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## Definitions and Acronyms

|  |  |
| --- | --- |
| **Definition / Acronym** | **Description** |
| Cashier Operator | Person at the vendor which operates the POS application under the Cashier role |
| Local Authority | The local supplier of the various products |
| Manager Operator | Person at the vendor which operates the POS application under the Manager role |
| POS | Point of Sale |
| SSL | Secure Socket Layer: Cryptographic protocols designed to provide communication security over the Internet. |
| Vendor | Vendor is a partner which sells any of the Syntell products using the Wintec terminal. |

# Introduction

## Purpose

This document details the project process for the development of the ‘Bill Payments’ and ‘Fine Payments’ functionality on the Wintec terminals. The intended audience for this document is all Syntell and Softlite stakeholders (inclusive of development, implementation and support teams).

## Scope

The developed product incorporates the ‘Bill Payments’ and ‘Fine Payments’ functions on the Wintec terminals. These products will allow for full payment of Local Authority Rates Bills and full payment of Traffic Fines issued by relevant traffic authorities.

**Current System**

The current Wintec terminal only allows for the sale of prepaid electricity. The terminal is being enhanced to provide the added payment functionality of Local Authority Bill payments and Traffic Fines.

**Desired System**

The fully functional Syntell POS application will enable the sale of prepaid electricity and airtime as well as the ability to process full payment of Local Authority accounts (water & rates) and traffic fines. This full functionality is to be delivered in phases.

# Functional Requirements

The current Wintec terminal only allows for the sale of prepaid electricity. The terminal is being enhanced to provide the added payment functionality of Local Authority Bill payments and Traffic Fines.

The implementation of new icons may be part of the enhancement. Refer to payCity website ([www.paycity.co.za](http://www.paycity.co.za)) for icon format/colour.

## Menu Change

From the login screen, once username and password entry is authenticated, a new format of a Client Permissions-based menu shall be displayed on terminal screen. The Cashier Operator screen (Figure 1 Cashier Operator Menu) will have the option of 3 (three) Vending product icons (Electricity, Bills and Fines) and 1(one) Shift Report icon for Cashier Operators. The top left banner will default to “Main Menu: Select a Product or Function” heading and detail the user logged into the system in the top right of banner. Bottom right of screen will have Log out icon.



Figure 1 Cashier Operator Menu

The Manager Operator screen (Figure 2 Manager Operator Menu) will have the option of 3 (three) Vending product icons (Electricity, Bills and Fines), 1 (one) Shift Report icon, 1 (one) Bank Report icon and 1 (one) User Management icon. The top left banner will default to “Main Menu: Select a Product or Function” heading and detail the user logged into the system in the top right of banner. Bottom right of screen will have Log out icon.



Figure 2 Manager Operator Menu

## Bill Payments

When ‘Bills Payment’ icon selected, a new window (Figure 3 Bill Payments Screen) shall appear requesting input of Local Authority bill account number (as per local authority numbering format).

The operator will select the local authority from a dropdown list, enter the customer’s account number in the Account number field using the displayed keyboard. If an invalid account number format is entered, a warning window will appear advising of invalid account number format and requesting a new input of account number. The format validation is done via local terminal validation or server validation (dependent on existing configuration).

The operator will enter the amount tendered by the customer. The operator will click the “Confirm” button. A request will be sent to the Syntell POS Service to allocate payment against referenced account number.

Should a system error code be returned by the POS Service, it will be interpreted (if necessary) into a meaningful message, which will be displayed on the screen.

If a success response is returned by the POS Service, then the POS application will automatically print a receipt detailing the transaction. The receipt will contain:

***Vendor Name, Vendor ID, Cashier ID, Date, Time, Receipt Number, Municipal Account Number, Payment Method, Amount Tendered, Change***

A reprint option will be available to reprint the last bill payment transaction. This will be done per terminal.



Figure 3 Bill Payments Screen

## Fine Payments

When ‘Fines Payment’ icon selected, a window (Figure 4 Fine Payments Screen – Notice Number Entry) shall appear requesting input of Notice number (as per local authority numbering format).

The operator will select the local authority from a list, enter the customer’s notice number and click the “Confirm” button. If an invalid notice number format is entered, a warning window will appear advising of invalid notice number format and requesting a new input of notice number.



Figure 4 Fine Payments Screen (Notice Number Entry)

If a valid notice number is entered, a request will be sent to the Syntell POS Service to verify the customer’s notice details. The response to this notice request will return the following details which are displayed on the screen (Figure 5 Fine Payments Screen - Client Confirmation) for customer verification:

1. Owner’s Name
2. Offence Date
3. Vehicle Registration Number
4. Amount Due

The operator will select the “Confirm Client” button.



Figure 5 Fine Payments Screen - Client Confirmation

The POS application will then display the Confirm Payment Screen (Figure 6 Fine Payment Screen - Confirm Payment) where the operator will enter a valid payment amount in the Amount Tendered field. The operator will click the “Confirm Payment” button to complete the transaction. A request will be sent to the Syntell POS Service to allocate payment against referenced notice number.

The POS application will display an error message if an invalid amount has been entered.



Figure 6 Fine Payment Screen - Confirm Payment

Should a system error code be returned by the POS Service, it will be interpreted (if necessary) into a meaningful message, which will be displayed on the screen.

If a success response is returned by the POS Service, then the POS application will automatically print a receipt detailing the transaction. The receipt will contain:

***Vendor Name, Vendor ID, Cashier ID, Date, Time, Receipt Number, Notice Number, Vehicle Registration Number, Offence Date, Payment Method, Amount Due, Amount Tendered, Change***

A reprint option will be available to reprint the last fine payment transaction. This will be done per terminal.

The POS terminal should make allowances for “optimistic payments”. This means that when a fine payment is made and specific errors are received back from the POS Service, the vendor terminals (based on vendor permissions configured at server level) should allow optimistic payment processing and print a receipt.

As a further security and audit feature, a Daily Sales Reconciliation file extract (in CSV format from MySQL database) should be uploaded via FTP to a specified location (to be determined).

## Shift Report

Shift Report icon will be removed from the Electricity menu and relocated to the Main menu. This will be located below the product vending icons.

The Shift Report print format (Table 1 Shift Report Old & New Reports) currently only reports on the Electricity vended from the terminal against multiple local authorities and allocate all shift transactions to cashier operator.

The proposed Shift Report (Table 1 Shift Report Old & New Reports) would now incorporate the Electricity, Bill Payments and Fine Payments along with a Shift Total of all local authority payments completed during that shift.

Table 1 Shift Report Old & New Reports

|  |  |
| --- | --- |
| Old Report Layout | New Report Layout |
| |  | | --- | | SHIFT REPORT  POS: 00001  ………………….………….……………………………  Operator: Jannie  Start Date: 2014-Nov-20 06:09:35  End Date: 2014-Nov-20 12:01:17  Shift for : AED  Shift Batch No: 1123  Cash N 300.00  Cash N 100.00  Cash N 150.00  Cheque N 2500.00  Cash N 50.00  Vat N 434.00  Units 2867  Free Units 0  Arrears N 0  Service Charg N 0  Refund Amount N 0  Grand Total N 3,534  Start Date: 2014-Nov-20 06:19:31  End Date: 2014-Nov-20 12:15:29  Shift for : NGN  Shift Batch No: 1164  Cash N 120.00  Cash N 30.00  Cash N 1000.00  Cash N 700.00  Vat N 259.00  Units 1430  Free Units 0  Arrears N 0  Service Charg N 0  Refund Amount N 0  Grand Total N 2,109  Total Cash N 4,950  Total Vat N 693  Total Units 4297  Total Free Units 0  Total Arrears 0  Total Srv Charg 0  Total Refund 0  ………………….………….……………………………  Powered by Syntell | | |  |  | | --- | --- | | SHIFT REPORT | | | POS: | 00001 | | ………………….…………………………………….……………… | | | operator: | jannie | |  |  | | ELECTRICITY | | |  |  | | Shift for : | AED | |  |  | | Start Date | 2014-Nov-20 06:09:35 | | End Date: | 2014-Nov-20 12:01:17 | |  |  | | Shift Batch No: | 1123 | |  |  | | Cash | N 300.00 | | Cash | N 100.00 | | Cash | N 150.00 | | Cheque | N 2,500.00 | | Cash | N 50.00 | |  |  | | Vat | N 434.00 | |  |  | | Units | 2867 | | Free Units | 0 | |  |  | | Arrears | N 0 | | Service Charge | N 0 | | Refund Amount | N 0 | |  |  | | Sub Total | N 3,534 | |  |  | | Shift for : | NGN | |  |  | | Start Date | 2014-Nov-20 06:09:35 | | End Date: | 2014-Nov-20 12:01:17 | |  |  | | Shift Batch No: | 1124 | |  |  | | Cash | N 120.00 | | Cash | N 30.00 | | Cash | N 1000.00 | | Cash | N 700.00 | |  |  | | Vat | N 259.00 | |  |  | | Units | 1430 | | Free Units | 0 | |  |  | | Arrears | N 0 | | Service Charge | N 0 | | Refund Amount | N 0 | |  |  | | Sub Total | N 3,534 | |  |  | | Total Cash | N 4,950 | | Total Vat | N 693 | |  |  | | Total Units | 4297 | | Total Free Units | 0 | |  |  | | Total Arrears | N 0 | | Total Srv Charge | N 0 | | Total Refund | N 0 | |  |  | | BILL PAYMENTS | | | Shift for: | ABC | |  |  | | Start Date | 2014-Nov-20 06:45:35 | | End Date: | 2014-Nov-20 12:03:14 | |  |  | | Shift Batch No: | 1125 | |  |  | | Cash | N 250.00 | | Cheque | N 400.00 | | Cheque | N 350.00 | | Cash | N 100.00 | |  |  | | Vat | N 154.00 | |  |  | | Sub Total | N 1,254 | |  |  | | FINE PAYMENTS | | | Shift for: | XYZ | |  |  | | Start Date | 2014-Nov-20 06:33:12 | | End Date: | 2014-Nov-20 12:02:55 | |  |  | | Shift Batch No: | 1126 | |  |  | | Cash | N 200.00 | | Cash | N 300.00 | | Cash | N 500.00 | |  |  | | Sub Total | N 1,000 | |  |  | | Shift for: | KLM | |  |  | | Start Date | 2014-Nov-20 06:22:12 | | End Date: | 2014-Nov-20 12:11:22 | |  |  | | Shift Batch No: | 1127 | |  |  | | Cash | N 350.00 | | Cash | N 700.00 | |  |  | | Sub Total | N 1,050 | |  |  | | Total Cash | N 2,050 | |  |  | | SHIFT TOTAL | N 8,947 | | ………………….…………………………………….……………… | | | Powered by Syntell | | |

## Bank Report

Bank Report icon (for Manager Operators only) will be relocated to the Main Menu screen alongside the Shift Report icon.

Currently, the Bank Report (Table 2 Bank Report Old & New Reports) only lists the Electricity vended against multiple local authorities from the terminal.

The proposed Bank Report (Table 2 Bank Report Old & New Reports) would incorporate the vending options of Electricity, Bill Payments and Fine Payments against the multiple local authorities with a Grand Bank Total.

Table 2 Bank Report Old & New Reports

|  |  |
| --- | --- |
| Old Receipt Layout | New Receipt Layout |
| |  | | --- | | BANK REPORT  POS: 00001  ………………………………………………………………  Manager: Jannie  Start Date: 2014-Nov-13 06:02:36  End Date: 2014-Nov-20 12:00:23  Bank Batch for : AED  Bank Batch No: 222  First SBN: 1123  Last SBN: 1148  Cash N 300.00  Cash N 100.00  Cash N 150.00  Cheque N 2500.00  Cash N 50.00  Vat N 434.00  Units 2867  Free Units 0  Arrears N 0  Service Charg N 0  Refund Amount N 0  Grand Total N 3,534  Start Date: 2014-Nov-13 06:09:35  End Date: 2014-Nov-20 12:01:17  Bank Batch for : NGN  Bank Batch No: 222  First SBN: 1164  Last SBN: 1178  Cash N 120.00  Cash N 30.00  Cash N 1000.00  Cash N 700.00  Vat N 259.00  Units 1430  Free Units 0  Arrears N 0  Service Charg N 0  Refund Amount N 0  Grand Total N 2,109  Total Cash N 4,950  Total Vat N 693  Total Units 4297  Total Free Units 0  Total Arrears 0  Total Srv Charg 0  Total Refund 0  ………………….………….……………………………  Powered by Syntell | | |  |  |  | | --- | --- | --- | | BANK REPORT | | | | POS: | 00001 | | | ………………….…………………………………….……………… | | | | Manager: | jannie | | |  |  | | | ELECTRICITY | | | | Bank Batch for: | AED | | |  |  | | | Start Date | 2014-Nov-20 06:09:35 | | | End Date: | 2014-Nov-20 12:01:17 | | |  |  | | | Bank Batch No: | 222 | | |  |  | | | First SBN: | 1123 | | | Last SBN: | 1136 | | |  |  | | | Cash | N 300.00 | | | Cash | N 100.00 | | | Cash | N 150.00 | | | Cheque | N 2,500.00 | | | Cash | N 50.00 | | |  |  | | | Vat | N 434.00 | | |  |  | | | Units | 2867 | | | Free Units | 0 | | |  |  | | | Arrears | N 0 | | | Service Charge | N 0 | | | Refund Amount | N 0 | | |  |  | | | Sub Total | N 3,534 | | |  |  | | |  |  | | | Bank Batch for: | NGN | | |  |  | | | Start Date | 2014-Nov-20 06:09:35 | | | End Date: | 2014-Nov-20 12:01:17 | | |  |  | | | Bank Batch No: | 1124 | | |  |  | | | First SBN: | 5263 | | | Last SBN: | 5270 | | |  |  | | | Cash | N 120.00 | | | Cash | N 30.00 | | | Cash | N 1000.00 | | | Cash | N 700.00 | | |  |  | | | Vat | N 259.00 | | |  |  | | | Units | 1430 | | | Free Units | 0 | | |  |  | | | Arrears | N 0 | | | Service Charge | N 0 | | | Refund Amount | N 0 | | |  |  | | | Sub Total | N 3,534 | | |  |  | | | Total Cash | N 4,950 | | | Total Vat | N 693 | | |  |  | | | Total Units | 4297 | | | Total Free Units | 0 | | |  |  | | | Total Arrears | N 0 | | | Total Srv Charge | N 0 | | | Total Refund | N 0 | | |  |  | | | BILL PAYMENTS | | | | Bank Batch for: | ABC | | |  |  | | | Start Date | 2014-Nov-20 06:45:35 | | | End Date: | 2014-Nov-20 12:03:14 | | |  |  | | | Bank Batch No: | 1125 | | |  |  | | | First SBN: | 4452 | | | Last SNB: | 4460 | | |  |  | | | Cash | N 250.00 | | | Cheque | N 400.00 | | | Cheque | N 350.00 | | | Cash | N 100.00 | | |  |  | | | Vat | N 154.00 | | |  |  | | | Sub Total | N 1,254 | | |  |  | | | FINE PAYMENTS | | | | Bank Batch for: | | XYZ | |  | |  | | Start Date | | 2014-Nov-20 06:33:12 | | End Date: | | 2014-Nov-20 12:02:55 | |  | |  | | Bank Batch No: | | 1126 | |  | |  | | First SBN:  Last SBN: | | 1245  1256 | |  | |  | | Cash | | N 200.00 | | Cash | | N 300.00 | | Cash | | N 500.00 | |  | |  | | Sub Total | | N 1,000 | |  | |  | | Bank Batch for: | | KLM | |  | |  | | Start Date | | 2014-Nov-20 06:22:12 | | End Date: | | 2014-Nov-20 12:11:22 | |  | |  | | Bank Batch No: | | 1127 | |  | |  | | First SBN: | | 7458 | | Last SBN: | | 7471 | |  | |  | | Cash | | N 350.00 | | Cash | | N 700.00 | |  | |  | | Sub Total | | N 1,050 | |  | |  | | Total Cash | | N 2,050 | |  | |  | | GRAND BANK TOTAL | | N 8,947 | | ………………….…………………………………….……………… | | | | Powered by Syntell | | | |

## Ancillary Requirements

### Keyboard Change

On relevant screens, remove the keyboard icon and replace with an readily available keyboard incorporating alpha-numeric inclusive of slash (\), backslash (/) and hyphen (-). Where necessary, do this for all features included in this scope as a proof of concept.

### PIN Authentication

Consider replacing the current “username-password” authentication with a 5-digit PIN-based authentication.

### User Token Request Audit

Include an option where the user must enter a PIN when requesting a token (*this is after the “username-password” authentication has been replaced by PIN authentication – see 2.6.2*). In addition to the operator being linked to a Shift the system will now link the operator who did the actual request for verifying the customer’s details (where necessary) to the actual transaction as well as linked the operator who did the request for the token and accepted cash payment to the actual transaction. These could be two separate individuals.

NB: This is a value-add to the partner to combat any fraudulent activity around accepting cash payment from a customer.

This should be configurable per partner on the server-side.

### Security

Explore the option of using SSL for an added layer of encryption for user credentials and other data being sent between the client and the server.

### User Administration

Rename and reconfigure the ‘delete user’ function in User Management to de-activate user thereby retaining the user profile on the system.

### Data Transfer Compression

Implement data compression techniques on requests from the POS client and responses from the POS service.