**Merchant Use case**

**Registration**

At first, the user will be asked to enter her/his phone number. An OTP will be sent to the number. The user will be asked to enter the OTP. If the entered OTP matches with the sent OTP, then the user will be asked to enter other required information (name, NID, trade license of business, email, and password). A ‘merchant account creation’ request would be sent to the system administrator using the above information. The admin will check the information and will accept/reject the request.

Action/Reply:

Action : Merchant will enter his/her phone number.

Reply : A verification page will appear.

Action : Merchant will enter the given code.

Reply: A form containing detailed information will appear

Action : Merchant will have to select merchant type within E-commerce and biller and also provide NID and trade license

Reply : All information will be sent to the system admin and status will also appear.

**Login**

The user will be asked to enter the username and password. If the credentials are correct, the user will gain access to the system. She/he will be able to view transaction report and account status.

Action/Reply

Action : Merchant will have to provide her/his correct username and password.

Reply : The system will verify the given information and the merchant will be able to log into the system.

**Configuration**

After registration, the user will be given an SDK. This SDK can be used to configure the payment methods (like Bkash, sureCash). The user can use DUPay’s default payment methods. At the time of SDK configuration information that needs to be provided includes phone number, enquiry parameters and payment parameters.

\*\*\* Further specification of enquiry parameters and payment parameters is needed.

Action/Reply

Action : Merchant will be able to choose the payment process(s). For this, she/he will have to configure JDK/SDK options.

Reply : Configuration will be done.

**SDK Download**

The provided SDK will handle all activities performed by the gateway. After registration the merchant will be able to download the SDK. The SDK needs to be integrated with the merchant’s website in order to receiving services from DUPay. If configuration of payment is not done properly, the user will be redirected to the configuration page.

Action/Reply

Action : Merchant will have to download SDK.

Reply : SDK will be downloaded. If any problem occurs in configuration, the system will redirect to the configuration page.

**\*\*Transaction Query**

The user will be able to view a dashboard after logging in. The dashboard will contain all transaction history corresponding to her/his account. The user can also make queries based on certain criteria on the transaction history. Criteria are -Customer mobile number and transaction ID.

If user makes query of transaction ID that does not belong to him/her, that transaction ID will not be made available to the user. If user makes query based on customer mobile number, only those transactions will be visible which are meant for the merchant herself/himself.

Action/Reply

Action : User provides transaction id

Reply : Transaction ID is checked against user and if correct then system shows the query result.

Action: User provides customer mobile number.

Reply: Query results for that particular user is shown.

**\*\*Reverse Request**

A merchant can send request to admin to reverse a transaction. If merchant wants to send a reverse request, she/he will be asked to enter her/his password. If correct password is entered, the system will direct the request to the admin.

Action/Reply

Action: Merchant enters password in order to reverse a transaction.

Reply: System directs the request to admin.

**Transfer Request**

The merchant will be able to see the total amount of money she/he will receive from DUPay. In order to withdraw money, she/he will have to send request to system administrator. At the time of request, the merchant has to explicitly state through which bank or MFS/DFS wallet he/she will receive the money .For bank, the bank name, branch name, account name and account number needs to be provided. In case of MFS/DFS system, the corresponding mobile number needs to be provided. Before forwarding the request to the system admin, the system will ask the user to enter her/his password. If password is correct, request will be sent successfully.

Action/Reply

Action : Merchant will enter amount and submit request.

Reply : Notification will be sent to the system admin

Action: Merchant will provide password

Reply : If the password is correct, the request will be sent.

**Reports**

Based on query, the merchant can command the system to generate reports. The system will give the user the option to download the reports as spreadsheets.

Action/Reply

Action : Merchant will have to provide date and time for showing any transaction report.

Reply : A report, containing detailed transaction information, will be displayed.

Action : Merchant will have to click on the download button for downloading the report.

Reply : The report will be downloaded as an excel format.

**Customer Use case**

**Registration**

At first, the user will be asked to enter her/his phone number. An OTP will be sent to the number. The user will be asked to enter the OTP. If the entered OTP matches with the sent OTP, then the user will be asked to enter other required information (name, NID, email, and password).

Action/Reply

Action : Customer will go to the DUPAY website and click on the registration button.

Reply : Registration page will appear.

Action : Customer will have to provide phone number and password

Reply : OTP will be sent.

Action : Customer will provide the verification code

Reply : successful login or failure message will be sent.

**Login**

The user will be asked to enter the username and password. If the credentials are correct, the user will gain access to the system. She/he will be able to view transaction report and account status.

Action/Reply

Action : Customer will enter phone number and password for sign in.

Reply : System will verify all information and the customer will be able to log into his account/system.

**Payment by SDK**

At first customer chooses “Pay with DUPay” option from e-commerce website. The payment interface will be loaded into a secure iframe for MFS/DFS payment. Customer will select payment methods from the interface and will complete the payment. After this, a confirmation screen will appear which will ask for transaction ID and reference mobile number. If transaction ID and reference mobile number provided by user matches with the system’s transaction ID and user’s mobile number corresponding to that transaction, then “successful transaction” confirmation message will be sent.

\*\*\*Additional OTP may be added

Action/Reply

Action : Customer will click on the pay button of the website

Reply : DUPAY interface will appear.

Action : Customer will check out prefered MFS/DFS

Reply : Pay inquiry form will appear.

Action : Customer will enter mobile number, invoice number and PIN.

Reply : OTP verification will appear.

Action : Customer will enter the verification code.

Reply : Confirmation or failure message will appear.

**\*\*Payment Submission**

Customer will select the merchant (DESCO,TITAS,DPDC) to whom she/she will pay the bill. After selecting the recipient of bill, the interface of payment method will be shown to the user. The user will select the MFS/DFS payment method and complete the payment formalities.

After this, a confirmation screen will appear which will ask for transaction ID and reference mobile number. If transaction ID and reference mobile number provided by user matches with the system’s transaction ID and user’s mobile number corresponding to that transaction, then “successful transaction” confirmation message will be sent. Another confirmation message will be sent to the user’s mobile number about the successful payment. The message will include the following: transaction ID, date of payment, recipient of payment.

Action/Reply

Action: Customer selects merchant.

Reply: Payment method interface is shown to the customer.

Action: User selects payment method (MFS/DFS).

Reply: Payment is completed.

Action: User inputs transaction ID and reference mobile number.

Reply: transaction ID and reference mobile number is checked against system’s transaction ID and reference mobile number. The system sends confirmation message to the user’s phone number

**Payment Enquiry**

Customer can check status of payment after providing transaction ID, date of payment and reference mobile number. If transaction exists, the transaction will be displayed.

Action/Reply

Action : Customer will enter her/his transaction id, mobile number and date.

Reply : detailed information of transaction will be displayed.

**Transaction History**

After logging in, the user can check the transaction history of the user based on the date of transaction. The user can also check transactions within a certain range of dates.

Action/Reply

Action : Customer will enter date range.

Reply : transaction list will be displayed.

**Admin Use Cases**

**Merchant Activation**

When admin logs in, admin can check list of pending merchant registration request on dashboard. Details of merchant candidates can be viewed. Based on validity of details. Admin can accept or deny registration request of merchant candidate.

Action/Reply

Action : Admin will be able to check merchant from request list

Reply : Submission details will be displayed.

Action : Admin will be able to activate or deny merchant.

Reply : Merchant will be added or removed from the list.

Action : Admin can send mail to the merchant manually.

Reply : Mail will be sent.

**User Management (Both Merchant and Customer)**

Admin can change the status of merchant, configuration parameters, user parameters.

Action/Reply

Action : Admin can change the status of merchant.

Reply : Status will be changed

**Account Posting/ Merchant Transfer**

Admin can view transfer requests of merchant on the dashboard. Based on information provided by the merchant, the admin will manually transfer the money to the bank/ wallet system specified by the merchant. At the same time, system will manually decrement the (logical) balance of corresponding merchant. The reference transaction will be saved in the system.

Action/Reply

Action : Admin will be able to check transfer request list.

Reply : List will be displayed.

Action : Admin can check single merchant request

Reply : details information(merchant info, amount) will be displayed.

Action : Admin will send money to the merchant manually.

Reply : Request status will be changed to paid/requested.

Action : Admin will be able to upload transaction credentials and click on the save button.

Reply : Information will be saved.

**\*\*Reverse Request Processing**

Admin will be able to view reverse requests on dashboard. Admin can accept/deny the requests.

Action/Reply

Action: Admin accepts or denies pending requests.

Reply: Request status is updated.

**Customer Notification**

The Admin can create notification entry (email/SMS) and send it to specific Merchant/Customers/group of users.

Action/Reply

Action : Admin will click on the send notification button.

Reply : Merchant/customer option will appear.

Action : Admin will be able to check merchant/customer list.

Reply : List will appear.

Action : Admin will be able to select a single merchant or customer or a list of merchant or customer.

Reply : Customer(s)/merchant will be selected.

Action : Admin will write text and click on the send button.

Reply : Notification will be sent.

**Reports**

Based on query, the admin can command the system to generate reports. The system show the query results to admin.

Action/Reply

Action : Admin will have to enter search criteria.

Reply : A paginated report will be displayed based on the criteria.

Action : Admin will click on download button, if s/he is interested to download the report.

Reply : Report will be downloaded in excel format.

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**Support User Use Cases**

**Ticket Management**

If user finds fault/issue/error or wants to give feedback, user will create a ticket. The ticket will contain the message the user wants to convey. The ticket can be updated or closed by the user.