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Department of Business & Technology Management

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**Submitted To**

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## Introduction

There are some organizations that I visit often. One of them is Meena Bazar. It's a super-shop and I go there to buy different items. Thus, I have converged some ideas regarding different departments of Meena Bazar and their systems.

The concept of system analysis and design helps in development of structures that aid in business information system and design to meet the needs of the organizations. In this regard, each organization possesses information system tailor made to suit its operations. While organizations may be offering same services such as banks, their information systems and design are different in a broad perspective.

The current essay will examine both computer-based systems and traditional manual systems used by Meena Bazar to process transactions, provide information to managers and executives, help managers and executives make decisions, capture knowledge, and provide expertise, analyze customers' feedback, help design products and/or facilities, and assist people in communicating with each other. Also, there will be discussion regarding the relation between those systems and their integration. Analyzing the existing systems, we will determine whether Meena Bazar needs new system or system enhancement or not. Hence, according to the requirements of Meena Bazar, we will plan, analyze, design, develop and implement our project.

### About Meena Bazar

In 2001 one of the biggest retail shops in Bangladesh was established by Gemcon Group under the name of Meena Bazar. It was the first to break into modern retail store as a pioneer in Bangladesh who puts the customers as its guest. Meena Bazar has 15 years thrived to bring the best to its customers: quality, freshness, choice, price and service. This has been the most dramatic shift in Meena Bazar's interest as it represented a diversification from its main competencies power and industrial sector. It has in total 18 outlets in Dhaka and Chittagong.

Meena Bazar has in total 18 outlets in Dhaka and Chittagong. Meena Bazar outlets are carrying almost 8,000-10,000 products for sale & providing convenient shopping experience, easy parking and friendly customer service for its customers. Meena Bazar is a concern of Gemcon Group, producing organic products, dairy items, prepared food & herbal products. Meena Bazar is not only catering such items to its shoppers, but also educating them about their benefits. In order to offer the best possible price to its valuable customers, Meena Bazar procure their produce items directly from the farmers, cutting the middlemen, while ensuring highest quality, freshness and continuous availability. Meena Bazar is also known as one of the trustworthy food suppliers of the nation, hence it is committed to deliver its' best of the very best by expanding its sphere all over Bangladesh.



*Figure 1: Type of Platforms Meena Bazar Operates*

MeenaClick is a cornerstone of Bangladesh’s thriving e-commerce sector, building upon the capabilities and reputation of Meena Bazar, one of the largest retail chains in the country. With a diverse range of product offerings, a committed 2-hour home delivery service, cashless payment facilities, 8 favourable delivery slots, send products as a gift option, dedicated 365 days’ call center operations and the best support from delivery partners, MeenaClick is prioritizing customer needs and assuring the indisputable quality of service. In addition, Meena Bazar is following Omni Channel Marketing strategy.

One of the advantages Meena Bazar has over other competitors is the category department which is basically does the supply chain works and also all the non-food works. They maintain the quality control extremely.

### **Different Stakeholders**

Stakeholders of Meena Bazar can be classified into

- System Owners
- System Users
- System Designers and Builders

**System Owners:**



*Figure 2: Gemcon Group*

Gemcon group is the founder and owner of Meena Bazar. At present, Shaheen Khan is the CEO of Meena Bazar. Our proposed system will be evaluated by IT department of Meena Bazar. Leemon Chandra is the head of IT department of Meena Bazar.

**System Users:** According to our analysis, there are two types of users in Meena Bazar.

1. Internal Users: System Administration, Mid-Level managers, Executive Managers, and IT officer

2. External Users: External users of Meena Bazar can be segmented into

- i. Customers
- ii. Salesperson
- iii. Suppliers: Unilever, Square, Reckit, Benkizer, Kahinur, Kya, Nestle, Janata Foods and contracts with agricultural firms
- iv. Partners: Meena Bazar has payment partners such as Bkash, Nagad, and Card payment gateway company-SSL Commerz.

The Company has partnerships with different banks like Eastern Bank Ltd. Eastern Bank Ltd has launched Meena Bazar Co- Branded Visa Credit Card.



*Figure 3: Meena Bazar Co- Branded Visa Credit Card*

Moreover, Meena Bazar has partnership with the Google's job matching platform, **Kormo**. Meena Bazar recruits their employees through this platform.

**System Designers and Builders:** Our proposed system will be designed and developed by a System Analyst- **Alvi Rahman** and a Business Analyst-**Md. Zubayer Ojhor** according to the requirement of the Meena Bazar.

### **Business Functions: Different departments of Meena Bazar**

There are different departments of Meena Bazar such as:

- Accounting
- Marketing
- HR
- Top Administration
- Quality Management

- Supply Chain Management
- Sales and Operations
- Customer Service
- IT

## Organogram

The hierarchy of Meena Bazar will give an overview of responsible entities for any decision making and planning progress.



*Figure 4: Organogram of Meena Bazar*

## Business Process of Meena Bazaar

Meena Bazar has three main business processes.

- Operating Process: Taking orders from customers, providing the products to the customers, managing suppliers etc.
- Managing Process: Managing the employees. CEO, top-level management of Meena Bazar are involved in managing processes.
- Supporting Process: Hiring new employee, developing new system to fast growth.

## Different Systems at Meena Bazar

Meena Bazar uses computer-based system to facilitate communication and data management across the different physical outlets and online store. Some of these computer-based systems includes:

### Transaction Processing Systems:

- **Point of Sale System:** This is mainly used by sales and operations department that records day to day transactions such as bills and sales. Output of this system used as input to the management information system.
- **Payroll TPS:** Payroll TPS is generally used by managers to process employee payment transaction data. System outputs include online and hard-copy reports for management and employee paychecks.
- **General Ledger System:** Accounting department of Meena Bazar uses general ledger system.

### Supply Chain Management System:

Meena Bazar use supply chain management (SCM) systems to help manage relationships with their suppliers. These systems help suppliers, purchasing firms, distributors, and logistics companies share information about orders, production, inventory levels, and delivery of products and services so that they can source, produce, and deliver goods and services efficiently.

Meena Bazar usually does not produce any product, but they collect from the best supplier and then refine those for the end users. The SCM of Meena Bazar is warehouse based and it is very flexible in a sense that there is no intermediary process in between warehouse of Meena Bazar and the manufacturing company. At first Meena Bazar collect the products from the company; transportation cost is taken care of the manufacturing company. After storing all the products Meena Bazar distribute those in 18 outlets. Meena Bazar has contract with some agricultural firms like poultry, vegetables, mushroom, hatchery, dairy firms and they supply to Meena Bazar time to time.



*Figure 5: SCM of Agricultural products*

Meena Bazar has contracted with manufacturing company like Unilever, Square, Reckit Benkizer, Kohinur, Keya, etc. for the consumer goods. They directly deliver the items to Meena Bazar. Sometimes Meena Bazar directly imports products from abroad. In this case there is no intermediary, Meena Bazar contacts with the foreign manufacturer and imports directly from abroad.



*Figure 6: SCM of Consumer Products*

The whole supply chain management process is both computer-based and manual. For example, when products finally come to Meena Baazar's warehouse, the company uses inventory management system to keep track of their inventory.

**Customer Relationship Management Systems:** Meena Bazar has call center, feedback system for customers to improve the relationship with customers. This system is computer-based.

**Management Information System:** Administration department uses management information system (MIS) to manage customer data as well as the internal company information. This is critical for information management both for internal and external use. It provides guidelines for tactical managers to make semi structured decisions.

**Enterprise Resource Planning:** Meena Bazar uses ERP software for the overall integration of the systems.

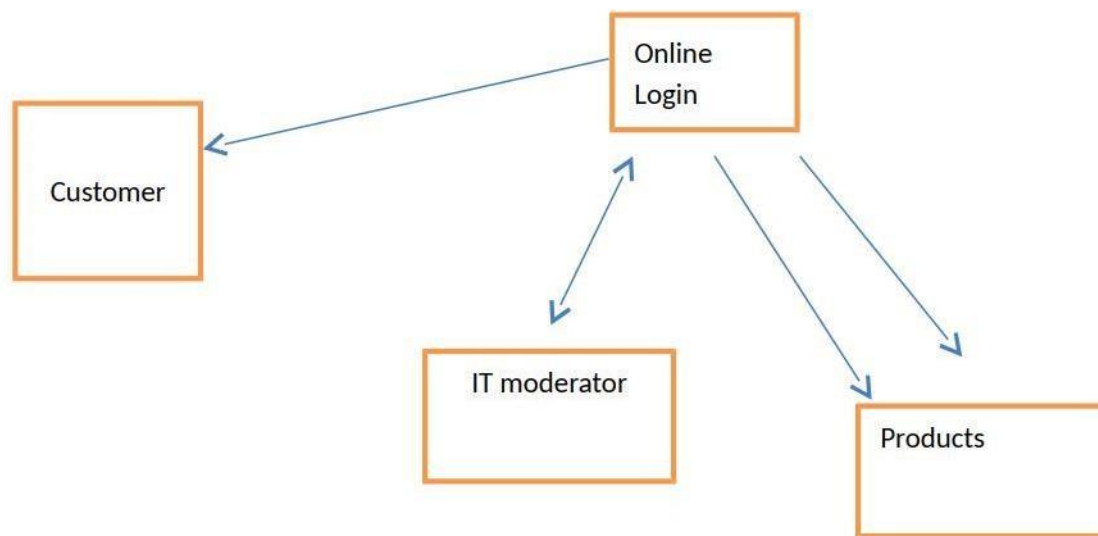


**Traditional Manual System:** Meena Bazar procure their agricultural items directly from the farmers, cutting down the middlemen; there is a possibility that they might not have any computer-based system in this regard. Traditional Manual system could be used here.

### Interaction between different systems of Meena Bazar

#### The use case diagram model of MeenaClick:

A use case diagram can be designed to show the user's possible interaction with the system. The use case model demonstrates how a system works. It denotes how various individuals and units in the organization interact in the process of providing professional services.



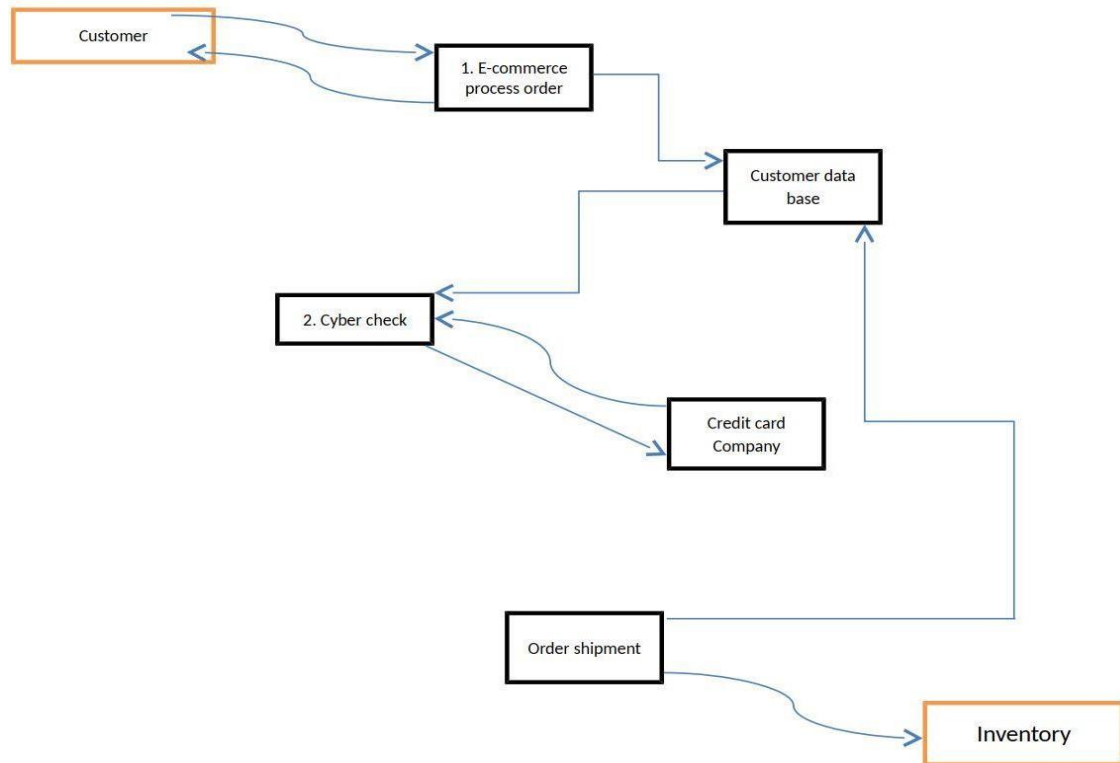
*Figure 7: Use case Diagram of MeenaClick*

MeenaClick enables communication process from the Customer to the respective online registration platform from which the customers can access information about company goods and services. The IT moderator is in check to monitor the system behavior and help the customer access appropriate information in the event they experience any difficult operation.

#### The Simple Process Diagram of MeenaClick:

Data flow diagram is essential in creating an outline on how the transactions in a company are performed. It shows how data is processed in a given system of a company in terms of input and output. From the diagram model below, the data fed in the e-commerce site, MeenaClick, is processed and the final information is cleared from the system and the products released to the customer. The decision is reached upon a stream of conversion between

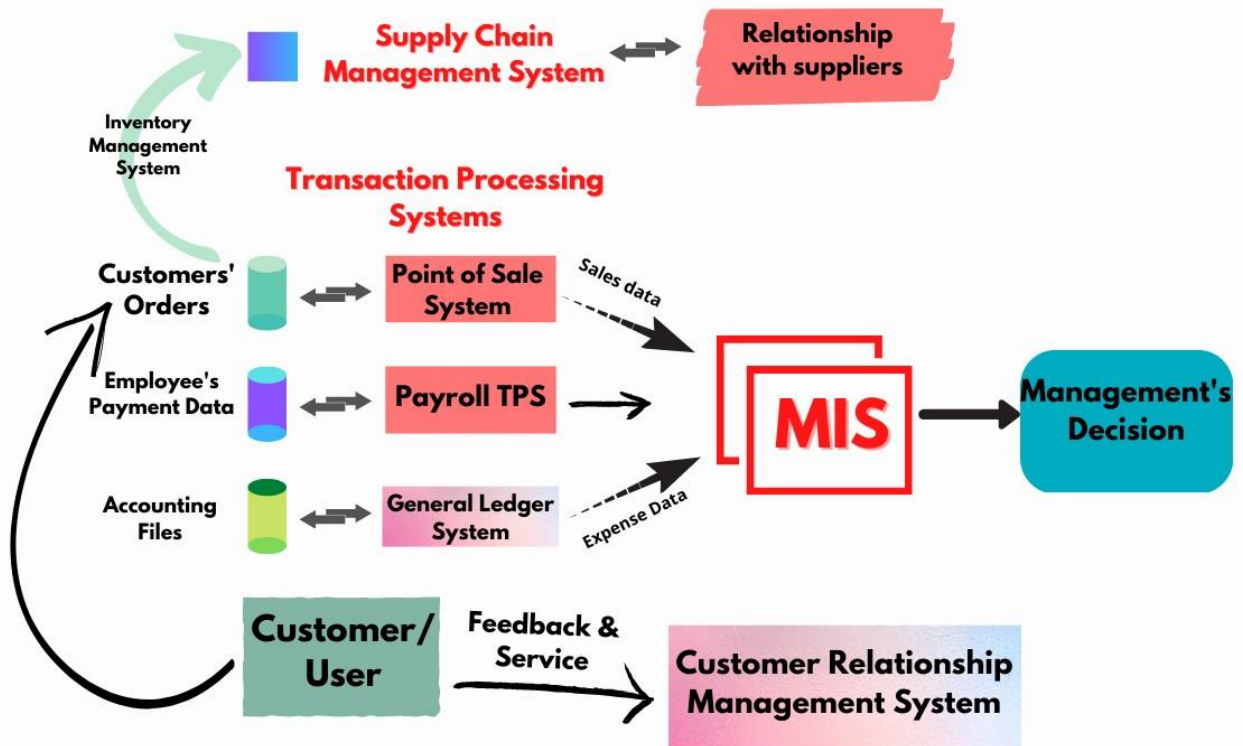
the customer and the company customer service officers in the respective department of concern, sales. All the information about the due process is stored in the database as well as the transaction information which is stored for future referencing. The system is integrated such that, the data sharing is both internal and external, in the sense that, the subsidiary support providers are contacted in the due process of service provision, such as the credit card providers, online payment partners (e.g. Bkash).



*Figure 8: Simple Process Diagram*

### **Relationship Between the different systems:**

Meena Bazar uses different computer-based systems. The following diagram shows the relationship and interaction among these systems:



*Figure 9: Interaction Between different systems at Meena Bazar*

## Planning: Project Identification, Selection, Initiation and Planning

### Problem Identification

- Lack of automated systems in Supply Chain Management.
- Self-service checkout machines can be introduced at the physical outlets which will save time of the customers and increase customer satisfaction.
- Extending their operating time to 24/7.
- The app of Meena Bazar can be more improved.
- Problems related to privacy due to outsourcing the IT projects.

## **Problem Description**

One of the main problems that Meena Bazar confronts is that there is no tracking system in its supply chain. As a result, if any item is faulty, it is hard for Meena Bazar to track the product's supplier. This problem is mainly associated with the agro-based products such as onions, potatoes and so on. Additionally, the supply chain network faces delay and less flexibility since there is no automated supply chain management system.

## **Selecting IS Development Project**

Several projects can be undertaken to improve and enhance the condition of the Meena Bazar. These can be:

- i. New System: Self-service checkout machines
- ii. System Enhancement: Improving the app
- iii. New-System: Automated Supply Chain Management

Automation of supply chain management is the best fit considering economic, technical, and operational conditions of the firm. Therefore, we have selected automated supply chain management system as the project.

## **Project Description**

Automated Supply Chain Management System can track the suppliers of their corresponding products. Using the system, the managers can add new suppliers' information in the database. The managers will be able to analyze the data and take data driven decisions.

### **As-is-System**

There is no tracking function in the current system of supply chain management.

### **To-Be-System**

Proposed New System: Automated Supply Chain Management

Type: Automated

Description: The new system will be able to track suppliers of the associated products, store suppliers' information on the database.

## Gantt Chart

The schedule of the project is shown with a Gantt Chart:

### Automated Supply Chain Management System

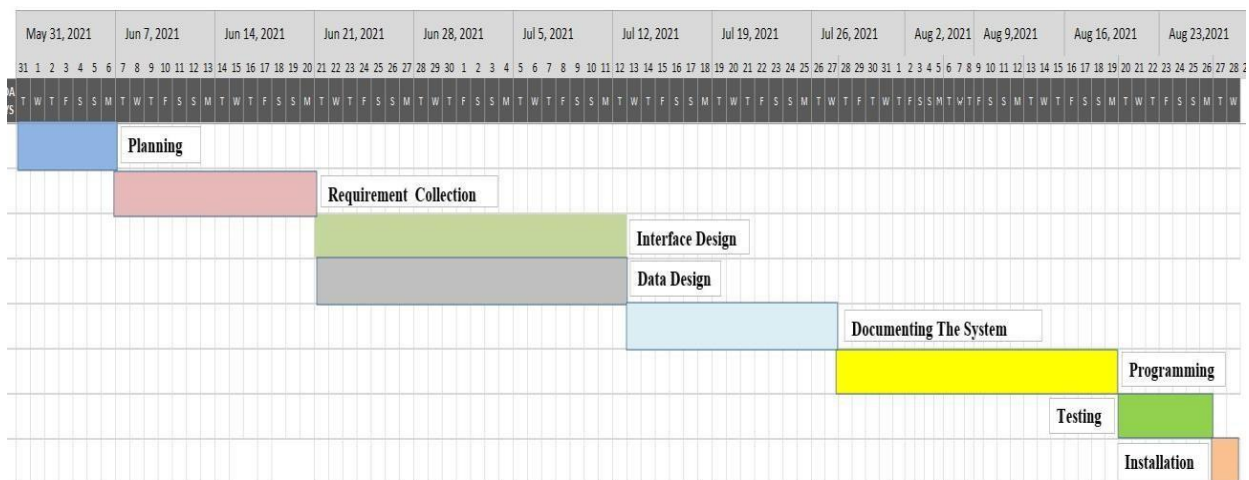
#### Meena Bazar

Project Start: Mon, 5-31-2021

Display Week: 1

TASK	PROGRESS	START	END
Planning	100%	5-31-21	6-6-21
Requirement Collection	100%	6-7-21	6-20-21
Interface Design	100%	6-21-21	7-12-21
Data Design	100%	6-21-21	7-12-21
Documenting The System	100%	7-13-21	7-27-21
Programming	100%	7-28-21	8-19-21
Testing	100%	8-19-21	8-26-21
Installation	100%	8-27-21	8-28-21

*Figure 10: Gantt Chart (part 1) of the Project*



*Figure 11: Gantt Chart (part 2) of the Project*

## Analysis: Requirement Determination

The purpose of analysis is to determine what information and information processing services are needed to support selected objectives and functions of the organization. Requirement determination is the crucial part of the analysis.

### Collecting and Analyzing System Requirement

Requirement analysis can be performed by many techniques. In this case, we have collected the system requirements via document analysis and observation.

**Document Analysis:** We have analyzed several documents regarding Meena Bazar. Some of the documents we collected from internet. From these documents, we learnt about Meena Bazar's operations, their supply chain management, their marketing policies and so on. Moreover, we have collected some documents from the organization also. For example, we purchased some products from Meena Bazar and got the invoice, which contains some crucial information regarding their point-of-sale system.

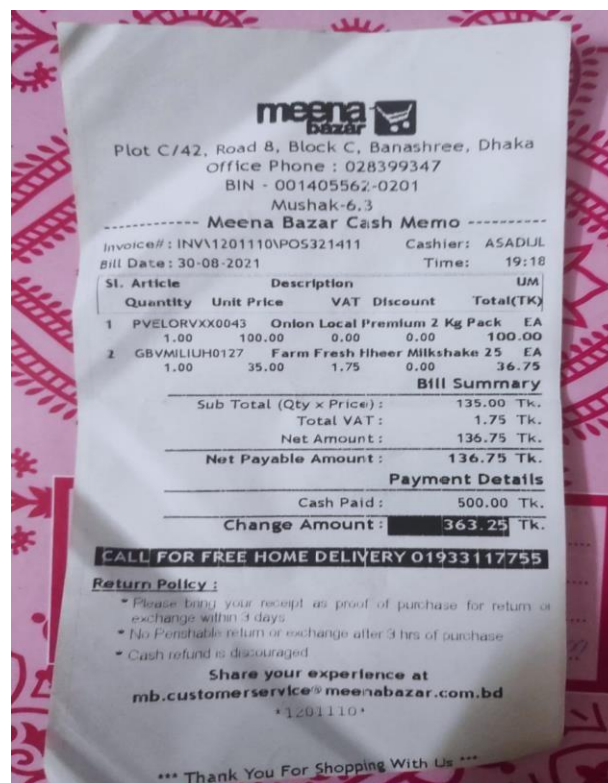


Figure 12: Invoice of Meena Bazar for Document Analysis

**Observation:** We have also observed different functions of Meena Bazar closely. We paid several visits to the organization. We observed its workers, delivery system, their supplies from warehouse etc.

On the basis on document analysis and observation, we have identified the problems in their current system. Meena Bazar needs to track their suppliers and store the information of the suppliers in a database. Thus, the organization will be able to efficiently deal with their suppliers.

### **List of Functional Requirements**

**Automated Supply Chain Management:** The new system will allow the managers to access the stored suppliers' data with designated products.

**Inputs and Outputs:** The managers can add new suppliers' information. Additionally, they can search for specific supplier's data.

**Tracking System:** The new system will track the suppliers of the associated products.

### **List of Non-Functional Requirements**

#### **Operational**

1. The system should run on Laptop/ Computer.
2. The system can be installed as a module of ERP.

#### **Performance**

The system will support supply chain and logistics department.

#### **Security**

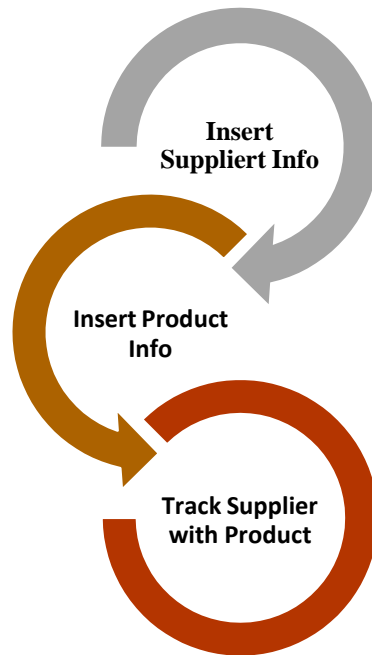
General employees or staffs will not get access of the system. Only database manager and top management can modify and manage the system if needed.

### **Design: Description of the System and it's Functionally**

The new system will incorporate with the supply chain management department of Meena Bazar. The system- Automated Supply Chain Management system will enable the managers to track the suppliers of agro-products, store suppliers' data and analyze the stored information to support decision making process.

#### **How it works:**

The system that we have designed will help to track the supplier of different product with the quantity provided



The user must add the supplier info which is necessary for tracking them in the system with the help of product info if recorded previously. Then a designated report file will show the suppliers associated with the total supply chain system.

## **Implementation**

The purpose of system implementation is to convert the physical system specifications into working and reliable software and hardware, document the work that has been done and provide help for current and future users.

## **Coding Process**

From database designing to user interface designing everything was done in Microsoft Access for this there was hardly any inclusion of codes without some basic queries. The coding that was done in the system is discussed below in a nutshell:



## Code for login page and validation

Option Compare Database

---

```
Private Sub Command1_Click()
If IsNull(Me.txtLoginID) Then
    MsgBox "Please Enter LoginID", vbInformation, "LoginID Required"
    Me.txtLoginID.SetFocus
ElseIf IsNull(Me.txtPassword) Then
    MsgBox "Please Enter password", vbInformation, "Password Required"
    Me.txtPassword.SetFocus
Else
    'process the job
    If (IsNull(DLookup("UserLogin", "tblUser", "UserLogin='" & Me.txtLoginID.Value & "'")) Or _
        (IsNull(DLookup("Password", "tblUser", "Password='" & Me.txtPassword.Value & "'"))) Then
        MsgBox "Incoorect LoginID or Password"
    Else
        MsgBox "Logged In Successfully"
        DoCmd.OpenForm "Main_menu"

    End If

End If

End Sub
```

## Code for Searching In Google Map

Option Compare Database

---

```
Private Sub Command32_Click()
Dim strAddress As String
Dim strLink As String

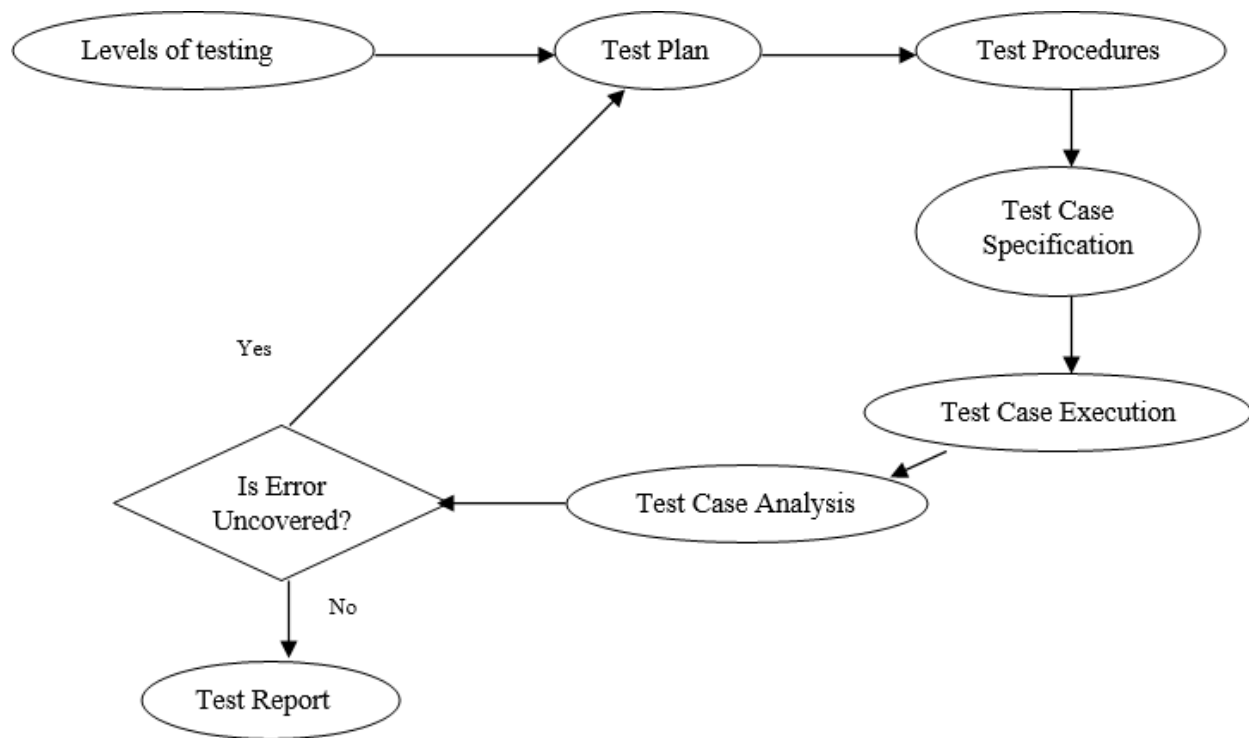
On Error GoTo myErr
    'example address: 23 Moghbazar Dhaka, 1217
    strAddress = Me.Address & " " & Me.City & " , " & Me.ZIP
    strLink = "http://maps.google.com/maps?hl=en&q="
    Application.FollowHyperlink strLink & strAddress

On Error GoTo 0
    Exit Sub
myErr:
    Exit Sub
End Sub
```

## Testing Process

Testing when conducted successfully (according to the objectives stated previously), it will uncover errors in the software. As a secondary benefit, testing demonstrates that software functions appear to be working according to specification, that behavioral and performance requirements appear to have been met. In addition, data collected as testing is conducted provide a good indication of software reliability and some indication of software quality.

The testing process is basically conducted in following steps shown in the figure below:



*Figure 13: Testing Process*

Tests that were performed to verify the system:

- ✓ Unit Testing
- ✓ Integration Testing
- ✓ Database Testing
- ✓ Stress Testing
- ✓ Performance Testing
- ✓ Recovery Testing
- ✓ Security Testing

## Installation

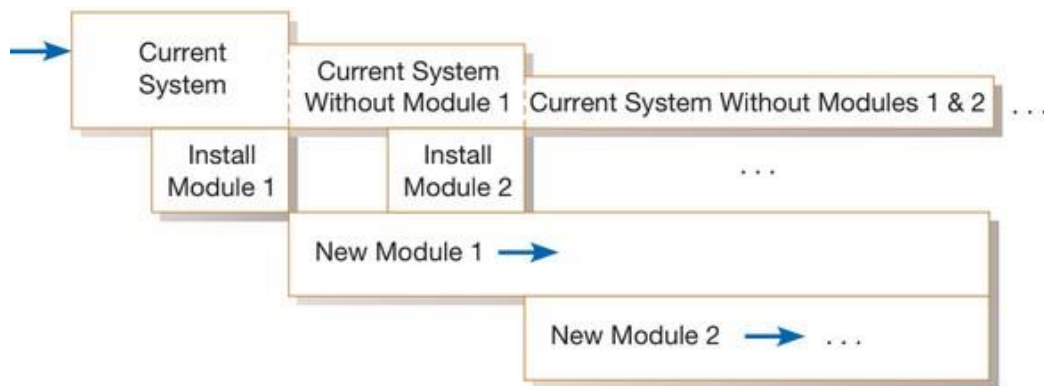
Required Software: Microsoft Access 2007-2019 (any one)

Required Operating System: Windows 7,10, etc.

RAM: 2GB Minimum

Storage: 500 MB

The system of Meena Bazar is already automated and for this the installation of module must be done in phase by phase. If we want to directly install this module then there might be some pressure with their integrated systems and thus new system might not work accordingly.

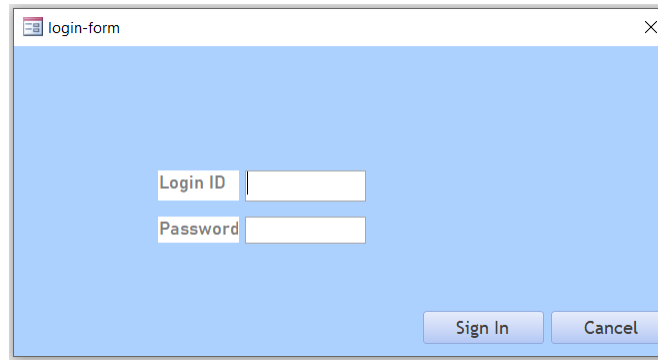


*Figure 14: Phased Intallation*

Dividing the whole systems into two modules we can easily install or integrate this with the main system of meena baazar

User Documentation

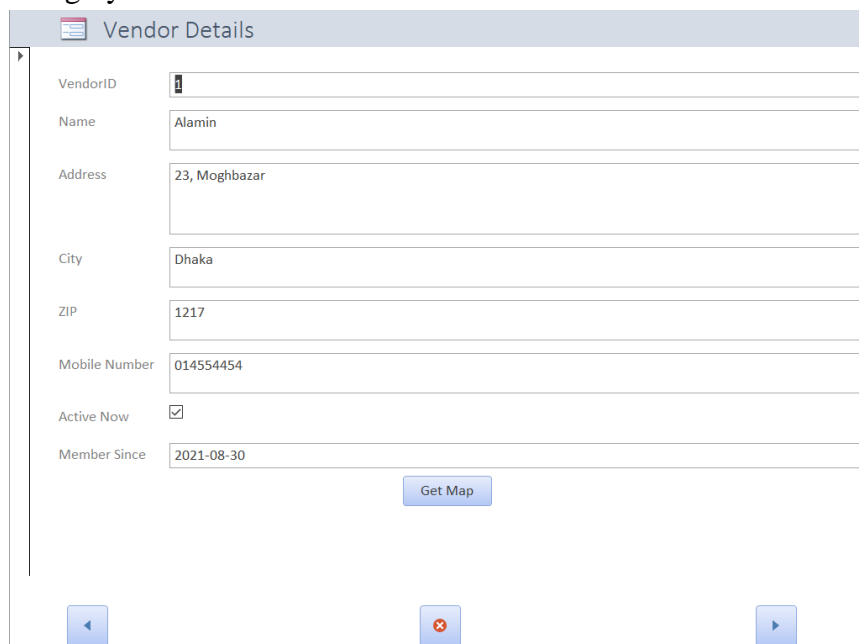
1. Login Page:  
The user will see a dialog box of entering password with correct loginID. Database administrator will have all the control of using the access information for the system.



A screenshot of a web application window titled "login-form". The window has a light blue background. In the center, there are two input fields: "Login ID" and "Password". Below these fields, there are two buttons: "Sign In" and "Cancel".

2. Vendor Page:

In this page recording a new vendor with its proper address and its active status can be checked thoroughly.




A screenshot of a web application window titled "Vendor Details". The window has a light gray header bar. Below the header, there is a form with the following fields:

- VendorID: [Empty text box]
- Name: Alamin
- Address: 23, Moghbazar
- City: Dhaka
- ZIP: 1217
- Mobile Number: 014554454
- Active Now: ☒
- Member Since: 2021-08-30

Below the form, there is a "Get Map" button. At the bottom of the window, there are three navigation buttons: a left arrow, a close button (X), and a right arrow.

3. Product Page:

Recording product info thoroughly with options to merge supplier information is done here


**Product Details**

Product ID

Product Name

Quantity

Product Description

Vendor ID



#### 4. Realtime Tracker:

From this view you can easily track the suppliers associated with the products with their locations and on

Tracker							Tuesday, August 31, 2021	
							7:35:09 PM	
Product Name	Quantity	VendorID	Name	Address	City	ZIP		
Vegetables	23	1	Alamin	23, Moghbazar	Dhaka	1217		
Watch	2	2	Time Zone	24 Kakoli Rd	Dhaka	1000		

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These are all the functions that will be available in the system and version upgradation may add new features to the system or more user-friendly interface.

## Conclusion

Supply chain network is crucial for any business. Thus, automating the supply chain management by using our proposed project will provide Meena Bazar more flexibility and reduce their lead time.

In conclusion, computer-based system has really made it easier for the management to monitor business activities through establishment of effective communication system that integrates all the units in the organization. The ultimate efficiency of the Meena Bazar can be attributed to the effectiveness of the computer-based system, this makes it possible to manage 18 branches throughout the country.