Republic of Iraq
Ministry of higher Education and scientific Research
University of AL-Qadisiyah
College of computer science and Information Technology
Multimedia department

SALES MANAGEMENT SYSTEM

For supermarket

A project present to multimedia dep. College of science as a partial fulfillment of requirement for the degree of B.S.c in computer science.

BY
MUSTAFA MOHAMAD ABID-ALZAHRAA
MOHAMMAD BAQIR HUSSAIN HASSEN
FATIMA MAHDI SALIH
HAMZA FLIEH HASSEN
SUPERVISED BY
M.s.c. Alaa Abid Muslam

هـ 1440   *م 2019*

شكر وتقدير

لابد لنا ونحن نخطو خطواتنا الأخيرة في الحياة الجامعية من وقفة نعود إلى أعوام قضيناها في رحاب الجامعة مع أساتذتنا الكرام الذين قدموا لنا الكثير باذلين بذلك جهودا كبيره في بناء جيل الغد وقبل أن نمضي نتقدم بأسمى آيات الشكر والامتنان والتقدير والمحبة إلى الذين حملوا

أقدس رسالة في الحياة إلى الذين مهدوا لنا طريق العلم والمعرفة إلى جميع أساتذتنا الأفاضل.

بسم الله الرحمن الرحيم

﴿قالوا سبحانك لا علم لنا الا ما علمتنا انك انت

العليم الحكيم﴾

صدق الله العلي العظيم

سوره البقرة الآية (32)

Abstract

Sales management is a key function which helps small and medium size enterprises in monitoring and tracking stock and coordinating transaction processing. The efficiency of sales management dependents on effective tools and facilities, especially modern information and communication technologies. Despite this, majority of businesses in developing countries, especially those in remote areas do not take full advantage of these technologies due to challenges related to the design of these technologies. This paper presents the design and development of a tailor-made computerized sales management system for supermarket. the project using C# (programming language) and SQL server(database) .

Chapter One

review

1.1 INTRODUCTION

In daily life, a layman deals with different transaction in terms of selling and purchasing of goods and services. In these transactions the second one persuades the first person. Therefore, selling may be defined as persuading people to satisfy the want of first one. The person, who does this act, is called as the salesman, the result of this action as sales, while these activities of the person, are supervised and controlled by sales-management. In the present scenario sales executives are professionals. They plan, build and maintain effective organizations and design and utilize efficient control procedures. The professionals approach requires thorough analysis, market-efficient qualitative and quantitative personal-selling strategy. It calls for skillful application of organizational principles to the conduct of sales operations. In addition, the professional approach demands the ability to install, operate, and use control procedures appropriate to the firm's situation and its objectives. Executives capable of applying the professional approach to sales management are in high demand today. The quality of selling is referred to as salesmanship. In other words, 'management' is synonymous with leadership. Managers do the same thing in industry, as ministers do in states and at the centre, i.e., they have to plan, forecast, direct and control their personnel. Here success lies in running together, hand in hand. Managers are the captains of the army of their followers.

1.2 What is Sales Management?

Sales management is the process of developing a sales force , coordinating sales operations, and implementing sales techniques that allow a business to consistently hit , and even surpass , its sales targets .

If your business brings in any revenue at all, a sales management strategy is an absolute must. When it comes to boosting sales performance for any size of operation, no matter the industry, the secret to success is always precise sales management processes.

Besides helping your company reach its sales objectives, the sales management process allows you to stay in tune with your industry as it grows,

and can be the difference between surviving and flourishing in an increasingly competitive marketplace.

1.3 Main functional responsibilities in sales management (for marketing) [1] :

- Achieving sales volume requirements

- Achieving distribution objectives

- Product display/merchandising

- Call (outlet) coverage.

- Sales force recruitment.

- Sales force training.

- Provision of feedback to sales force:

– bulletins

– conferences

– personal contact

- Trade terms:

– financial terms of trade

– warranties and sale conditions

– order size and delivery

- Performance measurement:

– sales volumes/values

– call coverage

– distribution

– display achievements

- Brand management (including profitability) .

- Market research .

- Product performance and market share analysis.

- Brand publicity including public relations, sponsorship, etc.

- Advertising and promotion.

1.4 Sales manager qualities:

The sales manager or sales director This is the person who is head of the sales organization, by whatever title. Frequently he will either sit on the company board or executive committee, or, at least, report directly to it. In some companies the sales manager comes within a combined sales and marketing department, possibly reporting to a marketing director or commercial director. Here we are less concerned with titles than with job functions [1]. He should be:

- a good organizer and administrator, able to plan, implement and monitor sales activity.
- a good communicator, with colleagues, subordinates, customers and trade contacts at all levels .
- decisive, thereby inspiring colleagues and subordinates with a sense of leadership, direction and confidence.
- fair, objective and impartial in allocating objectives and dealing with business and personnel issues .
- a team leader, with that intangible leadership quality that inspires others to follow and take direction, with initiative to identify and take advantage of opportunities, and not given to panic in times of adversity but cool-headed in working towards corrective action.

1.5   The Three Key Aspects of Sales Management:

There are three " umbrellas " to manage within the sales process:

• Sales Operations

• Sales Strategy

• Sales Analysis

1.5.1 Sales Operations: Building the Team

 This may not be a total shocker, but the sales team is the backbone of the company; they are the direct connection between the product and the customer.

1.5.2 Sales Strategy: Defining the Sales Process

Once you have a team and know your targets, you might be wondering: How do you actually carry out the sales?

Every business has a sales cycle, which is a series of tasks that helps a company's product reach its users. Therefore, having a sales pipeline, or sales funnel, will make that easier to maneuver these deals to completion.

▪ identifying and servicing trade customers or product users

▪ market coverage objectives

▪ sales volume/value objectives (to meet marketing objectives)[1]

What is a sales pipeline?

A sales pipeline is a visualization of the sales process of company .

Sales process engineering is the engineering of better sales processes. It is intended to design better ways of selling, making salespeople's efforts more productive. It has been described as "the systematic application of scientific and mathematical principles to achieve the practical goals of a particular

sales process".[4] sales referred to the output of a process involving a variety of functions across an organization, and not that of a "sales department" alone.

Primary areas of application span functions including sales, marketing, and customer service. [4]

Also known as "sales funnel engineering" and "sales pipeline engineering

1.5.3 Sales Analysis: Reporting

Reporting is what allows you to understand how your current efforts affect your company's success and gives you insight into what you can do to increase your efforts whether it's hiring more salespeople or redistributing tasks.

Successful reporting involves using sales metrics, or quantifiable indicators, that tell you how each aspect of your sales operations is performing and whether you are achieving your targets.

With the standard sales funnel, you should be able to measure the following four metrics:

1. Number of deals in your funnel.

2. Average size of a deal in your funnel.

3. Close ratio, or average percentage of deals that get won.

4. Sales velocity, or average deal lifetime before it is won.

Collecting data will allow you to find your ideal customer quicker and, as a result, serve them faster. A CRM tool, which you'll learn more about in the section on technology below, will help you streamline your sales management process.

1.6 Use Technology Tools to Manage Customer Relationships (CRM)

To provide a clear view of your sales management process, you need a well-managed sales funnel.

A sales funnel provides a clear view of the opportunities available to a sales team, accurately showing the revenue the team is going to make in the months ahead.

While some people initially opt for excel spreadsheets and sticky notes, any documentation is a great start, a CRM, or customer relationship management, tool will allow you to get an overview of your current assets and pinpoint key determinants of your company's future success.

Incorporating technology in your sales strategy will ensure you maximize profits and ensure that no deal falls through the cracks.

Cloud-based CRMs in particular are great for helping your team increase its collaboration. There are tons of popular CRMs out there, but choosing a CRM is challenging.

Because there are so many options, before purchasing any CRM tool you would need to answer the following questions to make the most suitable choice for your unique team:

- Is it easy to learn and use?

- How can I customize it to fit my needs?

- Are there cross-platform integrations?

- Will it notify me when I need to take action?

- Does it offer accurate sales reporting?

- Is it mobile friendly? Can I access it from anywhere?

1.7   Customer Relationship Management (CRM)

Customer relationship management (CRM) is a term for methodologies, technologies and e-commerce capabilities used by firms to manage customer relationships.6 In particular, CRM software packages aid the interaction between customer and company, enabling the firm to co- ordinate all its communications so that the customer is presented with a unified message and image. CRM vendors offer a range of IT based services including

call centres , data analysis services and website management. One basic principle behind CRM is that company personnel should have a 'single customer view' of each client[2]. As customers are now using multiple channels more frequently, they may buy one product from a salesperson and another from a website. Indeed, a website may provide product information which is used to buy the product from a distributor. Interactions between customer and company may take place through a combination of some, or even all, of the following: direct salesforce, call centres, websites, email and fax services or distributors. Therefor   it is crucial that no matter how a customer contacts a company, front-line staff have instant access to the same data about the customer, such as their details as well as pastpurchases.

This usually means consolidation of the many databases held by individual company departments into one centralised database that can be accessed by all relevant staff on a computer screen.

Although the term CRM is relatively new, the ideas and principles behind it are not. Businesses have long practised some form of customer relationship management. What sets present-day CRM apart is that companies now have an increased opportunity to use technology and manage one-to-one relationships with huge numbers of consumers. This is facilitated by companies such as Seibel (www.seibel.com), SNT (www.snt.com), and Salesforce (www.salesforce.com), which provide specialist consultancy services. In practice, CRM projects have not always achieved their objectives. It is therefore important to take note of the following factors, which research has shown to be related to successful implementation [3] .

- ✓ having a customer orientation and organising the CRM system around customers;
- ✓ taking a single view of customers across departments and designing an integrated system so that all customer-facing staff can draw information from a common database.
- ✓ having the ability to manage cultural change issues that arise as a result of system development and implementation.

✓ involving users in the CRM design process.

✓ designing the system in such a way that it can readily be changed to meet future requirements.

✓ having a board-level champion of the CRM project, and commitment within each of the affected departments to the benefits of taking a single view of the customer and the need for common strategies – for example, prioritizing resources on profitable customers.

✓ creating 'quick wins' to provide positive feedback on the project programs.

✓ ensuring face-to-face contact (rather than by paper or email) between marketing and IT staff'.

✓ piloting the new system before full launch.

1.7.1 We'll be creating a simple CRM system for salespeople to:

• Access their tasks

• View their leads

• Create new tasks for each lead

• Create new opportunity

• Close a sale

Sales managers will be able to:

• Manage all customers

• Manage sales team

• View current sales activities

1.7.2 Building Blocks of a CRM

- **Leads** : initial contacts .
- **Accounts**: Information about the companies you do business with.
- **Contact**: Information about the people you know and work with. Usually, one account has many contacts
- **Opportunities**: Qualified leads.
- **Activities:** Tasks, meetings, phone calls, emails and any other activities that allow you to interact with customers.
- **Sales**: your sales team.
- **Dashboard**: CRM dashboards are much more than just eye candy. They should deliver key information at a glance and provide links to drill down for more details.
- **Login**: Salespeople and managers have different roles in the system. Managers have access

Chapter Two

Programming languages

2.1 INTRODUCTION

The definition of sales management software refers to systems that enable sales managers to gain increased insight into key performance indicators across their organization. Sales management software might enable managers to see, in real time, which reps are on pace to meet goals. Sales management systems might also track key call metrics like average hold time and calls-per-day-by-rep so that managers can optimize their sales process for maximum revenue generation. While some sales management software solutions are stand-alone, other sales management solutions integrate with Salesforce and other systems of record, providing additional dashboards and enhanced reporting capabilities.

SYSTEMS REQUIRMENT

- **SQL SERVER**
- **VISUAL STUDIO**
- **MERISE**

2.2 SQL SERVER:

2.2.1 A little background on SQL- Structured Query Language

SQL(Structured Query Language)[7]is a domain-specific language used in programming and designed for managing data held in a relational database management system (RDBMS), or for stream processing in a relational data stream management system (RDSMS). It is particularly useful in handling structured data where there are relations between different entities/variables of the data. Is the primary method for manipulating data in relational database. [5] In SQL a basic query conforms to the structures[6]:

SELECT attribute_list

FROM relation_list

WHERE   predicate

Simply, SQL or Structured Query Language is a 4th generation language which is used by humans to interact with databases. simply, a database is a

software application that is used to store data in the form of rows and columns in a table and a database may consist of several tables. SQL is the language used by software professionals to manage the data in a database.

2.2.2 And now we shall see how SQL can be used in marketing...

Let's take an example of a company that sells some products :

1) Before it will invest in a new product, it will, quite probably, want to conduct some market research to gauge demand for the product. That might consist of questionnaire-based surveys, focus group discussions, online/social media data etc. In essence, after market research is conducted, data will be collected and fed into a database.

2) This data is processed and analyzed. If results are favourable, the company will go ahead with the production and sales of the product. Periodically (say every quarter or so), sales data is collected, fed into a database and analyzed. Consumption patterns, seasonal variations in demand etc. are identified and marketing strategies are planned/changed accordingly.

3) Advertisements for the product are aired on TV, pasted on billboards and plastered across town on posters. However, the company will want to stick posters in places where the target consumer group is present in larger numbers. This helps to save costs on posters. How is this target consumer group identified? By analyzing the consumer data in their database.

2.3 MicrosoftVisual studio

2.3.1 Little background on Microsoft visual studio

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps[9]. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code[8].

Visual Studio supports 36 different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C, C++, C++/CLI, Visual Basic .NET, C#, F#,[10]JavaScript, TypeScript, XML, XSLT, HTML, and CSS. Support for other languages such as Python,Ruby, Node.js, and M among others is available via plug-ins. Java (and J#) were supported in the past. [11] in our project we will use C# ;

2.3.2 A brief overview of C# :

C# (pronounced C sharp) is a general-purpose, multi-paradigm programming language encompassing strong typing, lexically scoped, imperative, declarative, functional, generic, object-oriented (class-based), and component-oriented programming disciplines. [14] It was developed around 2000 by Microsoft within its .NET initiative and later approved as a standard by Ecma (ECMA-334) and ISO (ISO/IEC 23270:2018). C# is one of the programming languages designed for the Common Language Infrastructure.

The ECMA standard lists these design goals for C#: [14]

- The language is intended to be a simple, modern, general-purpose, object-oriented programming language.
- The language, and implementations thereof, should provide support for software engineering principles such as strong type checking, array bounds checking, detection of attempts to use uninitialized variables, and automatic garbage collection. Software robustness, durability, and programmer productivity are important.
- The language is intended for use in developing software components suitable for deployment in distributed environments.
- Portability is very important for source code and programmers, especially those already familiar with C and C++.
- Support for internationalization is very important.
- C# is intended to be suitable for writing applications for both hosted and embedded systems, ranging from the very large that use

- sophisticated operating systems, down to the very small having dedicated functions.
- ▪ Although C# applications are intended to be economical with regard to memory and processing power requirements, the language was not intended to compete directly on performance and size with C or assembly language.

2.4 Merise

2.4.1 Little background on Merise:

Merise is a general-purpose modeling methodology in the field of information systems development, software engineering and project management. First introduced in the early 1980s, it was widely used inFrance, and was developed and refined to the point where most large French governmental, commercial and industrial organizations had adopted it as their standard methodology. [13]

2.4.2 how can we use it?

Merise [14] proceeds to separate treatment of data and processes, where the data-oriented view is modelled in three stages, from conceptual, logical through to physical. Similarly, the process oriented view passes through the three stages of conceptual, organizational and operation. These stages in the modelling process are paralleled by the stages of the life cycle: strategic planning, preliminary study, detailed study, development, implementation and maintenance. It is a method of analysis based on the entity-relationship model. By using Merise, you can design tables with relations to make a relational database.

Chapter Three

Practical & Results

3.1 Project Diagram

```
                                    user interface
          ┌──────────────────────────────┼──────────────────────────────┐
       products                       customers                         user
    ┌──────┼──────┐         ┌──────┬──────┼──────┐              ┌──────┴──────┐
add product  product  categories  add customer  customer  add new sales  sales    add new user  user
          management  management              management            managemen             management
```
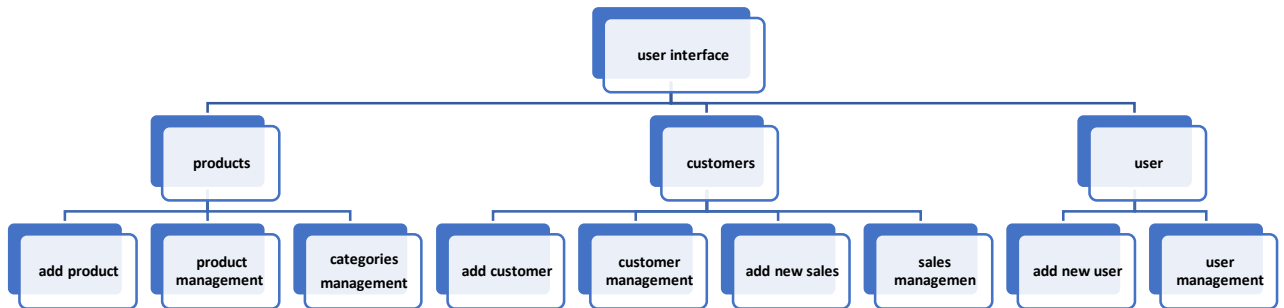
3.2 Project parts

3.2.1 User Interface:

It is the first frame that facing the users, this part has all frames and lists that the user need to deal with.
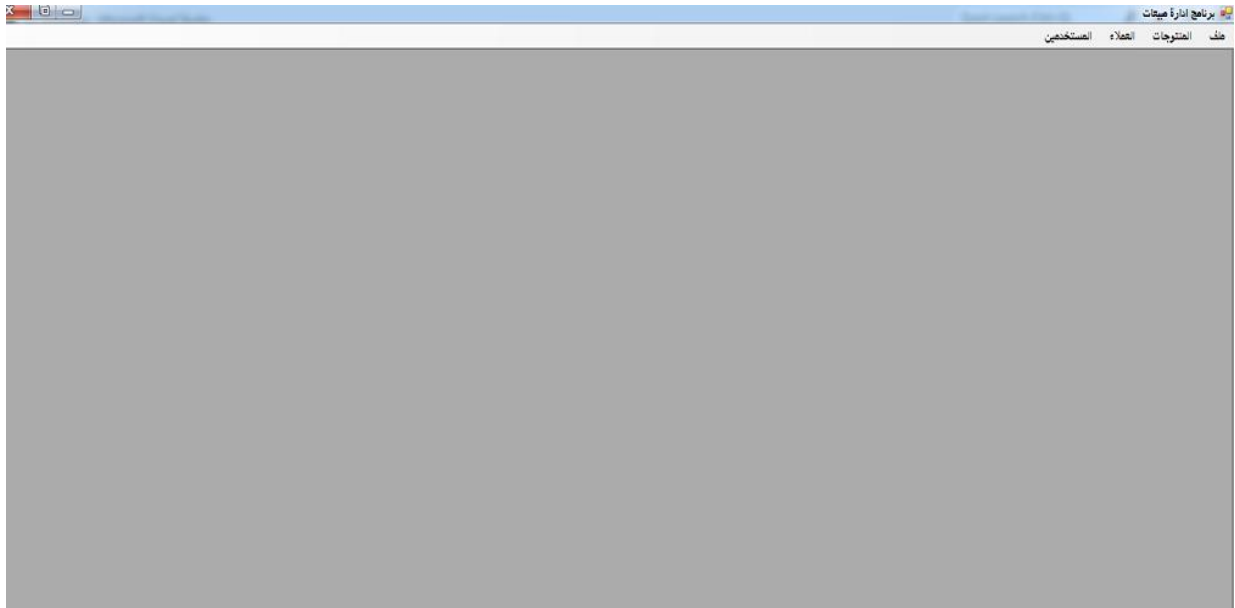
Figure (1):user interface frame

Step1: First start with login frame which ask the user to enter his username and password to allow only authorized people to perform operations.

Figure (2): login frame

Step2: To add new product click on products then from the list choose add new product anew frame will appear contain an information about the product you need to enter it to add the product you can add the product picture to appear or let it to default picture (cross mark).

Figure (3): add new product frame

Step3: if you want to preview or make changes on the products stored in the database click on products then from the List choose management products a different operation allowed to perform in this frame.

Figure (4): management products frame

Step4: if you want to preview or make changes on the categories of products stored in the database click on products then from the List choose management categories and choose any operation of this frame to do.

Figure (5): management categories frame

Step5: to add and preview customer's information click on customers then from the List choose management customers then some operation the user can do, also you can add a picture for the customer or skipped this process.

Figure (6):management customers frame

Step6: to do a sale operation and calculate the price for each product sales click on customers then from the List choose

add new sales, this frame contains both of customer information and fees details.

Figure (7): add new sale frame

Step7: to add new user click on users menu then from the List choose
add new user some information is needed to inter.

after inter all of these information below anew user added and have

permission to access to all or some frames according to his type.

Figure (8): add new user frame

Step8: only the administrator can access to user menu and user frames

So he is the only one he has the ability to access to whole data where the

Other users have a limited access in this frame the admin can add, delete

And modify user's information.

Figure (9): users management frame

Step9: backup frame from file menu list, this frame save a copy

or a backup file of the program contain all information of the program

to get it again when ever want.

Figure (10): Backup frame

Step10: this frame gives the user the ability to restore a backup file

That created before it is very useful when a mistake occurred and some

Data deleted from the database so just restore the backup file to get back

Your information.

Figure (11): Restore Backup frame

Step11: this frame provides multiple connection option, use this frame

When the program is operating in another computer or the user want

To change the sever path or connection type.

Figure (12): Server Connection frame

3.2.2 Programming C#

Write the code that is placed inside the C#, which controls all the tools related to it according to the data that receive from interface program and database to send the appropriate commands.

3.2.3 Programming Sql Server

In Sql Server write all tables and procedures that related to C# commands and use it to stored information that the user enter

From interface program also send back some information when the user ask for it to perform a specified tasks.

Chapter Four

Conclusion &
REFRENCES

Conclusion:

The small and medium-sized supermarket management system is use sql database and C# language to develop and realize. Procurement and inventory management has always been an essential part of the supermarket. In order to save money, there still has a lot of small and medium-sized supermarkets uses the way of human purchasing which is waste time, poor secrecy and low efficiency. These disadvantages will lead to small and medium-sized supermarkets managers faces the difficulties of related documents, query and maintain the data for supermarket. Supermarket management system realizes the function of procurement management, inventory management, sales management, staff management and membership management that supermarket needed. With the continuous improvement of science and technology, the computer's powerful function has been known and used. Compared with the old manual work, the system not only reduces the workload, but also greatly reduced the occurrence of human error. System can realize the function of the service management informatization so that the staff can observe the conditions of goods inventory and sales at any time. The system also has the advantage of the interface aesthetics, simple operation, convenient query and data storage security, etc. It can gradually improve staff quality and strengthen the management level of the supermarket through the use of the supermarket management system. The system maintenance is convenient, reliable and has higher security and meet the requirements of practicality.

REFRENCES

1) Chris J. Noonan ,'' Sales Management'' ,Butterworth-Heinemann,[1997]

2) Dempsey J. ,'An elusive goal leads to confusion ', Financial Times Information Technology Supplement, 17 October [2001], p. 4.

3) Wilson, H. , Daniel , E. and McDonald , ' Factors for success in customer relationship management systems ', Journal of Marketing Management ,[2002]

4) Selden 1997, p. 23.

5) Nelson F.F Ebecken , Claudio LUIZ Cartto , implementing data mining algorithms

6) Mark A.Roth Henry F.Korth and Dons,'' AQERY language for NF relational databases'' , Batory ,[1984]

7) structure Query language(SQL) :msdn.microsoft.com retrieved [2017]

8) Lextrait, Vincent , "The Programming Languages Beacon, v10.0" ,[2010]

9) "Visual Studio 2017 Release Notes" .

10) http://research.microsoft.com/enus/um/cambridge/projects/fsharp/

11) "Best Python IDE For Python Programming" . Pythonic Quest. 13 January 2017. Retrieved 17 January 2017.

12) D. Avison, "MERISE: A European Methodology for Developing Information Systems", Journal of Information Systems, [1991], p. 183-191

13) Jeralgene S. Macabinta: Study of Information Systems, [2008]

14) "C# language specification".Ecma international. June 2006. Retrieved January 26/2012.

جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة القادسية
كلية علوم الحاسوب وتكنولوجيا المعلومات
قسم الوسائط المتعددة

نظام إدارة المبيعات

للأسواق

مشروع مقدم لقسم الوسائط المتعددة. كلية علوم الحاسوب
لنيل شهادة البكالوريوس في علوم الحاسوب

اعداد

مصطفى محمد عبد الزهراء
محمد باقر حسين حسن
حمزة فليح حسن
فاطمة مهدي صالح

بأشراف
الأستاذ المساعد الاء عبد مسلم

هـ 1440   *م 2019*