard.	Payment for service rendered		
		Upon rejection, The customer is redirected to his/her dashboard			
	Completion of job and Customer Review / Rating	After repair is done, user can leave a review of engineer behaviour and performance. Then rate them according to	Review and Performance rating		

		stars and badge for performance.			
TECHNICIAN	Technician Onboarding	Technician then proceeds to complete his/her onboarding by visiting the MOJEC ADMIN to complete KYC and activate account	Technician gets access to their account and functionality by carrying out the onboarding process both on the application and the MOJEC ADMIN.		
	Login and Techhnician Dashboard	Authentication and verification	Technicians login in the system using the login details sent to his email and after successful login, he proceeds to the dashboard.		

	Profile View & Update	Technician can see their current display and refresh as well as update.	Accepts commands and allow user to update		
	Tabs	Task/Service Request Dashboard & Workflow	The technician can view the pending, task in-progress and completed tasks.		
	Real-Time Engineer Tracking	The system should enable customers to track the technician's location, in case the technician is taking a longer or wrong route, the customer can call and direct them, making life	With the use of GIS technology, technician's mobile application would be tracked in real time.		

		easy for the customers as well as the technicians.			
	Service cost estimation and payment	Technicain selects from alist of items required to carry out the service with their specification.	1. Buss bar () 2. Cable (Length) 3. Damaged UIU 4. fAULTY METER etc.		
	Service/Transaction History	The system should enable customer see all service requested for. Also, the system should enable technician track their past earnings with the service history.			
	Wallet (Claim payment, Earnings, Withdrawals)	Technicians can claim their wages based on a minimum specific number of work orders completed and will be re-routed			

		to a payment gateway upon submission.		
	Chat and VOIP Calling	The system should enable a call or chat option feature where customer or technician can reach out to a customer support.		
ADMIN	On-boarding Technician	Admin on-board the technician after they are been certified by MOJEC and proper background check and document review is done.		
	User management (Engineer, Admin, Other users)	· Add Users		
		· Edit Users		
		· Remove Users		
		Assign roles and permission		
	Assign / Reassign work order	Deserves right to assign work orders to engineers with positive reviews and ratings.		

	Approve engineer's payments	Can approve engineer to be able to access the payment request button once that engineer has completed the minimum number or work orders successfully.		
	Review Customer feedback and ratings	Reserves the right to review user reviews and feedback on all Engineers and remove or sanction an Engineer if such an occasion should arise.		
	Review Engineer's survey report	Can review, edit and update the Engineer survey report as well as issue queries to Engineers with very low and negative ratings.		
	Review Engineer's task report	Can review and update Engineer task reports.		
	Review Engineer's performance report	Can review, update and generate Engineer performance report.		
	Activity trail	Has access to the trail from an associated user and Engineer.		
	Payment report	Can generate payment report for both Engineer and user.		

MSH- Meter Service Hub - SERVICE ORDER				**10%**
User	**Action**	**Description**		
Customer	Select Disco	Customers are presented a form on which they will select their respective Discos		
	Request KYC status	Customers are presented a select field from which they can select if they have carried out their KYC or not.		
	If customer has not carried out KYC, order KYC service	At a fixed cost, customers can request for their KYC process to be carried out on the platform. The fields requested are highlighted below.		
	MOJEC carries out KYC on behalf of customer and give feedback on completion	After the KYC process is completed, MOJEC gives feedback via Email and SMS.		

	If customer has carried out KYC, customer supplies ARN/ACCOUNT number to order for meter.	The customer account number and ARN is being search from the DB to verify the customer's Businmess unit		
	If the Customer's business unit falls under MOJEC's jurisdiction. Survey is carried out.	If the customer's Business Unit is under the MOJEC metering jurisdiction. An installer is being assigned to the customer to carry out survey to assertain the meter required by the customer.		
	If the Customer's business unit doesnt fall under MOJEC's jurisdiction. The customer is being advied on the next step to	If the Customer's business unit doesnt fall under MOJEC's jurisdiction. The customer is being advied on the next step to procure his/her meter		

	procure his/her meter			
MSH- API Integration				
SURVEY & INSTALLATION APPLICATION		**MSH APPLICATION**		
Endpoint	**Parameter**	**Endpoint**	**Parameter**	
Survey feedback/Request for Payment Reference	Name Email Meter type Phone number Account number	Generate payment reference (Payment Gateway) Autosend SMS & Email to customer		
A separation request can be sent to the MSH				

application via API.					
Receive updated info & Change status to awaiting Installation		Receive payment notification after payment and update S/I with payment status			
Survery feedback (Separation needed)	name account number arn phone number email business unit disco etc (kyc fields)	Receive request to dispatch technician to site to get estimate			
		Account automatically created on MSH for customer. This account can only be			

		avtivated by the customer.			
		Payment reference for the estimated amount required for the service generated for the transaction			
		Payment reference is sent to the customer via email and phone number			
		Customer makes payment with the generated payment refernce			

		Payment notification			
		Technician carries out the separation service.			
		Separation feedback sent to SURVEY & INSTALLATION APP via API.			
		Separation report document			
MSH- MOJEC VEND					

Process	**Details**			
Select Disco	Customers are prompted to select their Disco or Estate to get access to Vend			
Enter meter number	Customer are prompted to enter their meter number after which they are directed to the vending page to enter the quanmtity of energy they want to vend			
Payment for Token	Customers are redirected to the payment gateway to make the paymentb for their energy using card or other payment channels.			
Token Generation	Customers gets displayed the Token to vend and recharge their Electricuty meter			
Project Launch and Execution	Provisioning of the Live Infrastructure Environmant by MOJEC Team	**The MOJEC team provision the server infrastructure and pipeline**		

		for live deployments.		
	Deployment on Live Environment	**Deployment of the approved application to the server provided after UAT test**		
	Final User Acceptance Test	**This is the final UAT test after deployment to the live environment**		
After launch support	**Go live Bug Fixes**	**Fixing of bugs that comes up after deployment and monitoring the application on the live environment**	**12**	**30%**

	Code Handover	Handover of the source-code to the MOJEC team and a knowledge transfer session on deployment and changes (version controls)		

MSH DEVELOPMENT MILESTONE

Non-functional requirements

a) Performance: The application has to offer a very quick response time as the meeting between the driver and passengers is done through notifications. In other words, the server should be able to treat notifications and propagate them instantly. The application should handle 1000 users sending queries at the same time.

b) Scalability The application should respond properly to a high increase of users. It should be able to handle from 10 000 users to 100 000 users. And also, from 100 000 to one millions users.

c) Extensibility The application should by extensible in order to support multiple platforms including iOS, Windows Phone and Web.

d) Availability Since a lot of information about the trips and check in are available in the application, it has to be highly available and guarantees a good server up-time. The server should allow only 1 hour down time per year which is 99.99% up-time.

e) Privacy and Security The application should ensure the privacy of the users including addresses and the information exchanges between APIs. The login system should also be robust where only authorized users can post and edit their own information.

f) Maintainability Since the application may be developed in the future by adding other features, it should be easily maintainable.