

1.0 INTRODUCTION

Stylo is a shoe retail company, located at Liberty, Lahore. The company is very popular for selling different types of shoe all over the Pakistan. For its quality products it has become one of the loyal shoe retail companies in Chittagong. 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 and develop a **POS SYSTEM** which will help them to overcome their short falls. According to their requirements it has to be developed offline. This system should have two panels (Admin & Staff).

2.0 REQUIREMENT ANALYSIS

2.1 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).

2.1 Non-Functional Requirement

1. The system can save stock into the database safely.
2. The system can support the entire 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.

3.0 DATA FLOW DIAGRAM

3.1 Context Diagram

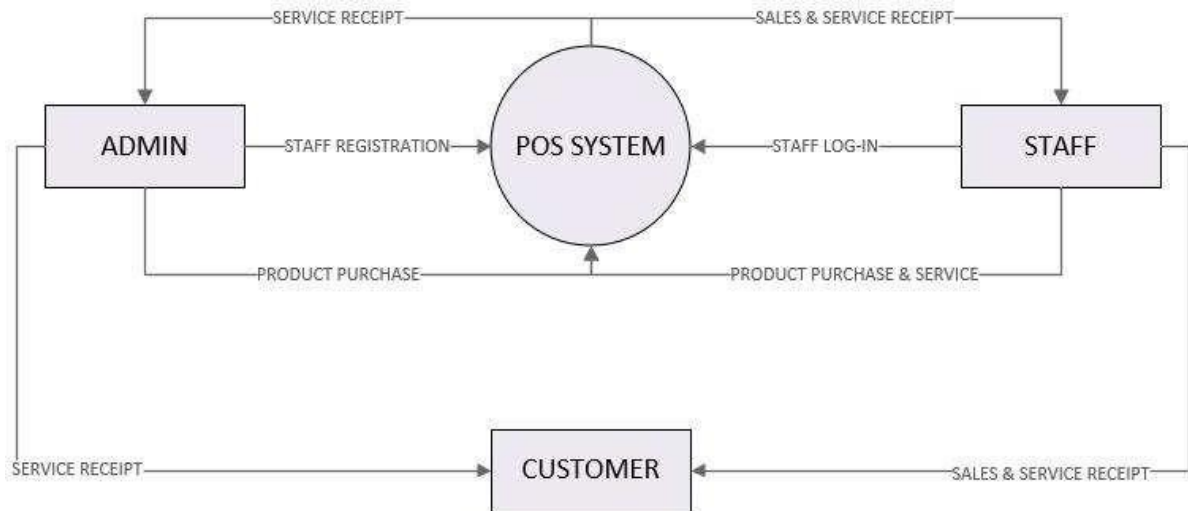


Figure 2 Context Diagram

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 needs 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.

4.0 Level 0 DIAGRAM

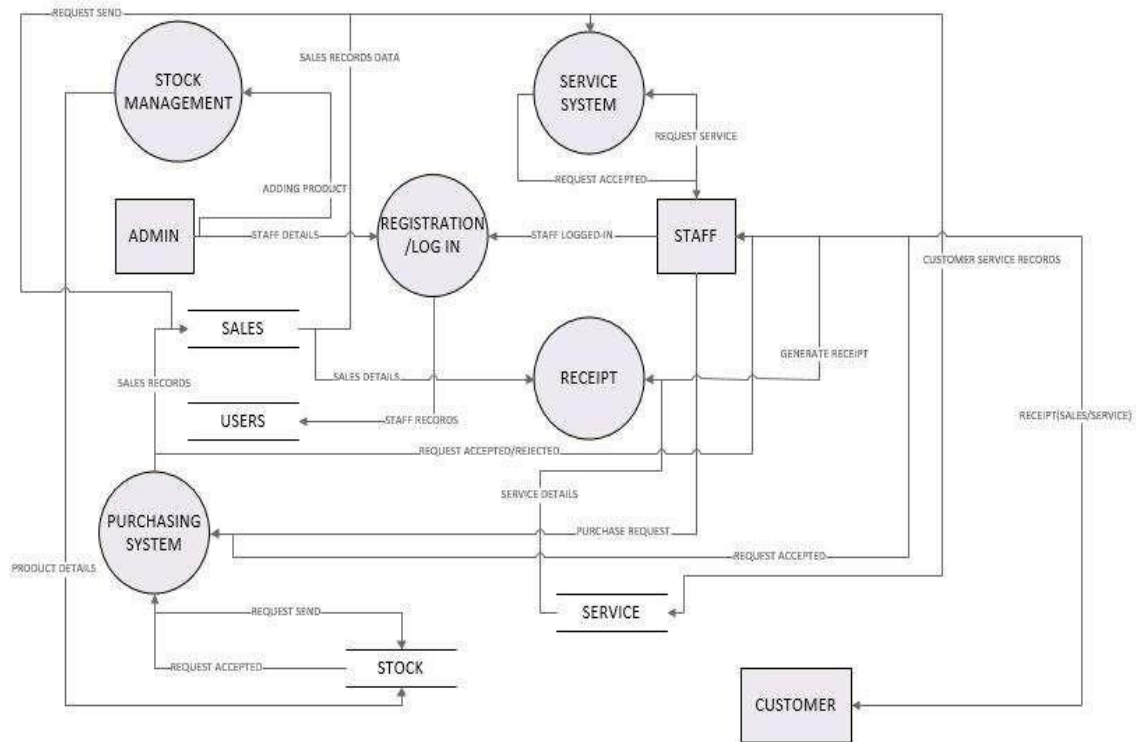


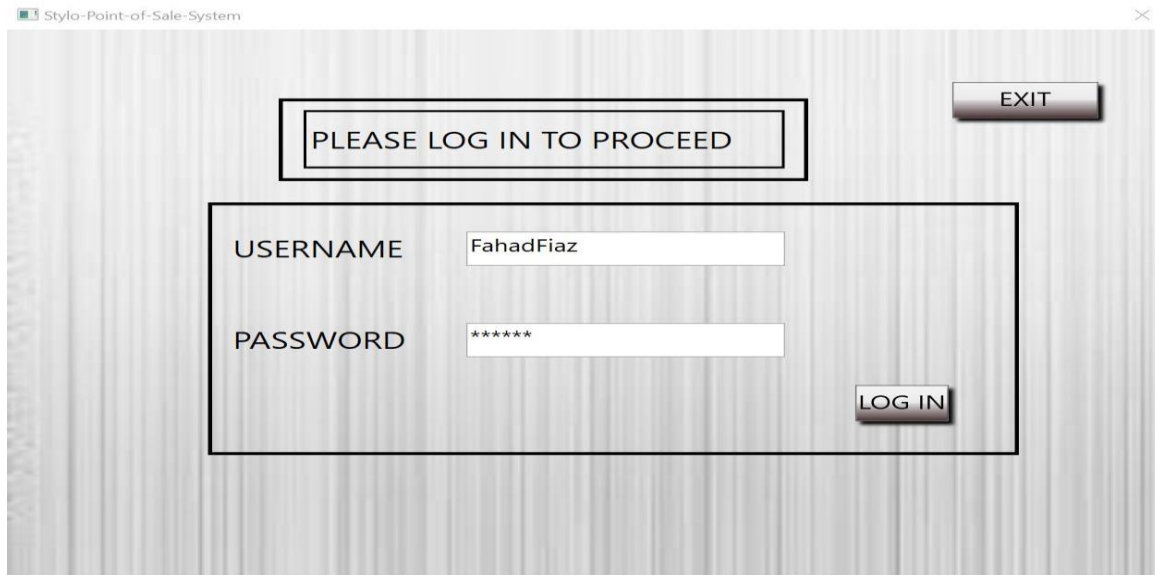
Figure 3 Level 0 Diagram

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 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 are the details of user interface. It will go from Admin Panel to Staff Panel accordingly.

Log In Interface



The screenshot shows a window titled "Stylo-Point-of-Sale-System". At the top center, a box contains the text "PLEASE LOG IN TO PROCEED". In the top right corner, there is an "EXIT" button. Below the instruction box, there is a form with two input fields. The first field is labeled "USERNAME" and contains the text "FahadFiaz". The second field is labeled "PASSWORD" and contains six asterisks "*****". To the right of the password field is a "LOG IN" button.

Figure 5 User Log-In

Above is the startup interface for POS System. Here user needs to enter their credentials (username and password) to access as Admin or Staff. If user press Login button with incorrect or empty credentials then proper error messages are displayed. If credentials are correct then system will show the user panel (admin or staff) following their roles from the database.



This screenshot shows the same login interface as Figure 5, but with an error message. The "USERNAME" field still contains "FahadFiaz" and the "PASSWORD" field contains "*****". Below the password field, the text "INCORRECT USERNAME OR PASSWORD" is displayed. The "LOG IN" button remains visible in the bottom right of the form area. The "EXIT" button is still in the top right corner, and the "PLEASE LOG IN TO PROCEED" instruction box is at the top center.

Admin Panel

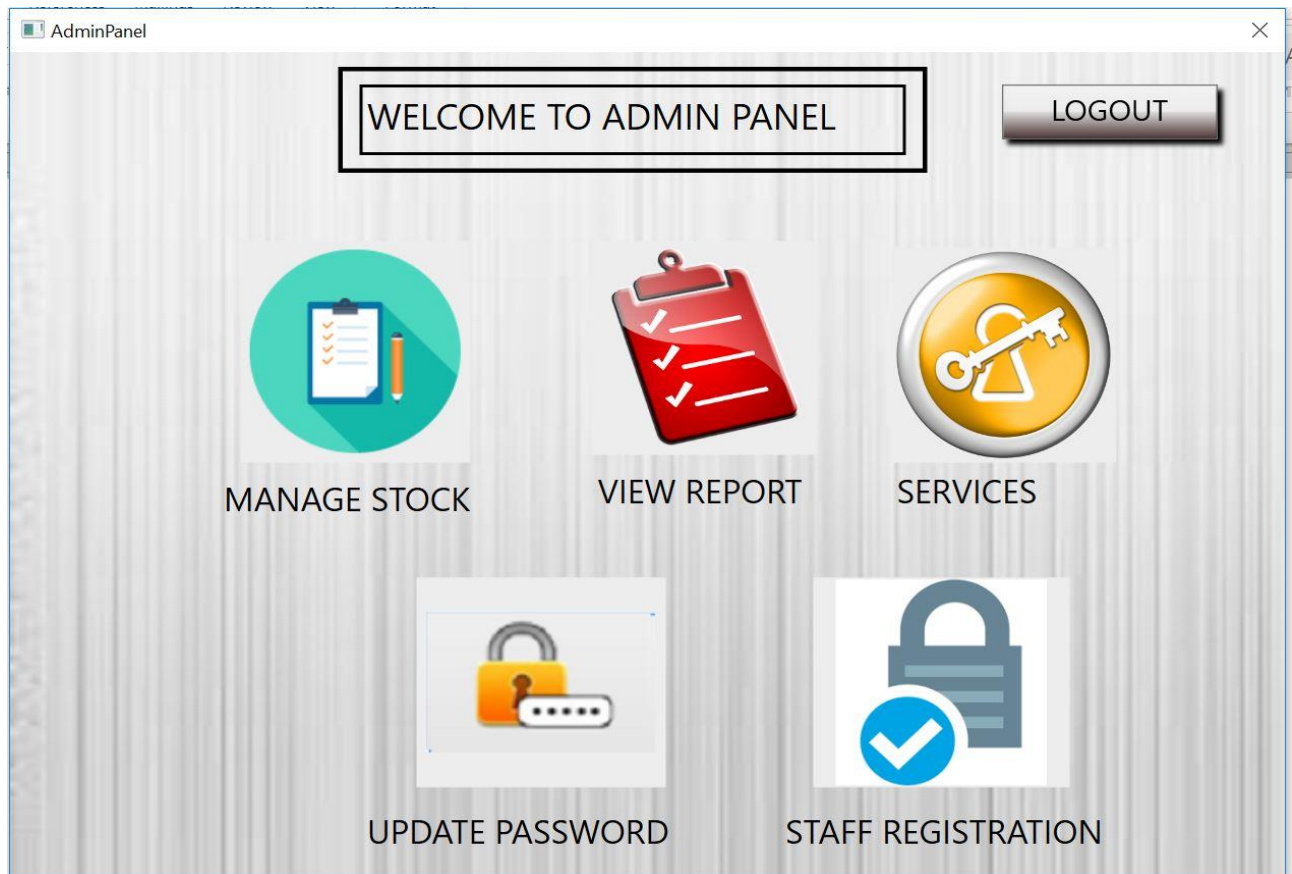
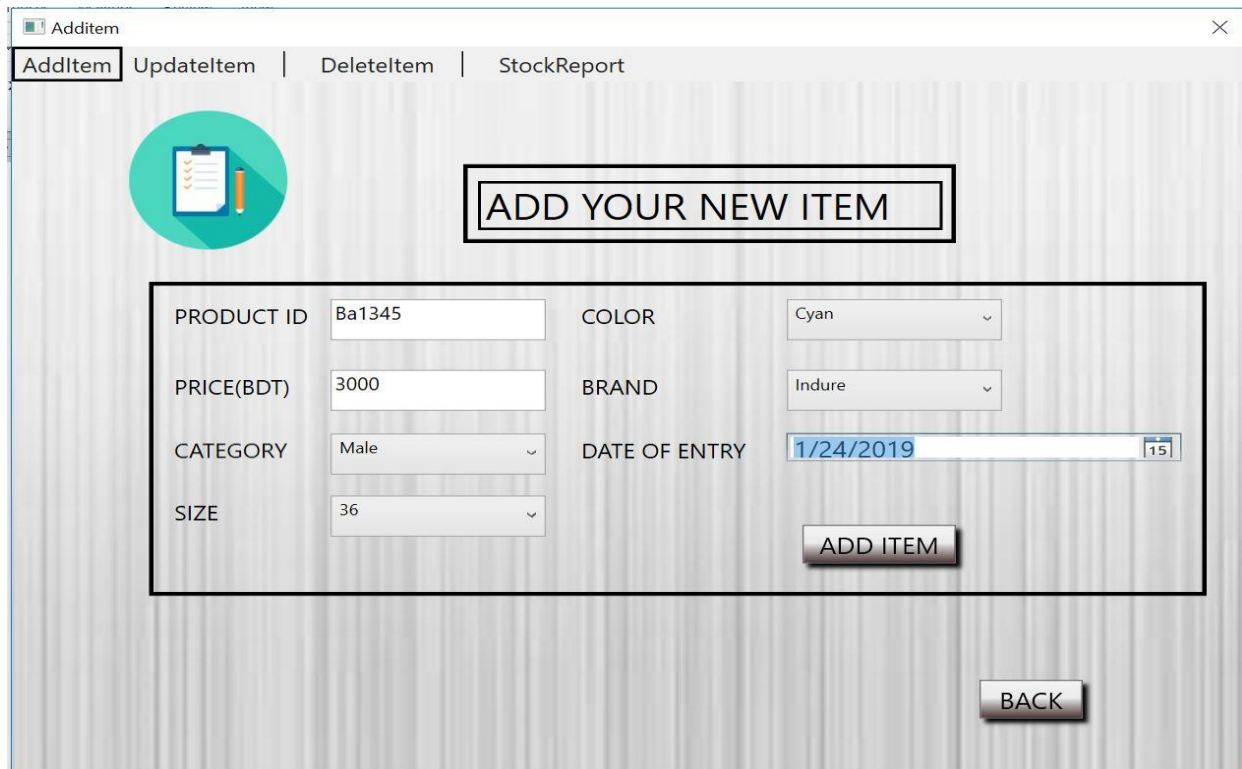


Figure 6 Admin Panel

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 operation.

Manage Stock

Add Stock



The screenshot shows a web application window titled 'AddItem'. It has a navigation bar with four tabs: 'AddItem' (selected), 'UpdateItem', 'DeleteItem', and 'StockReport'. On the left, there is a circular icon with a clipboard and a pencil. In the center, a large box contains the text 'ADD YOUR NEW ITEM'. Below this, there is a form with the following fields:

PRODUCT ID	<input type="text" value="Ba1345"/>	COLOR	<input type="text" value="Cyan"/>
PRICE(BDT)	<input type="text" value="3000"/>	BRAND	<input type="text" value="Indure"/>
CATEGORY	<input type="text" value="Male"/>	DATE OF ENTRY	<input type="text" value="1/24/2019"/>
SIZE	<input type="text" value="36"/>		

Below the form, there is an 'ADD ITEM' button. At the bottom right of the window, there is a 'BACK' button.

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 needs not to enter by Admin.

Update Stock

UpdateItem

AddItem UpdateItem DeleteItem | StockReport

UPDATE

UPDATE YOUR NEW ITEM

SEARCH BY PID

PRODUCT ID

PRICE(BDT)

CATEGORY

SIZE

COLOR

BRAND

DATE OF ENTRY

PRODUCT UPDATED

Figure 8 Stock Update

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

The screenshot shows a web application window titled "AdminStockReport". At the top, there are navigation links: "AddItem", "UpdateItem", "DeleteItem", and "StockReport". Below these is a circular icon with a clipboard and pencil. The main heading is "EFSI STOCK REPORT". Below the heading, there are two date pickers labeled "FROM" and "TO", both set to "1/1/2019" and "1/25/2019" respectively. A "SEARCH" button is to the right of the "TO" date picker. Below the date pickers is a table with the following data:

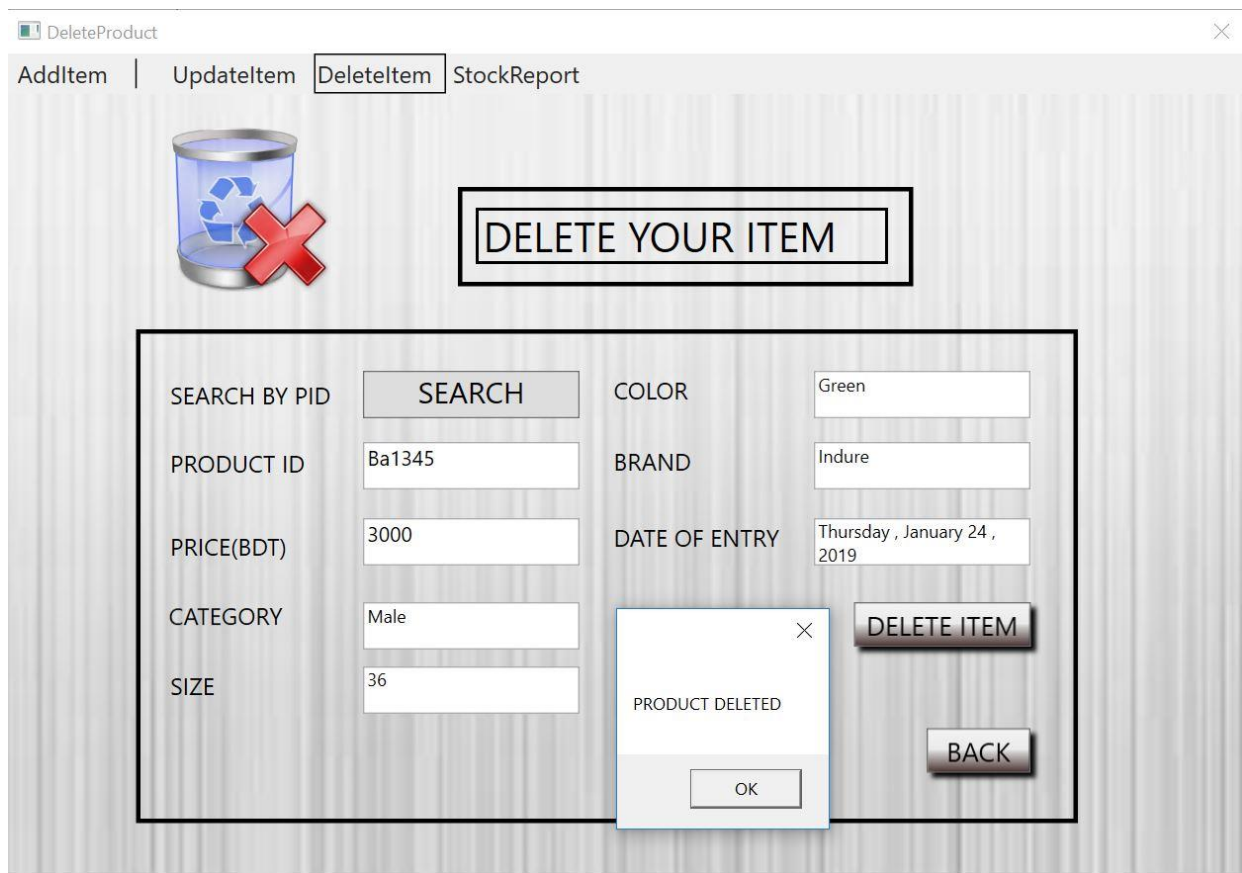
ID	PRICE	CATEGORY	SIZE	COLOR	BRAND	DATE-OF-ENTRY
qwe452	9000	Female	38	Bisque	Service	1/15/2019 12:00:00 AM
xcve21	19345	Female	33	Goldenrod	Bata	1/22/2019 12:00:00 AM
qazws	2500	Female	23	Black	Bata	1/24/2019 12:00:00 AM
Ba1345	3000	Male	36	Green	Indure	1/24/2019 12:00:00 AM

Below the table, there are two buttons: "VIEW REPORT" and "BACK".

Figure 9 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 from **DATE TIME PICKER CONTROL** and the system will show the report according to dates.

Delete Stock



The image shows a web application window titled "DeleteProduct". It has a navigation bar with four tabs: "AddItem", "UpdateItem", "Deleteltem" (which is selected), and "StockReport". Below the navigation bar, there is a large red 'X' over a recycling symbol icon. To the right of this icon is a box with the text "DELETE YOUR ITEM". Below these elements is a form with two columns. The left column contains labels and input fields: "SEARCH BY PID" with a "SEARCH" button, "PRODUCT ID" with the value "Ba1345", "PRICE(BDT)" with the value "3000", "CATEGORY" with the value "Male", and "SIZE" with the value "36". The right column contains labels and input fields: "COLOR" with the value "Green", "BRAND" with the value "Indure", and "DATE OF ENTRY" with the value "Thursday , January 24 , 2019". Below the form is a "DELETE ITEM" button. A small modal dialog box is open in the center, displaying "PRODUCT DELETED" and an "OK" button. A "BACK" button is also visible at the bottom right of the form area.

SEARCH BY PID	SEARCH	COLOR	Green
PRODUCT ID	Ba1345	BRAND	Indure
PRICE(BDT)	3000	DATE OF ENTRY	Thursday , January 24 , 2019
CATEGORY	Male		
SIZE	36		

DELETE ITEM

PRODUCT DELETED

OK

BACK

Figure 10 Delete Stock

From this panel Admin can delete any stock according to given **PRODUCTID**. 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.

Sales Report

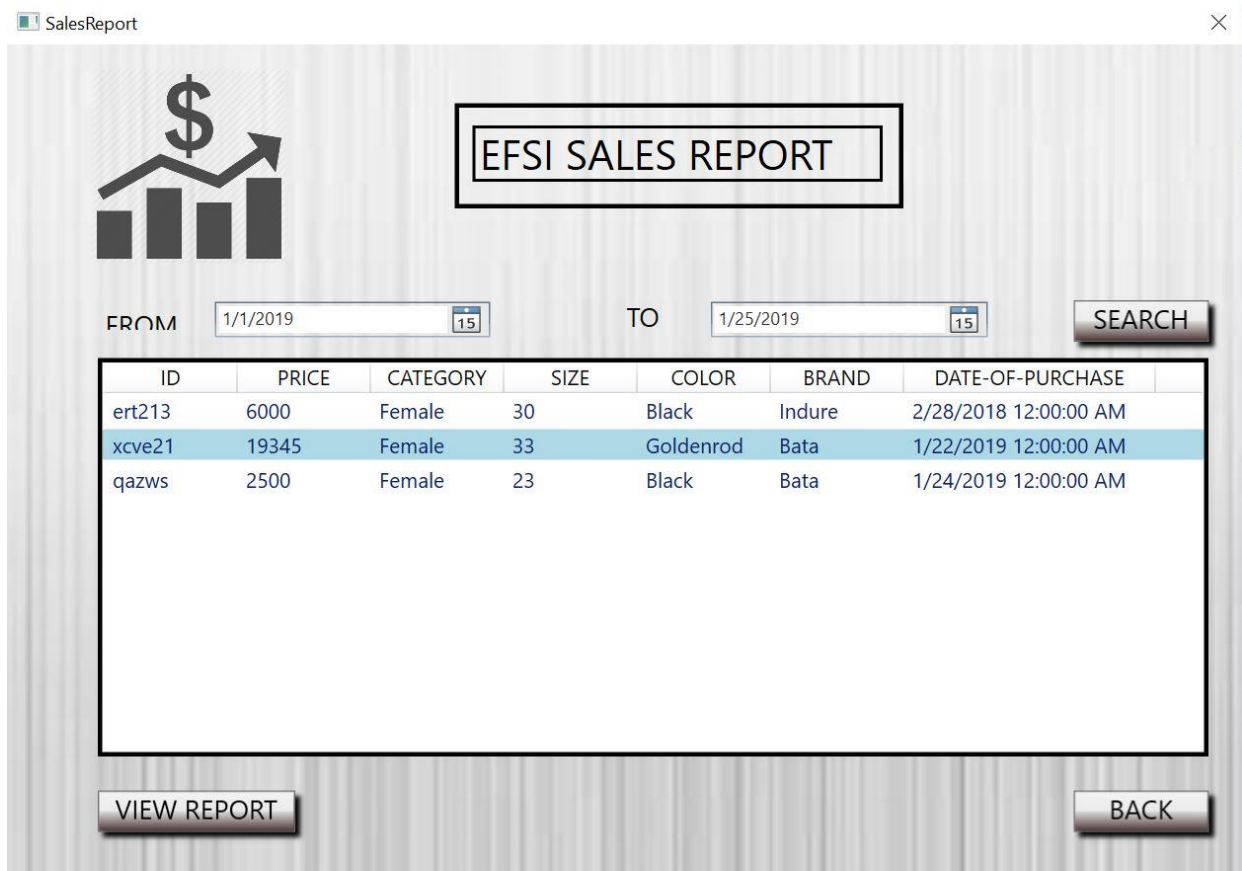



Figure 11 Sales Report

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

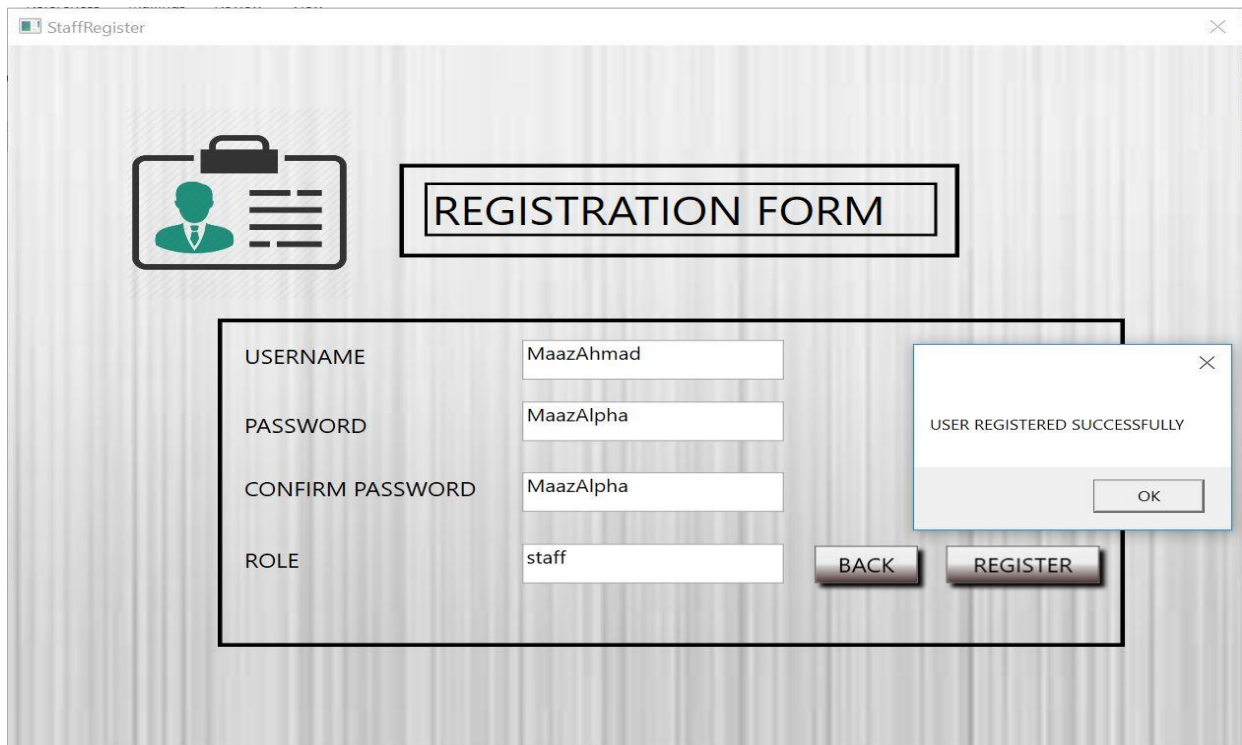


The screenshot shows a software window titled "UpdatePassword" with a close button in the top right corner. On the left is a yellow circular icon containing a white key and a lock. To its right is a rectangular box with the text "UPDATE PASSWORD". Below this, there is a form with three input fields: "USERNAME" containing "ali", "NEW PASSWORD" containing "pucit", and "CONFIRM PASSWORD" containing "pucit". At the bottom of the form are two buttons: "BACK" and "UPDATE". To the right of the main form, a smaller dialog box is open, displaying the message "PASSOWRD UPDATED SUCCESSFULLY" and an "OK" button.

Figure 12 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 **FORGET PASSWORD** on **LOGIN PANEL**. But for security issue and also based on requirements we added this function on Admin panel.

Staff Registration



The screenshot shows a web application window titled "StaffRegister". Inside, there is a "REGISTRATION FORM" section. The form contains four input fields: "USERNAME" with the value "MaazAhmad", "PASSWORD" with the value "MaazAlpha", "CONFIRM PASSWORD" with the value "MaazAlpha", and "ROLE" with the value "staff". Below these fields are two buttons: "BACK" and "REGISTER". To the right of the form, a small dialog box is open, displaying the message "USER REGISTERED SUCCESSFULLY" and an "OK" button. Above the form, there is an icon of a clipboard with a person silhouette and a list of items.

Figure 13 Staff Registration

Above is the **STAFF REGISTRATION** panel. From this panel Admin can register new staff with their specific **USERNAME** and **PASSWORD**.

Staff Panel



The screenshot shows a "WELCOME TO USER PANEL" message. Below the message, it says "You Are Logged In As Arif". There are four buttons: "NEW SALES", "CUSTOMER SERVICE", "REPORTS", and "LOG OUT".

Figure 14 Staff Panel

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

New Sales

NEW SALES

SEARCH BY PID **SEARCH**

PRODUCT ID CATEGORY

PRICE (BDT) BRAND

COLOR PURCHASED DATE

SIZE

EFSI PURCHASING RECEIPT

15/12, NEW MARKET, KISHOREGANJ

Cell: +880-1711-360899 / +880-1919-360899

PRODUCT ID BT1456

PRICE (BDT) 2000

COLOR BLACK

SIZE 08

CATEGORY FEMALE

BRAND BATA

PURCHASED Saturday, November 14, 2015

THANK YOU FOR PURCHASING !!!

SHOW SALES
NEW SALES
PURCHASE
SAVE

BACK

Figure 15 Staff 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 on 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.

```

                                EFSI PURCHASING RECEIPT
                                15/12, NEW MARKET, KISHOREGANJ
                                Cell: +880-1711-360899 / +880-1919-360899

PRODUCT ID    BT1456
PRICE (BDT)   2000
COLOR         BLACK
SIZE          08
CATEGORY      FEMALE
BRAND         BATA
PURCHASED     Saturday, November 14, 2015
=====
THANK YOU FOR PURCHASING !!!
FOR FUTURE REFERENCE KINDLY PROVIDE THE RECEIPT
REPAIRMENT WARRANTY PERIOD : 6 MONTHS (EFSI PRODUCT)
  
```

Figure 16 Sales Receipt

Service (Staff)



CUSTOMER SERVICE

NEW SERVICE UPDATE SERVICE VIEW SERVICE

BACK

Figure 17 Staff Service Panel

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



NEW CUSTOMER SERVICE

SEARCH BY PID **SEARCH** CUSTOMER NAME Syed Hasan

PRODUCT ID BT1345 ADDRESS Taman Cempaka,

PRICE (BDT) 3000 PHONE 01127620162

COLOR YELLOW PURCHASED DATE Saturday, November 14, 2015

SIZE 40 SERVICE DATE Saturday, November 14, 2015

CATEGORY MALE RETURN DATE Saturday, November 14, 2015

BRAND DATA SERVICE CHARGE 102

SHOW SERVICE

NEW SERVICE

ADD SERVICE

SAVE **BACK**

EFSI SERVICE RECEIPT

15/12, NEW MARKET, KISHOREGANJ

Call: +880-1711-360859 / +880-1919-360859

PRODUCT ID BT1345

PRICE (BDT) 3000

COLOR YELLOW

SIZE 40

CATEGORY MALE

BRAND DATA

CUSTOMER NAME Syed Hasan

ADDRESS Taman Cempaka, Jalan Cempaka, Ampang, Selangor, Malaysia

PHONE 01127620162

Figure 18 Staff Customer Service

Above is the panel for customer service. Here staff needs to enter the **PRODUCT ID** on customer demand. Then the system will show the information of the purchased product. Before 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.

EFSI SERVICE RECEIPT	
15/12, NEW MARKET, KISHOREGANJ	
Cell: +880-1711-360899 / +880-1919-360899	
PRODUCT ID	BT1345
PRICE (BDT)	3880
COLOR	YELLOW
SIZE	40
CATEGORY	MALE
BRAND	BATA
CUSTOMER NAME	Syed Hasan
ADDRESS	Taman Cempaka, Jalan Cempaka, Ampang, Selangor, Malaysia
PHONE	01127620162
PURCHASED	Saturday, November 14, 2015
SERVICE	Saturday, November 14, 2015
RETURN	Saturday, November 14, 2015
CHARGE (BDT)	102

=====

WE ARE GLAD TO SERVICE YOU !!!
FOR FUTURE REFERENCE KINDLY PROVIDE THE RECEIPT

Figure 19 Customer Service Receipt

Update Service

UPDATE CUSTOMER SERVICE			
SEARCH BY PID	<input type="button" value="SEARCH"/>	CUSTOMER NAME	<input type="text" value="Syed Hasan"/>
PRODUCT ID	<input type="text" value="BT1345"/>	ADDRESS	<input type="text" value="Taman Cempaka"/>
PRICE (BDT)	<input type="text" value="3000"/>	PHONE	<input type="text" value="01127620162"/>
COLOR	<input type="text" value="YELLOW"/>	PURCHASED DATE	<input type="text" value="Saturday, November 14, 2015"/> <input type="button" value=""/>
SIZE	<input type="text" value="40"/>	SERVICE DATE	<input type="text" value="Saturday, November 14, 2015"/> <input type="button" value=""/>
CATEGORY	<input type="text" value="MALE"/>	RETURN DATE	<input type="text" value="Saturday, November 14, 2015"/> <input type="button" value=""/>
BRAND	<input type="text" value="BATA"/>	SERVICE CHARGE	<input type="text" value="102"/>
		<input type="button" value="BACK"/>	<input type="button" value="UPDATE SERVICE"/>

Figure 20 Update Customer 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) wish.

View Service

CUSTOMER SERVICE RECORDS			
SEARCH BY PID	<input type="button" value="SEARCH"/>	CUSTOMER NAME	Syed Haasan
PRODUCT ID	BT1345	ADDRESS	Taman Cempaka,
PRICE (BDT)	3000	PHONE	01127620162
COLOR	YELLOW	PURCHASED DATE	Saturday November 14, 2015
SIZE	40	SERVICE DATE	Saturday November 14, 2015
CATEGORY	MALE	RETURN DATE	Saturday November 14, 2015
BRAND	DATA	SERVICE CHARGE	102
			<input type="button" value="BACK"/>

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

REPORTS MENU			
<input type="button" value="SALES REPORT"/>	<input type="button" value="SERVICE REPORT"/>	<input type="button" value="STOCK REPORT"/>	
			<input type="button" value="BACK"/>

Figure 22 Reports Menu

This is the **REPORTSMENU** of staff panel. From here staff can check the **SALESREPORT**, **SERVICE REPORT** as well as **STOCK REPORT**.

Sales Report

SALES REPORT

FROM : Saturday, November 14, 2015 TO : Saturday, November 14, 2015 **SEARCH**

PID	PRICE	COLOR	SIZE	CATEGORY	BRAND	DATE_OF_PURCHASE
AD3010	3001	GREEN	36	MALE	ADDIDAS	11/4/2015 8:43 PM
DT6789	3000	BLUE	50	MALE	DATA	11/10/2015 7:54 PM
BT1345	3000	YELLOW	40	MALE	BATA	11/14/2015 2:02 PM
BT1456	2000	BLACK	00	FEMALE	BATA	11/14/2015 2:26 PM

VIEW REPORT **BACK**

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

SERVICE REPORT

FROM : Saturday, November 14, 2015 TO : Saturday, November 14, 2015 **SEARCH**

PID	PRICE	COLOR	SIZE	CATEGORY	BRAND	CUSTOMER_NAME	ADD
AD3010	3001	GREEN	36	MALE	ADDIDAS	Kel Hamal	Pamela
BT1345	3000	YELLOW	40	MALE	BATA	Syed Hassan	Tahir

VIEW REPORT **BACK**

Figure 24 Staff Service Report

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

Stock Report

STOCK REPORT

FROM : Saturday, November 14, 2015

TO : Saturday, November 14, 2015

SEARCH

ID	PRICE	COLOR	SIZE	CATEGORY	BRAND	DATE_OF_ENTRY	IMAGE
NR1320	1024	BLUE	36	FEMALE	NIKE	11/6/2015	
AD4005	3000	RED	38	MALE	ADDIDAS	11/7/2015	
AD4306	3020	YELLOW	38	FEMALE	ADDIDAS	11/7/2015	
DT6909	4000	GREEN	38	MALE	DATA	11/15/2015	
NK0456	2543	GREEN	40	UNSEX	NIKE	11/15/2015	
DT5678	1200	BLUE	40	FEMALE	DATA	11/15/2015	
NK7554	134123	BLUE	40	FEMALE	NIKE	11/15/2015	

VIEW REPORT

BACK

Figure 25 Staff Stock Report

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

