

Implementation of Point of Sale Software in Mobile Shop

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Abstract: At present, Point of Sale (POS) software is used widely in retail business. It has changed the manual system of business to computerized system. The main goal of this paper is to implement point of sale software which is used in mobile shop for purchasing and selling as well as generating all necessary reports. Human faults and paper works are decreased by using this software. Even the system works faster than any time. Any operating system can be used to run the software properly. The software is developed following incremental model. HTML, CSS, JavaScript, Ajax & PHP are used to design & develop the software. MySQL is also used here as database to store the data. Since this software is online based, authorized user can use the software from any place of the world. The owner of the business can also monitor his business staying at home. This software is experimented at Farhan Traders (a Bangladeshi mobile showroom). They have provided positive feedback about the software.

Keywords: Cash Memo, Mobile Shop, Point of Sale (POS), Purchase, Software, Stock.

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I. Introduction

Point of Sale software is related to the system where a retail transaction is performed. It is also called checkout. It is the center point at which a customer gives a payment to the trader in substitute for goods or services. At present, Point of Sale (POS) software has become more popular in business sector because it offers very quick & suitable methods for transactions.

Farhan Traders is a reputed mobile showroom in Dhaka, Bangladesh. People can buy various branded mobile phone from this showroom. It has become one of the reliable mobile showrooms in Dhaka for quality and variety of products. They are doing all the activities manually for maintaining their records. It goes without saying that manual system has lots of drawbacks like irrelevance of data entry, deficiency of security, time consuming & expensive to prepare reports, data redundancy, record missing etc. As a result they are facing many complications for assembling the records of their stocks, various reports, sales and customer services.

So, POS software is developed to solve their difficulties. It is an online based software which can be used by any devices like laptop, desktop, netbook, mobile having internet. This software has two admin panels called Super Admin & Sub Admin respectively. Super Admin has highest access power that's why he can do everything (add/edit/delete etc.) in the software. But Sub Admin has some restrictions for accessing the software. Using the software, the trader would compute the amount owed by the clients and offer convenient ways for fast payment as well as give a cash memo against the payment to the client. If the software is updated timely, it will produce many important reports spontaneously.

II. Properties of Proposed Software

- ❖ User friendly interface, most secured with valid user hierarchy.
- ❖ Fully online based software.
- ❖ Automated stock maintenance.
- ❖ Sales entry by IMEI number.
- ❖ Warranty checking by IMEI number.
- ❖ Easily error recovery option.
- ❖ Providing printed cash memo to the client very fast.
- ❖ Product returned option.
- ❖ Exact measurement of profit and loss.
- ❖ Sales report of a specific day, week, month and year and so on.
- ❖ Quick access of product information.
- ❖ Defaulter list is generated automatically.
- ❖ Effective search facilities.
- ❖ Exported data can be converted to excel.
- ❖ Reporting can be converted to PDF.

- ❖ Necessary reports can be produced based on daily, weekly, monthly, yearly, product, company, IMEI number, invoice number and by each or all combination.

The following architecture is representing the mechanism of the software at a glance.

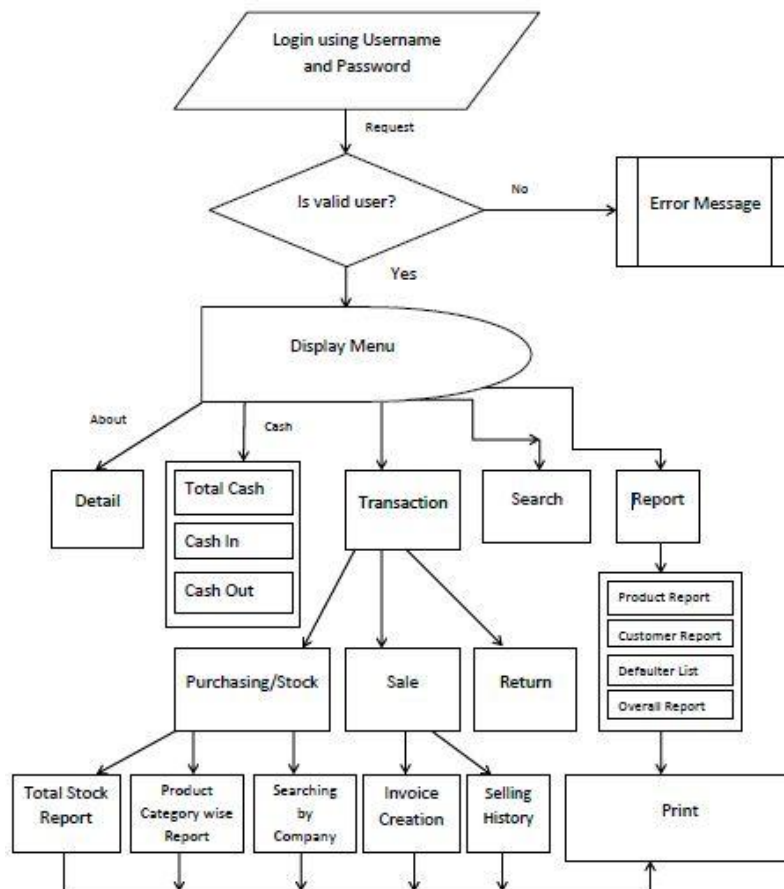


Fig.-1: architecture of mobile shop management software

III. Various Interfaces of The Proposed Software

After running the system, user will see the following page for log in. User will log in using their valid username & password to access the software. In this software, there are two types of users like Super Admin & Sub Admin. Type of user is hidden in log in form. But the software will detect user type according to username & password. Fig-2 presents the log in section.

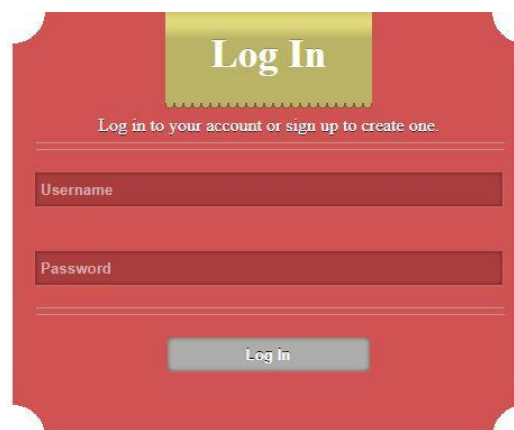


Fig.-2: login section

To add the purchasing product, admin needs to add the following information like Date, Invoice No, Provider Name, Brand Name, Model, Color, IMEI Number, Total Quantity, and Unit Price. Fig-3 shows the proceeding the purchase.

Purchase Information Form

Date	Invoice No.	Provider Name	Brand Name	Model	Color
mm/dd/yyyy		Select	Brand Name	Select	Select
IMEI No.	Total Quantity	Unit Price			
Multiple Values Should Be Separated By Comma					

Fig.-3: proceeding the purchase

The following page is presenting the transactions of individual provider exactly. If admin searches using provider name and date, the software will generate the desired report automatically. Fig-4 shows the purchasing information by individual provider.

Purchasing Info. of DELMA YOUTH GENERAL TRADING L.L.C

#	Invoice No.	Company Name	Brand Name	Model	Color	Quantity	Unit Price	Total Amount	Date
1	4294	DELMA YOUTH GENERAL TRADING L.L.C	BlackBerry	DTEK50	BLACK	1	19582.00	19582.00	2017-03-07
2	4294	DELMA YOUTH GENERAL TRADING L.L.C	SAMSUNG	S7 Edge	Gold	1	42610.00	42610.00	2017-03-07
3	4294	DELMA YOUTH GENERAL TRADING L.L.C	SAMSUNG	S7 Edge	Silver	1	42610.00	42610.00	2017-03-07
4	4294	DELMA YOUTH GENERAL TRADING L.L.C	iPhone	7 Plus 128	Matte Black	1	68638.00	68638.00	2017-03-07
5	4294	DELMA YOUTH GENERAL TRADING L.L.C	iPhone	7 Plus 128	Jet Black	1	72100.00	72100.00	2017-03-07
6	12345	DELMA YOUTH GENERAL TRADING L.L.C	SAMSUNG	S7 Edge	Gold	1	42420.00	42420.00	2017-03-01
Total								287960.00	

Fig.-4: searching the purchasing information by individual provider.

Stock is categorized according to products' brand. This software easily presents the total number of quantities & total amount of specific brand. Admin can update the price of the product clicking just on Reduce Amount button. The following page shows the details of Samsung & iPhone mobile. Fig-5 shows the stock.

SAMSUNG								
#	Model	Color	IMEI No.	Quantity	Amount Per Unit	Total Amount (Tk.)	Action	
1	S7 Edge	Gold	354737081903709,	1	42610.00	42610.00	Reduce Amount	
2	S7 Edge	Silver	358982075837739,	1	42610.00	42610.00	Reduce Amount	
3	J7 Prime	Gold	357055082490783, 375055082489777, 357055802665830, 357055082503395,	4	19541.00	78164.00	Reduce Amount	
Total =					6.00	163384.00		
iPhone								
#	Model	Color	IMEI No.	Quantity	Amount Per Unit	Total Amount (Tk.)	Action	
1	7 Plus 128	Matte Black	353813089068786,	1	68638.00	68638.00	Reduce Amount	
2	7 Plus 128	Jet Black	355355080264739,	1	72100.00	72100.00	Reduce Amount	
3	7 Plus	Jet Black	353817080569510, 353819080372895,	2	82250.00	164500.00	Reduce Amount	
4	7	Matte Black	353803081528457, 353806088852499,	2	59250.00	118500.00	Reduce Amount	
5	7 Plus	Matte Black	359180077484654, 359176077400153, 359178079571155,	3	83000.00	249000.00	Reduce Amount	
Total =					9.00	672738.00		

Fig.-5: stock

If the seller adds the following information like Date, Invoice No, Customer Info, IMEI Number, Unit Price & Warranty, this software will add all the information into database automatically for further use. Product Description will be shown automatically after pressing IMEI No. This software will generate product's warranty report. Fig-6 presents the sale site.

Fig.-6: sale site

The seller may press false information about the product. So the information of the product should be updated. This section of the software will be helpful for the seller to update easily. Fig-7 shows the update of sale.

Manage Selling Info.

Action	Date	Invoice No.	Name	Qty	Unit Price	Total Amount	Total Paid	Discount	Due	Receiver
	2017-03-06	650	Yousuf Communication (Masud)	1	43000.00	43000.00	43000.00	0.00	0.00	Shahid
	2017-03-06	663	Yousuf Communication (Masud)	1	43000.00	43000.00	43000.00	0.00	0.00	Shahid
	2017-03-06	653	Morshed Monjur Reza	1	13500.00	13500.00	13500.00	0.00	0.00	Shahid

Fig.-7: managing sale information

A Cash memo will be generated successfully for the customer after completion of selling process. Fig-8 shows the cash memo for customer.

Farhan Traders
 Shop # 612, (Level-06) Tropical Alauddin Tower, Uttara Dhaka-1230.
 Phone: +880185951256 , +880192668288 . E-mail: inf@farhantraders.com

Invoice #: 629 Date: 2017-02-28
Cashmemo
 Customer Name: SK.Nasif
 Contact No.: 0172297329
 E-mail Address: lastoulaw009@gmail.com
 National ID:

Brand Name	Model	Color	IMEI No.	Quantity	Unit Price (BDT)	Total Amount (BDT)	Warranty
OPPO	F1s	white	861117031383631	1	21990.00	21990.00	1 Year
BlackBerry	DTEK50	BLACK	353871070443517	1	21500.00	21500.00	No
Total =						43490.00	
Total Paid						40000.00	
Discount						0.00	
Due						3490.00	
Received by						opu	

Fig.-8: cash memo for customer.

A Product can be deleted and returned in this section. Admin can know selling history of products in details. Fig-9 shows the selling history.

Total Selling In Detail												
Action		Date	Invoice #	Client's Name	Product Details	IMEI NO.	Qty.	Purchase Amount	Sale Amount	Total Amount	Profit	Loss
Delete	Return	2017-03-06	650	Yousuf Communication (Masud)	SAMSUNG,S7 Edge,Gold	358982076666913	1	42420.00	43000.00	43000.00	580	0
Delete	Return	2017-03-06	663	Yousuf Communication (Masud)	SAMSUNG,S7 Edge,Black	355612087136589	1	41780.00	43000.00	43000.00	1220	0

Fig.-9: selling history

The calculation of profit or loss is very time consuming process in manual system. But one can easily calculate total profit and loss by clicking one button. Fig-10 shows the profit and loss of a specific date.

Selling Info.										
Invoice #	Client's Name	Product Details	IMEI NO.	Qty.	Purchase Amount	Sale Amount	Total Amount	Profit	Loss	
650	Yousuf Communication (Masud)	SAMSUNG,S7 Edge,Gold	358982076666913	1	42420.00	43000.00	43000.00	580.00	0.00	
663	Yousuf Communication (Masud)	SAMSUNG,S7 Edge,Black	355612087136589	1	41780.00	43000.00	43000.00	1220.00	0.00	
653	Morshed Monjur Reza	HTC,630,BLU LAGOON	354776072016048	1	12600.00	13500.00	13500.00	900.00	0.00	
664	NHT Distribution	iPhone,7 Plus 128,Rose Gold	355376085347537	1	73500.00	76500.00	76500.00	3000.00	0.00	
				Total =	4		176000.00	5700.00	0.00	

Fig.-10: profit and loss.

From the following report admin can easily measure the product quantity of purchasing and selling between two dates.

Overall Report		
Searching Form		
<input type="text" value="01/01/2017"/>	<input type="text" value="12/01/2018"/>	<input type="button" value="Search"/>
Overall Report from 2017-01-01 to 2018-12-01		
SAMSUNG		
Product Description	Purchase Qty	Sale Qty
Galaxy Note 5 Black		
Galaxy Note 5 Gold		
S7 Edge Gold	2	1
S7 Edge Black	2	2
S7 Edge Silver	2	1
Total =		1.00
BlackBerry		
Product Description	Purchase Qty	Sale Qty
DTEK50 BLACK	2	1
Total =		1.00
OPPO		
Product Description	Purchase Qty	Sale Qty
F1s white	1	1
Total =		1.00

Fig.-11: overall report.

IV. Conclusion

The demand of POS software is increasing day by day in business arena. Our proposed software reduces all complexities facing in manual system. It provides much complex calculation perfectly within few seconds. Any mistake performed by sub admin can be easily detected by super admin. So data consistency, security and integrity are maintained strongly using this software. Database can be exported easily in excel format by this software. Since IMEI number is used to maintain the stock & selling process, any product is identified exactly. A continuous internet service is mandatory to operate the software. We will integrate bar code reader for faster access with our software in near future.

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