**1.0 INTRODUCTION**

PASO is a shoe retail company, located at Nairobi, Kenya. The company is very popular

for selling different types of shoe all over Nairobi. For its quality products it has become

one of the loyal shoe retail company in Nairobi. It also provides shoe repairing services to

its consumers on demand. Recently they are facing some difficulties for keeping the records of

their sales, stocks as well as customer services. They need to write down all the records in a

record book manually. Hence they have decided to change the present recording system.

This system has two panels (Admin & Staff). In this documentation it shows how the system work

along with diagrams (DFD & UML) for clear understanding.

**3.0 REQUIREMENT ANALYSIS**

**3.1 Functional Requirement**

1. The system supports customers purchased receipt.

2. System can search the product from the stock according to customers demand.

3. System can add stock.

4. System can update stock.

5. System can delete stock.

6. System can show the stock report.

7. System can show the sales report.

8. System can register new staff.

9. System can add customer service.

10. System can update customer service.

11. System can view all the service records according to product specific ID.

12. System can update password (Admin & Staff).

**3.2 Non-Functional Requirement**

1. The system can save stock into the database safely.

2. The system can support all the PC (Personal Computer).

3. The system can create a backup database file after every transaction (sales, stock, service,

update of authentication details).

4. Stock should be added after end of sales per day.

5. For security issues only admin can change the password on behalf of staffs.

6. Staffs can only access this system for sales, service and checking reports.

**4.0 DATA GLOW DIAGRAM**

**4.1 Context Diagram**

Figure 2 Context Diagram

Above is our context diagram of the overall function of the system. From the diagram we can

see the major entities are the staff and the system. Admin can register the staff through the

system by entering individual’s username and password. Admin can access the customer

service panel. After successful completion, Admin need to send the customer service receipt to

the customers.

Beside that staff need to log in with their respective username and password to access the

system. Then they can proceed to new product sales and service accordingly. After successful

completion they will send a copy of sales receipt as well as service receipt (if any) to the

customers. Again, staffs can also update the customer service records on demand. We will

discuss more about system (POS) functionality on below diagram.

**4.2 Level 0**

Above is our level 0 diagram of POS System. Here we can see Admin need to enter staff details

(username & password) so that staff can access the system. After entering the system will save

the staff details directly into the database USERS TABLE. Then staff can log in to the system

with their individuals credentials (username & password). After that they can proceed for new

sale and new service according to customer’s demands. After the successful transactions a

receipt (sales & service) will be given to the customers directly. Admin can also access the

system for customer service (emergency purpose). We didn’t show it on diagram. Later we will

discuss about it on UI (User Interface) part.

**5.0 UML DESIGN**

UML (Unified Modelling Language) is a standardized modelling language enabling developers

to specify, visualize, construct and document artifacts of a software system. It is important

aspect involved in OO (Object-Oriented) software development. There are many types of

UML. Below we described only “USE CASE” according to our developed software.

**6.0 USER INTERFACE (UI)**

User interface is one of the most important parts of any system. It shows how the users will

interact with the system smoothly. Below is the details of user interface. It will go from Admin

Panel to Staff Panel accordingly.

**Log In Interface**

Above is the startup interface for POS System. Here user need to enter their credentials

(username and password) to access as Admin or Staff. It will show the user panel (admin or

staff) following their roles from the database.

Figure 5 User Log-In

**Admin Panel**

This is the Admin Panel where Admin can see all the operation buttons. From this panel admin

can manage the stock, check the sales report, access the customer service, update password as

well as register a new staff. Below is the description of each operations.

Figure 6 Admin Panel

**Manage Stock**

Add Stock

Figure 7 Stock Add Item

Above is the stock management panel where admin can add stock according to their supplies.

To add a new stock Admin need to enter the PRODUCT ID with details like PRICE,

CATEGORY, SIZE, COLOR, BRAND. The entry date of the product will show automatically

based on system settings. For easy access we added some drop down box so that every

information need not to enter by Admin.

Update Stock

From this panel Admin can update the stock. Suppose Admin entered the wrong information

about the product. So this panel will help Admin to update the details and save it to database.

Here, only the DATE OF ENTRY cannot be changed as the stock is already added.

Stock Report

Above is the stock report of Admin panel. Admin can check how many products are added so

far. For easier access we added SEARCH button along with two DATE TIME PICKER

CONTROL. If Admin want to see the stock report according to dates then he can select a date

Figure 8 Stock Update

from DATE TIME PICKER CONTROL and the system will show the report according to

dates.

Delete Stock

From this panel Admin can delete any stock according to given PRODUCT ID. Admin need

to enter the PRODUCT ID and the system will show all information of specific product. This

will delete the product from the stock.

Figure 10 Delete Stock

Sales Report

Above is the Sales Report for Admin. From this panel Admin can see the products that are

already sold. Here we also added DATE TIME PICKER CONTROL.

Service

Admin can also provide service to existing customers. The service we added on Admin panel

is only for emergency purposes. We will discuss more on STAFF PANEL.

Update Password

This is one of the important functions of this POS System. From this panel Admin can update

staffs login details (password). As for example if any staff forget his or her password then he

or she can request to Admin then Admin can update the password. At first we added the

Figure 11 Sales Report

Figure 12 Update Password

FORGET PASSWORD on LOGIN PANEL. But for security issue and also based on

requirements we added this function on Admin panel.

Staff Registration

Above is the STAFF REGISTRATION panel. From this panel Admin can register new staff

with their specific USERNAME and PASSWORD.

Staff Panel

Above is the staff panel of POS SYSTEM. This are the operations staffs having on their panel

based on system requirements.

Figure 13 Staff Registration

Figure 14 Staff Panel

New Sales

Above is the panel for staff where staff can proceed for new product sales. First they need to

enter the PRODUCT ID. After they click SEARCH button the system will show all the

information based on PRODUCT ID. Before they proceed for purchasing the product they

need to click SHOW SALES button where a sales receipt will generate based of product

information. Staff can also clear the sales receipt by clicking the button NEW SALES. For

purchasing they need to click PURCHASE. We also added a button name SAVE which will

save the receipt on the system for future reference and also can print for customer. Below is

the sample of sales receipt.

Figure 15 Staff Sales

Service (Staff)

This is the service panel for staffs. From here they can provide new service, update service and

can view the existing pending or completed services of the products.

New Service

Above is the panel for customer service. Here staff need to enter the PRODUCT ID on

customer demand. Then the system will show the information of the purchased product. Before

Figure 16 Sales Receipt

Figure 17 Staff Service Panel

Figure 18 Staff Customer Service

providing the service they need to click the button SHOW SERVICE where all the details will

come out on the LIST BOX CONTROL. Then as usual like sales receipt the system will

generate the service receipt after adding service. Below is our service receipt sample.

Update Service

This panel is for updating the customer service on demand. From here staff can update customer

contact and product return date if they (customer) wishes.

Figure 19 Customer Service Receipt

Figure 20 Update Customer Service

View Service

This panel helps staff

to view the specific product which is under service or already finished. Again if any customer

wants to know the progress of the service, staff can also use this panel to inform them.

Reports

This is the REPORTS MENU of staff panel. From here staff can check the SALES REPORT,

SERVICE REPORT as well as STOCK REPORT.

Sales Report

Figure 21 View Customer Service

Figure 22 Reports Menu

Figure 23 Staff Sales Report

Above is the sales report of staff panel. From here staffs can check all the sales records. They can also

check records according to dates.

Service Report

From this report staffs can check all the completed and pending customer services.

Stock Report

Above is the stock report for staffs to check the full stock records.

**7.0 TEST PLAN**

**Test Case 001**

 Test Title : Stock Management Button

 Test Procedure : Click on the button “MANAGE STOCK”

 Test Data: Users need to click on the button

 Expected Result: It will redirect to admin stock management panel

**Test Case 002**

 Test Title : Sales Report Button

 Test Procedure : Click on the button “SALES REPORT”

 Test Data: Users need to click on the button

 Expected Result: It will redirect to admin sales report panel

**Test Case 003**

 Test Title : Add Item

 Test Procedure : Click on the button “ADD ITEM”

 Test Data: Users need to click on the button

 Expected Result: It will save the new product details into the database

**Test Case 004**

 Test Title : Update Item

 Test Procedure : Click on the button “UPDATE”

 Test Data: Users need to click on the button

 Expected Result: It will update the product details of the stock

**Test Case 005**

 Test Title : Delete Item

 Test Procedure : Click on the button “DELETE”

 Test Data: Users need to click on the button

 Expected Result: It will delete the product records from the stock

**Test Case 006**

 Test Title : Staff Registration

 Test Procedure : Click on the button “REGISTER”

 Test Data: Users need to click on the button

 Expected Result: System will register new staff

**Test Case 007**

 Test Title : Admin View Stock Report

 Test Procedure : Click on the button “VIEW REPORT”

 Test Data: Users need to click on the button

 Expected Result: System will view all the records of the stock

**Test Case 008**

 Test Title : Staff Customer Service Adding

 Test Procedure : Click on the button “ADD SERVICE”

 Test Data: Users need to click on the button

 Expected Result: New customer service will be added into the database

**Test Case 009**

 Test Title : Staff Service Report

 Test Procedure : Click on the button “SERVICE REPORT”

 Test Data: Users need to click on the button

 Expected Result: System will show all the records of customer service

**Test Case 010**

 Test Title : Staff Update Service

 Test Procedure : Click on the button “UPDATE SERVICE”

 Test Data: Users need to click on the button

 Expected Result: System will update customer service through staff panel

**8.0 IMPLEMENTATION**

This is the most important part of for finalizing the software development. Before we hand

over the project we need to justify the system requirements so that the client can run the system

without any obligations and dissatisfactions. For that below is our requirements:

**Software Requirements**

Operating System: Windows (XP, 7, 8, 8.1) or Mac OSX (Tiger, Leopard, Snow Leopard,

Lion, Yosemite).

Database Management System: Microsoft Access

IDE (Integrated Development Environment): Visual Studio 2010 or later, Notepad

Others: .NET FRAMEWORK 4.5

**Hardware Requirement**

RAM: Minimum 1GB or higher.

HDD: Minimum 50 GB.

Processor: Intel Pentium 4 or AMD.

**9.0 LIMITATION**

Although we tried our best to develop the system according to EFSI requirements, the system

has some limitations too. As for example when the admin register a new staff he or she should

restart the system so that the new staff can access the system with his new username and

password. So it’s kind of limitation of our system. Other than that everything is working fine.

**10.0 SYSTEM UPGRADE**

According to our client requirements we have developed the POS System as offline based

which is much backdated compare to new tech era. For future upgradation we will transform

this offline system into online based. Currently users need to enter every details manually. So

when we go for online based we will add bar code scanner for easy accessibility. Besides we

will also add Credit Card Reader so that customers can pay by using card. As the whole system

will be converted to online based, the system will send email to the customers as a reminder of

return the product those are on services.

**11.0 CONCLUSION**

This system has some benefits to EFSI staffs. Currently they are keeping every records by

written down in memo manually. At least this system will give them relieve from exhausted

life which they are dealing with their customers. Besides this system will make them (EFSI)

more reliable to its customers as all the customers records will be kept safely than any previous

times. Moreover they can manage their stock more handily.

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