

Products Management System

2020

According to **IEEE Std. 830-1998 SRS**

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I. Introduction

a. Purpose

Products management system allows users to manage their products, clients, and orders, also to manage categories and its products, to make the process of selling easier.

b. Scope

This system is a small clone of Point of sale systems, which will make the interact between sellers and clients easier, the features not included in this system is the stores management.

System user classes represented in LOGIN, PRODUCTS, ORDERS, CUSTOMERS.

System major features are adding new products, managing products, managing categories, managing customers, making new orders, managing orders, and finally managing access and system users (Sellers).

c. Definitions

Now we will describe the main terms and definitions of this system.

- **Bill:** An invoice or commercial document issued by the seller to the buyer, indicating the products, quantities and the agreed price of the products or services provided by the seller to the buyer. The invoice indicates that the buyer must pay the seller in accordance with the terms of payment.
- **Backup:** Information technology backup refers to copying and archiving computer information so that it can be restored in case the original information is lost or tampered with.

d. References

The main references used to build this system are:

- [C# Documentation.](#)
- [SQL and TSQL.](#)

e. Overview

Finally, this system organizes the process of sale something, and during reading the text in coming of this documentation you will have a big picture of all.

II. Overall Description

In this section we will describe main four items, product perspective that describes the business case and the operational concepts of the system, and how the system fits into the business context, also describes user interfaces both hardware and software. Also, we will describe major functions, capabilities, use case diagrams, also describing and justifying each user tech skills, finally taking about constraints that will limit developer options, system polices, target platform, system requirements, databases, network protocols, and development standard requirements.

a. Product Perspective

For our system it meets the basic criteria of a business case for pos, First **HELP YOU TO REDUCE COSTS AND INCREASE PROFITABILITY** mainly this feature is an important feature to help seller and business owner to reduce the cost of needing roles to write and managing the system on paper, also this increase the profitability of the business by the way of make the selling and storing process more easier and faster then decrease human errors and increase system analysis. Second **IMPROVE CUSTOMER EXPERICNE** this step in also important to make bills in an easy way for customers to make the process of order easier and show everything in detail for him, third is **FACILITATE BUSINESS GROWTH** by making the process faster.

This system fits wit the business needs by serves the main functions of POS Systems as Orders, Customer managing, and mainly Products management.

Finally, for using the Products management system no need for a specific hardware or software requirements, at any platform you can use it, at any hardware specifications.

b. Product Functions

Major functions for the products management system are adding new products, managing products, managing categories, managing customers, making new orders, managing orders, and finally managing access and system users (Sellers).

c. User Characteristics

In this part we will discuss and describe each user class tech skills, In our system we have only one user class which is LOGIN because our system is small and have a limit features which users can do, in LOGIN class users can login to system, adding new users, search for a specific user using any word, for ex: using its name, password, role, or full name, also this class allows to edit a user information, finally, deleting a user.

d. Constraints

Now let us talk about system constraints and starting with developers' options that will limit them from editing the system roles, and for policies this system do not have a big polices from users only to take care of databases and system features that use this databases, also this system do not need for any network protocols to work with, finally our system's development requirements are only to add feature that user will use to make the best benefit of the system.

III. Specific Requirements

In this section we will talk about the specific system functional and non-functional requirements in details, describing user interfaces, and for example performance requirements, design requirements, and quality requirements.

a. External Interfaces

This part describes in details all interfaces that system must interact with.

i. User Interface

Now we will describe using text and images, all system interfaces that user will use.

1. Main Page:

This page is the first screen that user will see when he/she opens the program, and this screen simply allows user to login, then to use each feature of the system, as backup, recovery, logout, managing products, and categories, and customers part, then orders, and bills, finally users section.

- Main Page Interface:



2. Login Form:

Login form allows user to type username, and password then click on login button to access to the system features.

- Login Form Interface:

3. Backup Form:

This form allows user to make backup from system database to save it in a safe place on PC, so when any thing happens for the system, owner can recover it again anytime.

- Backup Form Interface:

4. Recovery Form:

This form allows user to recover the backup file for the system.

- Recovery Form Interface:

5. Add Products Form:

In this form user can add new products to his store, user should choose product's category, product id, product name, product quantity, product price, and product image, then save it, product id should be unique and do not repeated. User can not choose an image and add it in any time by editing it.

- Add Products Form Interface:



إضافة منتج جديد

بيانات المنتج

صنف المنتج

رقم المنتج

وصف المنتج

الكمية المخزنة

ثمن المنتج

صورة المنتج

لا توجد صورة

اختار صورة

إلغاء حفظ

6. Managing Products Form:

In this form user can see all products and can search for any product, also can add new product, edit a specific product, remove product, see product image, can also print product, print all products, export all product to Excel File.

إدارة المنتجات
قم بإدخال الكلمة المراد البحث عنها:

قائمة المنتجات

رقم المنتج	وصف المنتج	الكمية المخزنة	سعر المنتج	الصف
ELC1656	كمبيوتر للألعاب	13	6000	الأجهزة الإلكترونية
FUR441	باب خشبي ملون	6	1400	الأثاث
M13	موبايل سامسونج	49	800	الهواتف
MO556	فيلم 2 مارس A quite Place ...	520	120	الأفلام
PH266	هاتف Realme 5	34	2550	الهواتف
PH555	هاتف Samsung Note 20 Ultra	3	25000	الهواتف
SCH41	Note book ملونة	15	8	أدوات مدرسية

تصدير الى ملف اكسيل

خروج

طباعة المنتج المحدد

طباعة كل المنتجات

تعديل بيانات المنتج

عرض صورة المنتج

إضافة منتج جديد

حذف المنتج المحدد

In this form user can see all categories in the system, edit them, remove ones, and add new categories, also print all categories, print a specific category with it's products, also can export category to PDF File, and all categories as PDF.

إدارة الأصناف
✕

<	اسم الصنف	رقم الصنف	>
	الأفلام	33	
	الأثاث	35	
	الأجهزة الإلكترونية	36	
	الهواتف	37	
	الملابس	39	
	ادوات مدرسية	41	
	ادوات تنظيف	44	

33
الأفلام

الإصناف

رقم الصنف

وصف الصنف

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7 / 1
>>
>

حذف

تصدير الصنف ومنتجاته الى ملف PDF

تعديل

تصدير الى ملف PDF

إضافة

طباعة الصنف الحالي ومنتجاته

جديد

طباعة كل الإصناف

8. Managing Customers Form:

In this form user can see all customer, add new customer, edit and delete ones, also can search for customer.

- Managing Customers Interface:

9. Add New Order Form:

In this form user can make new order for a certain customer with a date and description for the order, then adding all products which customer need, user can edit any product, price and quantity, can delete product and finally can print the last order as a bill to save or print it.

- Add New Order Interface:

إدارة المبيعات

بيانات العميل

رقم العميل

الاسم الاول

الاسم الاخير

رقم الهاتف

البريد الإلكتروني

بيانات الفاتورة

رقم الفاتورة

وصف الفاتورة

تاريخ البيع

9 September, 2020

اسم البائع

Tawfik Yasser

المنتجات

اختيار	رقم المنتج	اسم المنتج	سعر المنتج	الكمية	المبلغ	نسبة الخصم (%)	المبلغ بعد الخصم

المبلغ الإجمالي

خروج

طباعة اخر فاتورة

حفظ عملية البيع

عملية بيع جديدة

10. Order and Bills:

In this form user can see all orders and bills and can search for one, also can print any bill.

- Orders and Bills:

إدارة المبيعات والفواتير

قم بإدخال الكلمة المراد البحث عنها:

قائمة الفواتير

رقم الفاتورة	تاريخ الفاتورة	اسم العميل	وصف الفاتورة	اسم البائع
14	Sep-20 5:15 PM-05	احمد كمال حسن	فاتورة / احمد كمال مصنع ...	Tawfik Yasser
15	Sep-20 7:05 PM-08	احمد كمال حسن	فاتورة 15	Tawfik Yasser
16	Sep-20 7:39 PM-08	احمد كمال حسن	فاتورة 16	Tawfik Yasser
17	Sep-20 7:40 PM-08	احمد كمال حسن	فاتورة 17	Tawfik Yasser
18	Sep-20 7:42 PM-08	احمد كمال حسن	فاتورة 18	Tawfik Yasser
19	Sep-20 8:54 PM-08	احمد كمال حسن	فاتورة 19	Tawfik Yasser

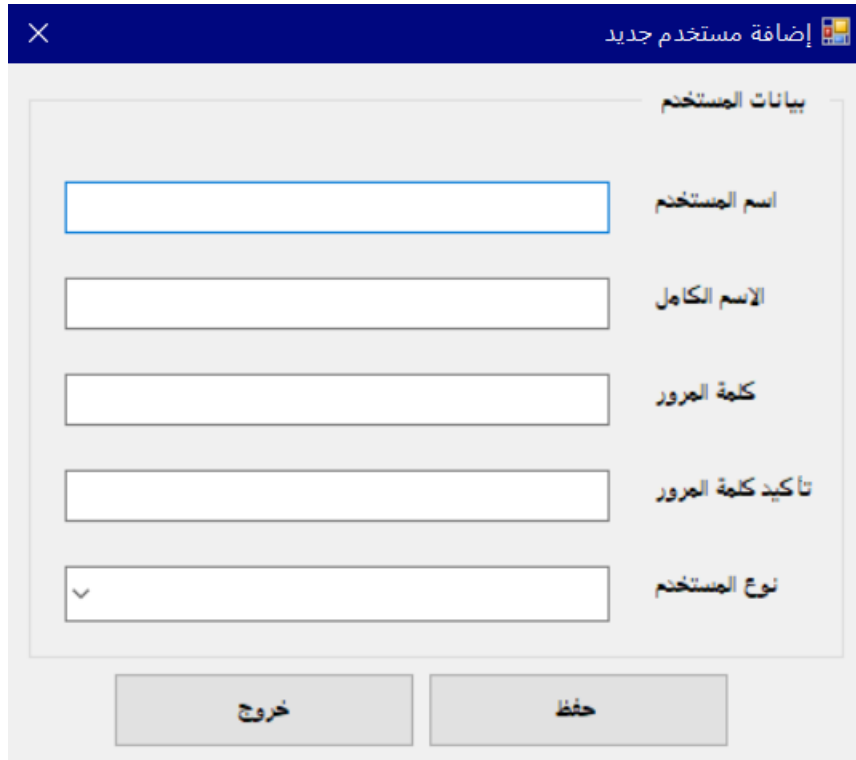
خروج

طباعة

11. Add Users Form:

In this form system owner can add new users to manage the system features, by typing username, full name, password, and choose user role.

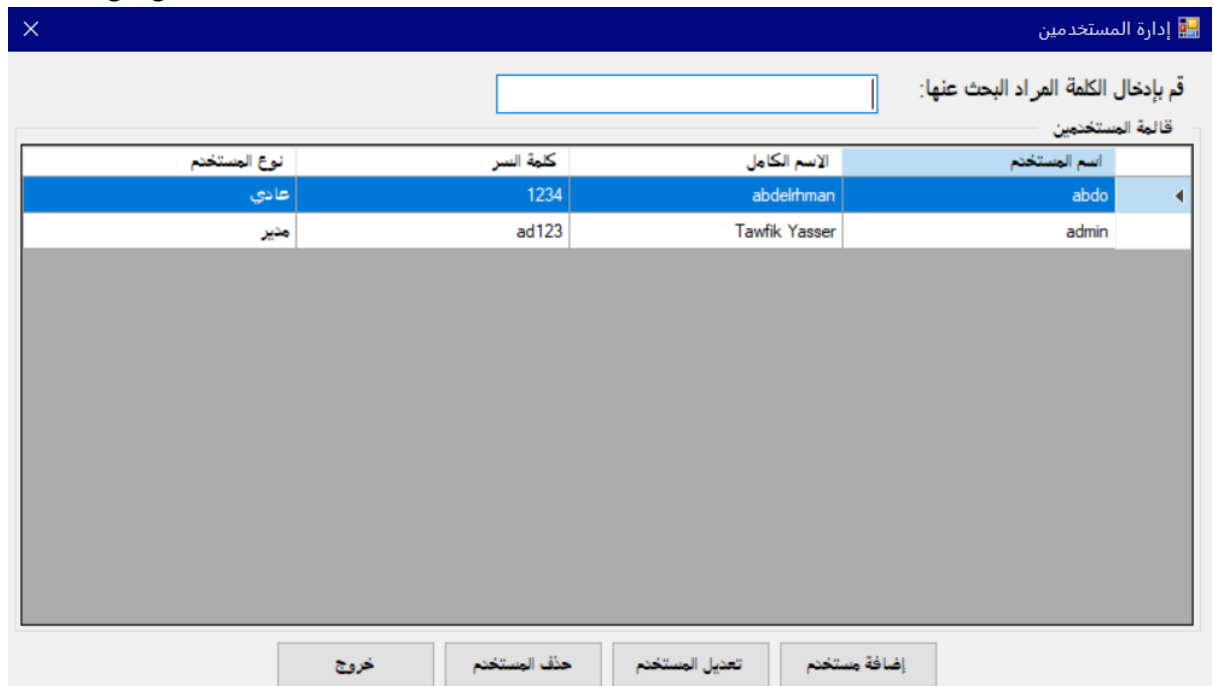
- Add Users Interface:



12. Managing Users Form:

This form allows system owner to add/edit/delete user also search for a user.

- Managing Users Interface:



اسم المستخدم	الاسم الكامل	كلمة السر	نوع المستخدم
abdo	abdelrhman	1234	عادي
admin	Tawfik Yasser	ad123	مدير

ii. Hardware Interface

In this system users only needs the minimum PC requirements.

b. Functional Requirements

Now we will talk about main system functional requirements, starting with that system allow to add products, managing them by edit and delete or print a specific product, or print all products, and also exporting them to excel file, the next feature is that system allow to managing store categories like add new/edit/remove, also managing system customers by add new customers, edit and delete ones, and system main feature is to make new order and save each bill and print it, finally managing system users. As we are talking about all this features above.

c. Non-Functional Requirements

Now we are reaching the talking about non-functional requirements, and we will discuss performance requirements, then design requirements, and finally with quality constraints.

i. Performance Requirements

Our system performance requirements represented in smooth and fast opening and closing forms of all functions, and the fast exporting and printing which calculated as 0.92 MS.

ii. Design Requirements

According to design requirements of software systems, our system should be simple and fast and we applied google design guidelines for design and we will update our system in future to be designed with Guan UI Framework as a new and good design tool for desktop applications.

iii. Quality Constraints

At the end of system non-functional requirements, we need a fast as we mentioned before, stable system, good design interfaces that make user experience better.

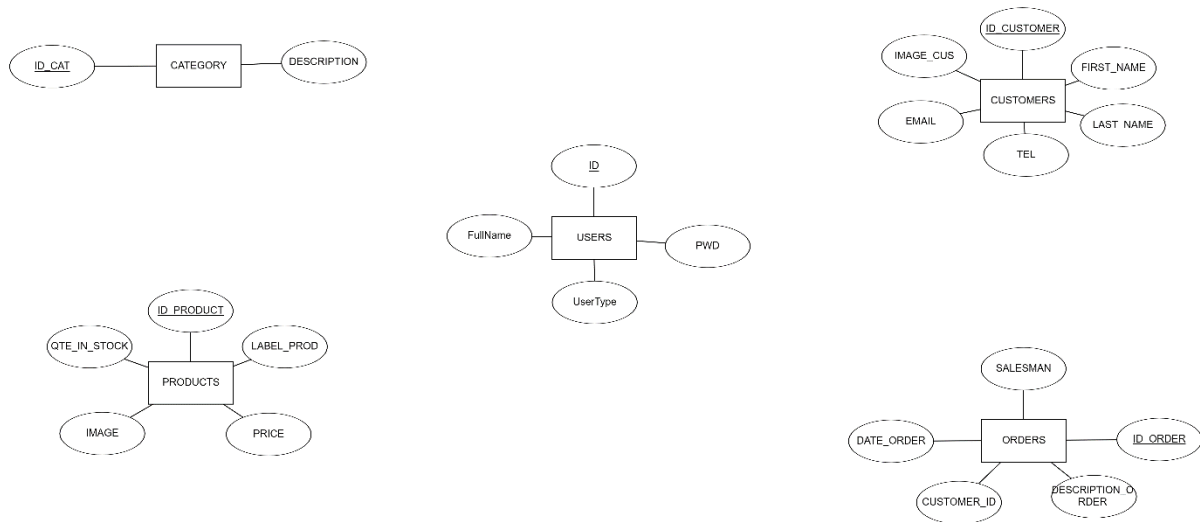
IV. Tools & Technologies

Now we will list all tools and technologies that we used in the system.

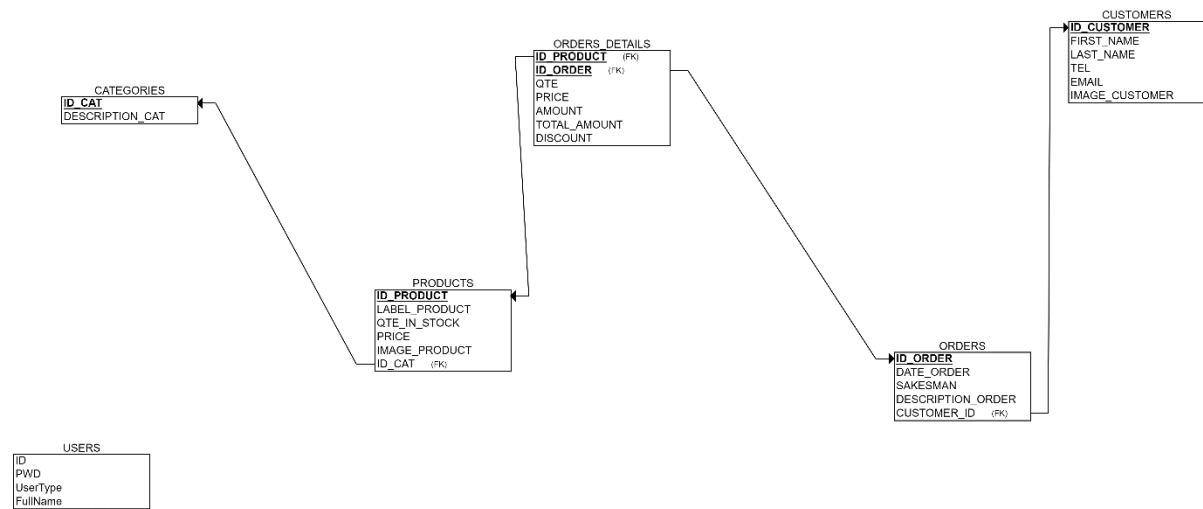
- Microsoft Visual Studio Community 2019 – Version 16.7.1
- Microsoft .Net Framework – Version 4.8.04084
- Microsoft SQL Server Management Studio – Version 18.6
- SAP Crystal Reports SP 28 – Version 13.0.4000.0
- ERD Plus database modelling – Version 2.0

V. Database

a. ER Diagram



b. Relational Schema



This is the first version at Wed, 9 Sep. 2020 (Will Updated)