LIPA NA M-PESA

ONLINE CHECKOUT INTERGRATION GUIDE

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THE HOW TO FOR APPLICATION DEVELOPERS

Revision Log		
Revision number	Revision date	Revision
1.0	5th Aug, 2013	Initial draft
1.1	6th Sep, 2013	Added Callback Implementation
1.2	5th Nov, 2013	Revision

ABBREVIATIONS

SP   - Service provider
SAG   - Service access gateway
OTP   - One time pin
WSDL   - Web Services Definition Language
MSISDN   - Mobile Station International Subscriber Directory Number

INTRODUCTION

This section describes a Web service for integrating the M-PESA Check out iframe to a merchant site. The overall scope of this Web service is to provide primitives for application developers to handle checkout process in a simple way.

Check Out Operation procedure

This process flow makes the following assumptions:
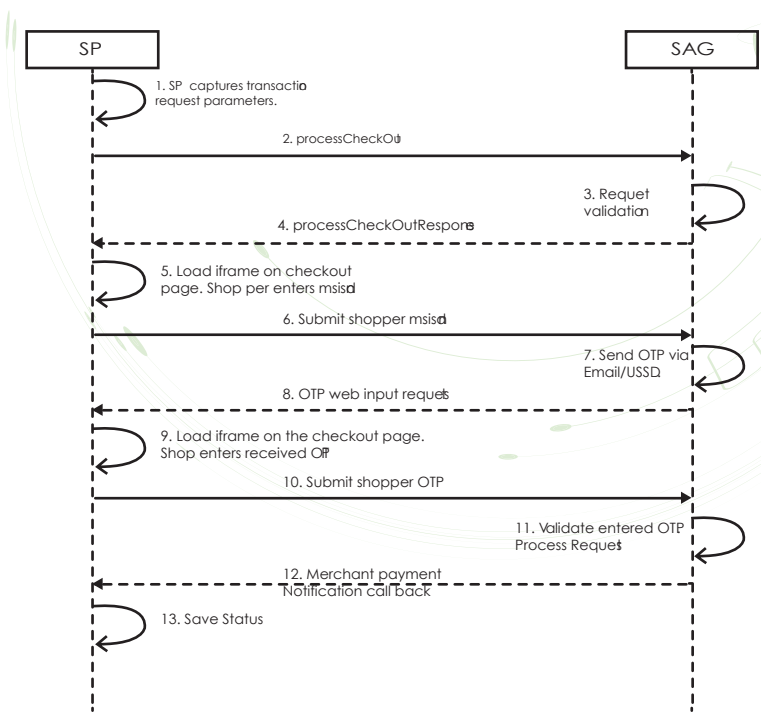
- The service is an on demand service where the Merchant always initiates the request when there is a payment to be settled.
- The SP already has an account created by the SAG.
- The shopper is registered on Self Care and have their email address captured.

1. The SP captures the payment details and prepares call to the SAG's endpoint.
2. The SP invokes SAG's processCheckOut interface.

NB: This creates a unique transaction and a subsequent call with similar parameters will not be treated as a unique transaction.

3. The SAG validates the request sent and returns the iframe URL on success.
4. SP receives the processCheckoutResponse which is the URL.
5. SP loads the iframe on the shopping platform. The iframe provides and a MSISDN input area for the shopper.
6. The shopper submits the MSISDN via the iframe.
7. The SAG validates the MSISDN to sends the OTP to the MSISDN.
8. SAG returns the OTP input on the iframe.
9. Shopper enters the received OTP on the provided input area.
10. The OTP is submitted via iframe to the SAG.
11. SAG validates the sent OTP and finalizes the transaction on M-PESA.
12. SAG calls SP's payment notification endpoint.
13. SP saves status of payment and does further processing on transaction.

Operation: Process Checkout

The SP invokes the processCheckout interface to initiate the checkout and receive the iframe URL.

Input message: processCheckOut

Parameter	Type	Optional	Description
merchantID	xsd:string	No	Merchant ID: When SAG registers a merchant(SP), SAG allocates an ID to the SP.
passkey	xsd:string	No	SAG issues the passkey to the SP for use in authentication which is an encrypted form of SP password issued on creation of the merchant account.
referenceID	xsd:string	No	Reference to the product/service offered
amount	xsd:string	No	SP send the value of the transaction.

THE SP INVOKES THE
PROCESSCHECKOUT
INTERFACE TO INITIATE THE
CHECKOUT AND RECEIVE
THE IFRAME URL

Sample request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:tns="tns:ns">
  <soapenv:Header/>
  <soapenv:Body>
    <tns:CustomerCheckOutRequest>
      <tns:merchantID >12345</tns:merchantID>
      <tns:passkey>xyzabcd</tns:passkey>
      <tns:referenceID >Camera</tns:referenceID>
      <tns:amount>1000</tns:amount>
    </tns:CustomerCheckOutRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

Output Message: processCheckOutResponse

Parameter	Type	Optional	Description
TRX_REF_ID	xsd:string	No	Unique request ID
RESPONSE_CODE	xsd:string	No	Response code value of the request call.
DESCRIPTION	xsd:string	No	More details about the response code.
URL	xsd:string	No	Endpoint that will be used as the iframe src.

Sample response message

```
<SOAP-ENV:Envelope SOAP-ENV:encodingStyle="http://schemas.xmlsoap.org/
soap/encoding/" xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:ns1="urn:xmethods-delayed-quotes" xmlns:xsd="http://www.w3.org/2001/
XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:SOAP-
ENC="http://schemas.xmlsoap.org/soap/encoding/">
  <SOAP-ENV:Body>
    <ns1:processCheckOutResponse>
        <requestID xsi:type="xsd:string">12345</ requestID>
      <response_code xsi:type="xsd:string">00</response_code>
      <description xsi:type="xsd:string">OK</description>
      <url xsi:type="xsd:string"> <iframe src="https://172.28.229.157/Apps/iframe/checkout.
php?sessionid=4d9b001e638a3f7255c0412da6af88f65759e631ce7820989622b8a6a7246291"
style='border:none;width:350px;height:450px' id='iframe1'/> </url>
    </ns1:processCheckOutResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Payment Notification (Callback)

Upon completion of transaction on M-PESA, the SAG calls back the merchant's call back URL via HTTP POST to pass the details and status of the complete transaction. A **callback** URL, username and password are defined on merchant registration.
The parameters passed back via the callback post are:

Parameter	Description
USERNAME	Username provided by merchant to authenticate the callback request.
PASSWORD	Password provided by merchant to authenticate the callback request.
TRX_REF_ID	Request ID as generated by the system
MPESA_TRX_ID	M-PESA receipt number
AMOUNT	Amount effected on M-PESA
TRX_STATUS	Transaction Status Description
RETURN_CODE	Return/Response Code. "00" for Success and "01" for Failed.

After the callback, the iframe returns back a response and a redirect to either a success or fail page. These URL's are also provided during merchant registration. These redirects to pages within the merchant's shopping portal.

Reference Faults

Below are the possible reference faults on the processCheckOutResponse.

Return Code	Description
00	Success
01	Failed Missing Transaction ID
02	Failed Missing Transaction reference
03	Failed Amount is Invalid or blank
04	Failed Merchant Account disabled
05	Failed Another request is pending
06	Failed Missing Merchant ID
07	Failed Duplicate record
08	Failed Service logic error
09	Failed Amount less than minimum allowed
10	Failed Amount higher than maximum allowed
11	Failed Customer's email could not be retrieved