

**COMSATS University Islamabad**

**Abbottabad Campus**

**Medical Store Distributor Consumer Network**

***By***

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***Supervisor***

**Sir Kashif Nasr**

***Bachelor of Science in Computer Science (2017-2021)***



**COMSATS University Islamabad**

**Abbottabad Campus**

**Medical Store Distributor Consumer Network**

**A project presented to**

**COMSATS University Islamabad, Abbottabad**

**In partial fulfillment**

**of the requirement for the degree of**

***Bachelor of Science in Computer Science (2017-2021)***

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**DECLARATION**

We three hereby announce that we did not copied this program from any external source. We have created this project by our own efforts and all the reports and documentation is compiled by us. No, part of this project has been submitted to any other degree or qualification of this or any other university or institute of learning.

Abdullah Iqbal Armaghan Hassan Majid Durani

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**CERTIFICATE OF APPROVAL**

This page is to certify that this Final Year Project (FYP) of BSE “Medical Store Distributor Consumer Network” was developed by **ABDULLAH IQBAL (CUI/FA17-BSE-030), ARMAGHAN HASSAN (CUI/FA17-BSE-045)** and **MAJID DURANI (CUI/FA17-BSE-023)** under the supervision of “**SIR KASHIF NASR**” and that in (their/his/her) opinion it is fully adequate, in scope and quality for the degree of Bachelor’s in Software Engineering.

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**Supervisor**

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**External Examiner**

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**Head of Department**

**(Department of Computer Science)**

**EXECUTIVE SUMMARY**

There are many different software’s available, but they all have different problems i.e., notification problem, online store not available, online transaction not available and inventory management not available. So, because of all those problems we develop a website not a software that a person downloads and fulfills the required requirements to run it, we developed this website as a whole package. This website will contain Point of Sale, Inventory Management, Online Store, Reports Generation, Medicine shortage Notification and Online Transaction.

**ACKNOWLEDGEMENT**

All praise is to Almighty Allah who bestowed upon us a minute portion of His boundless knowledge by virtue of which we were able to accomplish this challenging task.

We are greatly indebted to our project supervisor “**Sir Kashif Nasr**”. Without his personal supervision, advice and valuable guidance, completion of this project would have been doubtful. We are deeply indebted to him for their encouragement and continual help during this work.

And we are also thankful to our parents and family who have been a constant source of encouragement for us and brought us the values of honesty & hard work.

Abdullah Iqbal Armaghan Hassan Majid Durani

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**ABBREVIATION**

|  |  |
| --- | --- |
| **ABBREVIATION** | **FULL FORM** |
|  |  |
| **MSDCN** | Medical Store Distributor Consumer Network |
| **SRS** | Software Requirement Specification |
| **FR** | Function Requirement |
| **NFR** | Non-Functional Requirement |
| **UC** | Use Case |
| **BR** | Business Requirement |
| **ADMIN** | Administrator |
| **PRE** | Precondition |
| **POST** | Postcondition |

1. **Introduction**
   1. **Brief**

Life in the age of technology has changed, now a days we are surrounded by the technology and the age of Information, Communication, and Technology (ICT) is at its most effective time. We cannot think single moment without the Internet.

The Medical Store Distributor Consumer Network (MSDCN) is a website which allows the Retailer and Distributer to maintain their inventory and to sell their stock, this will be used by medical store and Pharmaceutical Distributors. This website will store details of medicine purchase and selling w.r.t Retailer and Distributor. The website will also consist of Billing generation, Reporting module, Transection and Medicine shortage notification module.

* 1. **Relevance to Course Modules**
* Software Engineering (SE-1)
* Object Oriented Software Engineering (OOSE)
* Web Technologies
* Mobile Application and Development
* Object Oriented Programing (OOP)
* Software Requirement Engineering (SRE)
* Software Testing
* Software Design and Architecture (SDA)
* Software Project Management (SPM)
  1. **Project Background**

The idea about the project comes from the real-world problem because there is no proper monitoring of payment, billing, selling and buying of the medicine and that process and not traceable. So, because of that we decided to develop Medical Store Distributor Consumer Network (MSDCN).

* 1. **Literature Review**

For the literature review we have reviewed some of the existing software and some of the websites. As a conclusion we came to know that these other projects are not dynamic and does not fulfill the complete requirements of the market. Our website is dynamic and smoother which allows the user to use it without any hassle.

* 1. **Analysis for Literature Review**

Unlike the old software’s there are a lot of drawbacks, all the websites are not dynamic, and this system is mostly implemented on the system application not on the website basis.

Older systems only target the audience of the one domain either Retailer or Distributor.

* 1. **Methodology and Software Lifecyle for the Project**

The methodology that we use is the iterative lifecycle for the development of this project. The iterative period is divided into 3 iterations where each starts with a development phase and ends with a complete tested and working unit or module.

* + 1. **Rationale behind Selected Methodology**

The main reason that we considered behind using the iterative lifecycle is because all the requirements were not cleared, and the requirements were kept on changing which were causing the changes in the product. The requirement gathering and the implementation phases were working parallelly till the end of the project.

1. **Problem Definition**
   1. **Problem Statement**

In the age of information and technology medical stores are still depended on paperwork. All the billing and transection details are still on the paper. Sometime the store owner forgets to place order for medicines because there is no proper mean to notify him about the medicine shortage, and sometimes medicine providers misplace the order details. Because of this, medical stores face’s problem of shortages and delay. There is no proper back traceability.

* 1. **Problem Solution**
  2. **Deliverables and Development Requirements**

*Table 1 show all the deliverables and development requirements.*

*Table 1: Deliverables and Development Requirements*

|  |  |
| --- | --- |
| ***Specification*** | ***Required*** |
| Programing Language | Html  CSS  PHP  Java Script  Java |
| Hardware Platforms | Computers  Laptops  Android Phone |
| IDE | VS Code  Android Studio |
| Operating System | Windows 7,8,8.1 & 10  Android 6.0+ |
| Database |  |

1. **Requirements Analysis**
   1. **Use Case Diagram**

Figure 1 Shows the use case diagram.

Diagram

Description automatically generated

*Figure 1 Use Case Diagram*

* 1. **Detail Use Cases**
     1. **Registration**

Table 2 Detail use case of Registration

*Table 2 Use Case Registration*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-1 |
| **Use Case Name:** | Registration |
| **Actor:** | Primary Actor: User |
| **Description:** | User can register themselves. |
| **Trigger:** | When user will click the sign-up button. |
| **Preconditions:** | PRE-1: System should be ideal. |
| **Postconditions:** | POST-1: User will be able to fill the registered. |
| **Normal Flow:** | 1. User enters the required credentials like Name, Email etc. 2. User clicks next. 3. User enters the shop credentials like Shop Name, License etc. 4. User clicks next, 5. User selects the desire package. 6. User Selects the payment method. 7. User clicks proceeds. |
| **Alternative Flow:** | 1. User directly enters the signup URL in browser. |
| **Exception:** | 1. User wants to move next step without providing the credentials. 2. User wants to move next without selecting the package. 3. User wants to move next without providing the credit card details. 4. Website Fails/Crash 5. Website display error message. |
| **Business Rules:** | BR-1 User should be able to complete the registration form. |
| **Assumptions:** | User is at the home page of the website. |

* + 1. **Login**

Table 3 Detail use case Login

*Table 3 Use case Login*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-2 |
| **Use Case Name:** | Login |
| **Actor:** | Primary Actor: User |
| **Description:** | User can login themselves. |
| **Trigger:** | When user clicks the login button. |
| **Preconditions:** | PRE-1: System should be ideal. |
| **Postconditions:** | POST-1: User will be able to login. |
| **Normal Flow:** | 1. User enters the registered email. 2. User enters the registered password. 3. User clicks on login. |
| **Alternative Flow:** | 1. User directly enters the login URL in browser. |
| **Exception:** | 1. User press login without providing the credentials. 2. Email incorrect. 3. Password incorrect. 4. Website Fails/Crash 5. Website display error message. |
| **Business Rules:** | BR-1 User will be able to login. |
| **Assumptions:** | User is at the login page of the website. |

* + 1. **Place Online Order**

Table 4 Detail use case Place Online Order

*Table 4 Use Case Place Online Order*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-3 |
| **Use Case Name:** | Place Online Order |
| **Actor:** | Primary Actor: Retailer |
| **Description:** | Retailer will be able to buy medicines online |
| **Trigger:** | When user will click the Online Order button. |
| **Preconditions:** | PRE-1: System should be ideal.  PRE-2: Retailer should be login. |
| **Postconditions:** | POST-1: Retailer buys new Medicines. |
| **Normal Flow:** | 1. Retailer searches the required medicine. 2. Retailer clicks on the medicine picture or name. 3. Retailer selects the quantity. 4. Retailer clicks add to the cart. 5. Retailer clicks the cart button. 6. Retailer clicks check out. 7. Retailer selects the payment method. 8. Retailer click confirm button. |
| **Alternative Flow:** | N/A |
| **Exception:** | 1. User wants to move next step without providing the credentials. 2. Website Fails/Crashes 3. Website display error message. 4. Retailer did not select the payment method. |
| **Business Rules:** | BR-1 User will be able to place medicines order to the distributor. |
| **Assumptions:** | User is at the online Order tab. |

* + 1. **Manage Inventory**

Table 5 Detail use case Place Online Order

*Table 5 Use Case Manage Inventory*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-4 |
| **Use Case Name:** | Manage Inventory |
| **Actor:** | Primary Actor: User |
| **Description:** | User can view and manage their inventory. |
| **Trigger:** | When user click on the Inventory button. |
| **Preconditions:** | PRE-1: System should be ideal.  PRE-2: User should be login. |
| **Postconditions:** | POST-1: User viewed and managed their inventor. |
| **Normal Flow:** | 1. User scrolls to see their inventory. 2. User clicks add item to add the new medicine to the inventory. 3. User clicks remove to delete the item from the inventory. 4. User clicks on edit to update the existing item details. |
| **Alternative Flow:** | N/A |
| **Exception:** | 1. Website Fails/Crash. 2. Website display error message. 3. User click ADD without providing credentials while adding. 4. User click SAVE without providing credentials while update |
| **Business Rules:** | BR-1 User will be able to manage their inventory |
| **Assumptions:** | User is at the Inventory tab. |

* + 1. **Generate New Sale**

Table 6 Detail use case Generate New Sale

*Table 6 Use Case Generate New Sale*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-5 |
| **Use Case Name:** | Generate New Sale |
| **Actor:** | Primary Actor: Retailer |
| **Description:** | Retailer can sell their stock. |
| **Trigger:** | When Retailer clicks in Make a Sale button at dashboard tab. |
| **Preconditions:** | PRE-1: System should be ideal.  PRE-2: Retailer should be login |
| **Postconditions:** | POST-1: Retailer successfully sells the product. |
| **Normal Flow:** | 1. Retailer adds every single item. 2. Retailer adds the discount percentage if there is any. 3. Retailer clicks on Checkout. |
| **Alternative Flow:** | 1. Retailer clicks on sale button, 2. User clicks on Make a new sale. 3. Retailer adds every single item. 4. Retailer adds the discount percentage if there is any. 5. Retailer clicks on Checkout. |
| **Exception:** | 1. Website Fails/Crashes. 2. Website display error message. |
| **Business Rules:** | BR-1: Retailer will successfully sell products. |
| **Assumptions:** | User is at the Dashboard tab. |

* + 1. **Generate Reports**

Table 7 Detail use case Generate Reports.

*Table 7 Use Case Generate Reports*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-6 |
| **Use Case Name:** | Generate Reports |
| **Actor:** | Primary Actor: User |
| **Description:** | User can see the generated reports. |
| **Trigger:** | When user click the Report button. |
| **Preconditions:** | PRE-1: System should be ideal.  PRE-2: User should be login |
| **Postconditions:** | POST-1: User can successfully see the reports. |
| **Normal Flow:** | 1. Select the date. 2. Select the month. 3. Select the quarter. |
| **Alternative Flow:** | N/A |
| **Exception:** | 1. If there is no data present. 2. System Fails/Crashes. 3. System display error message. |
| **Business Rules:** | BR-1: User can see their business reports. |
| **Assumptions:** | N/A |

* + 1. **View Order History**

Table 8 Detail use case View Order History

*Table 8 Use Case View Order History*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-7 |
| **Use Case Name:** | View Order History |
| **Actor:** | Primary Actor: User |
| **Description:** | User can view the order placed history. |
| **Trigger:** | When user click the Order History button. |
| **Preconditions:** | PRE-1: System should be ideal.  PRE-2: User should be login. |
| **Postconditions:** | POST-1: User can successfully see the past orders history. |
| **Normal Flow:** | 1. User can select All. 2. User can select Completed. 3. User can select Pending. 4. User can select the Cancelled. |
| **Alternative Flow:** | N/A |
| **Exception:** | 1. If there is no past order data present. 2. System Fails/Crashes. 3. System displays an error message. |
| **Business Rules:** | BR-1: User can see their transaction reports. |
| **Assumptions:** | User is at the Dashboard. |

* + 1. **Add Payment Method**

Table 9 Detail use case Add Payment Method

*Table 9 Use Case Add Payment Method*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-8 |
| **Use Case Name:** | Add Payment Method |
| **Actor:** | Primary Actor: Distributor |
| **Description:** | Distributor can add the payment method. |
| **Trigger:** | When Distributor clicks on Setting button. |
| **Preconditions:** | PRE-1: System should be ideal.  PRE-2: Distributor should be login |
| **Postconditions:** | POST-1: Distributor can successfully add the payment method. |
| **Normal Flow:** | 1. Select the payment type Easypaisa or JazzCash. 2. Upload the bar code picture. 3. Click Save. |
| **Alternative Flow:** | 1. During sign user add the payment method. |
| **Exception:** | 1. System Fails/Crashes. 2. System displays an error message. |
| **Business Rules:** | BR-1: Distributor can add the payment method. |
| **Assumptions:** | Distributor is at the Dashboard tab. |

* + 1. **View Subscription History**

Table 10 Detail use case View Subscription History

*Table 10 Use Case View Subscription History*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-9 |
| **Use Case Name:** | View Subscription History |
| **Actor:** | Primary Actor: Retailer and Distributor |
| **Description:** | Retailer and Distributor can see their past subscribed history. |
| **Trigger:** | When clicks on the Subscription History button. |
| **Preconditions:** | PRE-1: System should be ideal.  PRE-2: Distributor and Retailer should be login. |
| **Postconditions:** | POST-1: Will see past subscribed history. |
| **Normal Flow:** | 1. Clicks on Subscription History Button. |
| **Alternative Flow:** | N/A |
| **Exception:** | 1. No history available. 2. Website Fails/Crashes. 3. Website display error message. |
| **Business Rules:** | BR-1 Distributor and Retailer sees their history. |
| **Assumptions:** | Retailer and Distributor is at the Dashboard tab.. |

* + 1. **View Notifications**

Table 11 Detail use case View Notification

*Table 11 Use Case View Notifications*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-10 |
| **Use Case Name:** | View Notifications |
| **Actor:** | Primary Actor: Retailer and Distributor |
| **Description:** | Retailer and distributor can see the new notifications. |
| **Trigger:** | When clicks on the Notification button. |
| **Preconditions:** | PRE-1: System should be ideal.  PRE-2: Distributor and Retailer should be login. |
| **Postconditions:** | POST-1: Admin will be able to login. |
| **Normal Flow:** | 1. When clicks on Notification button. |
| **Alternative Flow:** | N/A |
| **Exception:** | 1. Website Fails/Crashes. 2. Website display error message. |
| **Business Rules:** | BR-1 Retailer and Distributor sees the new notifications. |
| **Assumptions:** | Admin is at the Admin Login tab. |

* + 1. **Admin Login**

Table 12 Detail Use Case Admin Login

*Table 12 Use Case Admin Login*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-11 |
| **Use Case Name:** | Login |
| **Actor:** | Primary Actor: Admin |
| **Description:** | Admin can login themselves. |
| **Trigger:** | Admin enters the Admin URL. |
| **Preconditions:** | PRE-1: System should be ideal. |
| **Postconditions:** | POST-1: Admin will be able to login. |
| **Normal Flow:** | 1. Admin will provide registered Email. 2. Admin will provide registered Password. 3. Admin clicks on login. |
| **Alternative Flow:** | N/A |
| **Exception:** | 1. Admin press login without providing the credentials. 2. Email incorrect. 3. Password incorrect. 4. Website Fails/Crashes. 5. Website display error message. |
| **Business Rules:** | BR-1 Admin can login. |
| **Assumptions:** | Admin is at the Admin Login tab. |

* + 1. **Approve Requests**

Table 13 Detail use case Approve Reports.

*Table 13 Use Case Approve Reports*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-12 |
| **Use Case Name:** | Approve Request |
| **Actor:** | Primary Actor: Admin |
| **Description:** | Admin verifies the User Credentials. |
| **Trigger:** | When Admin press the Pending Requests button. |
| **Preconditions:** | PRE-1: System should be ideal.  PRE-2: Admin should be login. |
| **Postconditions:** | POST-1: Admin approves Users joining request. |
| **Normal Flow:** | 1. Admin scrolls through the pending requests. 2. Admin click on approve on the User to approve it. 3. Admin can write a message for any inconvenience. |
| **Alternative Flow:** | N/A |
| **Exception:** | 1. Website Fails/Crashes. 2. Website display error message. |
| **Business Rules:** | BR-1 User request gets approve |
| **Assumptions:** | Admin is at the Dashboard tab. |

* + 1. **Add Medicine Information**

Table 14 Detail use case Add Medicine Information

*Table 14 Use Case Add Medicine Information*

|  |  |
| --- | --- |
| **Use Case ID:** | UC-13 |
| **Use Case Name:** | Add Medicine Information |
| **Actor:** | Primary Actor: Admin |
| **Description:** | Admin can add medicine information. |
| **Trigger:** | Click on Medicine button. |
| **Preconditions:** | PRE-1: System should be ideal.  PRE-2: Admin should be login. |
| **Postconditions:** | POST-1: Admin can add new medicine information in the database. |
| **Normal Flow:** | 1. Admin click on Add medicine. 2. Admin provides the required credentials. 3. Click on Add |
| **Alternative Flow:** | N/A |
| **Exception:** | 1. Website Fails/Crashes. 2. Website display error message. 3. Admin click add without adding the medicine credentials. |
| **Business Rules:** | BR-1 Admin can add medicine information. |
| **Assumptions:** | Admin is at the Dashboard tab. |

* 1. **Functional Requirements**
  2. **Non-Functional Requirements**

1. **a**