

Survey on Web-Based Application for Surgical Distributor

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Abstract— This paper provides the idea of distribution of surgical products for distributor through web management system. The domain of the proposed system is web development. System used for integration of suppliers and customers. As named suggest it is used for providing the surgical products and to provide guideline for customer like medical retailer, hospitals. This is integrated system which provide solution on the unique platform. This web-based application should be used by customers for basic functionalities, like upcoming products, scheme for the products and purchase history of his products. Web application for system is used by authorized suppliers and customers. It is managed and handled basic functionalities like billing. Analytics guidelines for products and inventory management system by admin. Customer faces the problems while purchasing surgical products that he is unable to see credit and debit history of purchase. So system can help them in limited time by providing their records and new information about products. So proposed collaborative system in surgical products provide transparency between customer and distributor.

Key words: Customer, Demand, Inventory, Item, Order, Price, Stock, Supplier, Supply Chain, Vendor

I. INTRODUCTION

Since from many years, we need surgical products for healthcare utilities in hospitals. They were provided to different customers like medical retailers, pharmaceutical industries by manually. There were no online web application to provide surgical instruments. This paper gives the motivation to provide surgical instruments by watching it online on web application. There are software available for the surgical instruments. There are software available for the surgical instruments but no web application is available for it. It will get ease for customer to watch the instruments online and place the order for particular instruments so customer will be provided the instrument to their home directly.

II. LITERATURE REVIEW

This Proposed system described an approach to meet the challenge of inventory management for pharmaceutical distributors through the web based system so that it can be accessible from anywhere anytime. It also helps to increases the customers. The work highlights the value of dedicated stance to meet the challenge inventory management. Current state of inventory management system:

The literature on existing system for managing the inventory for surgical distributors provides the solutions to managed. There are mostly standalone systems or software are available.

There are different issues with existing system that they are not satisfies the distributors need. Medivision is one

of the software for surgical distributors to manage the inventory. This is standalone system. This software required to install on the desktop and have to pay for addition features like automatic data backup, sms notification, expiry notification etc.

Inventory management process:

The important feature of this proposed system is that is save the time require to order the products. It uses real time on-demand reports to determine the exactly how many products are purchased. It controls the storages. Save time, money and resources by using web based inventory to assist with day-to-day tasks such as ordering, checking stock levels.

This proposed system is a 100% web-base. Access all of your data from anywhere using PC, laptop, or tablet that can access the internet. Web-based means doesn't have to worry about the complex installation, servers to purchase and maintain, and performing the backups.

III. TECHNOLOGIES

A. HTML

HTML stands for Hyper Text Markup Language. Most widely used language to design the web pages. Web pages are linked together using Hypertext. In the purposed system HTML is used for designing the front end of the system. HTML is used to make web pages more interactive and represent the information on web pages. Latest version of HTML is HTML5. HTML5 has features like video playback and drag and drop. It consist of two types XHTML and DHTML. HTML consist of different tags which is used to described the visual appearance of the web pages. DHTML is useful for changing the content of HTML dynamically.

B. Servlet and JSP

A web application is an application able to reach from the web. A web application is comprise of web elements like servlet, JSP, Filter etc. and other components such as HTML.

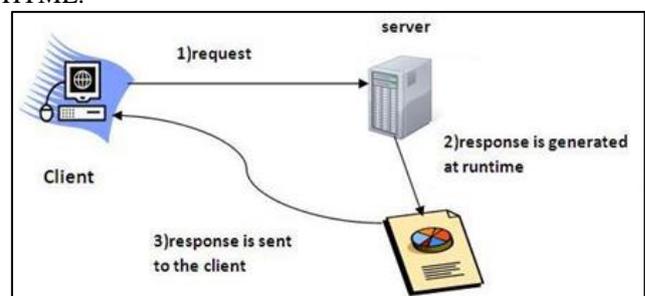


Fig. 1: Servlet and JSP

The web container produces threads for handling numerous requests to the servlets. Threads have a lot of advantage over the processes such as they allocate a common memory area, light-weight, cost of communication between the threads are low. The root ease of servlets are as follows:

- 1) Superior performance: It helps to makes a thread for each request not process.
- 2) Portability: As it uses java language.
- 3) Robust: Servlet are organized by JVM so we don't need to panic about memory leak, garbage collection.
- 4) Secure: It uses java language.

C. *JDBC (Java Database Connectivity)*

It is normal Java API for database individualistic attachment between the java programming language and vast range of databases. Each database has one or more different APIs for creating, accessing, managing, searching and replicating data it holds.

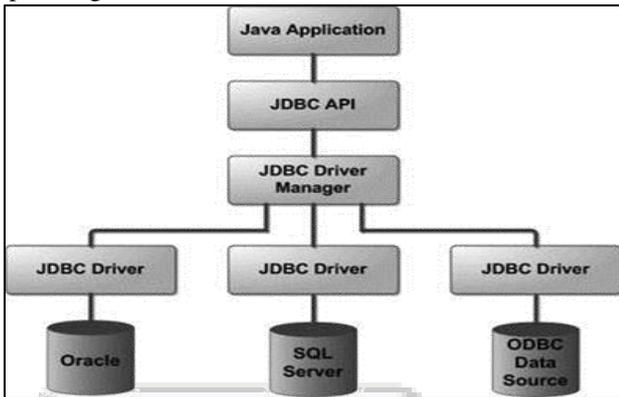


Fig. 2: JDBC Library

The JDBC library involves APIs for each of the jobs indicates below that are commonly merge with database usage.

- Making a connection to a database.
- Creating SQL or MySQL statements.
- Executing SQL or MySQL queries in the database.
- Viewing and changing the resulting records.

D. *JAVA*

Java was designed for servlets programming and it also use

E. *Apache Tomcat*

Tomcat inacts the java servlets and java server pages(JSP) detailing from sun Microsystems, and assigns pure java HTTP web server medium for java code to run in. This web server are using for arrangement and management. A usage of servlets to add effective content to web server using java platforms. The produced content is commonly HTML.

F. *DFD Diagram*

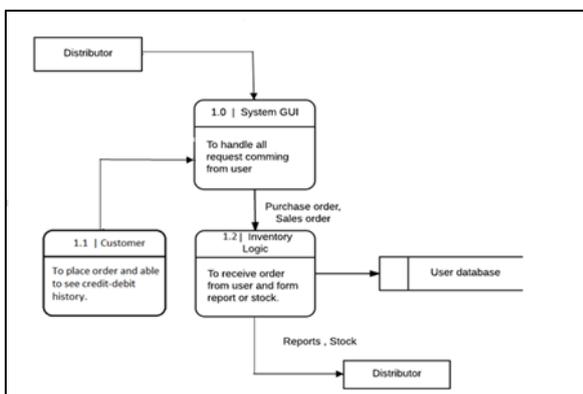


Fig. 3: Flow Diagram

IV. *MATHEMATICAL MODEL*

$S = \{s, e, X, Y, F, DD, NDD, CPU_corecnt, MEM_shared, success, failure\}$

Where,

s=start state

e=end state

X=input set

Y=output set

F=function

DD=Deterministic Data

NDD=Non-Deterministic Data

CPU_corecnt=No. of CPU cores

MEM shared=Shared Memory

Success=desired output generated

Failure=desired output not generated

Let System $S' = \{s, e, X, Y, F, CPU_corecnt, success, failure\}$

Where $S' S$

A. *Initialization*

Username = {List of all usernames from database}

Passwords = {List of all passwords from database}

Profile_info = {user_id, username, email_id, user_phNo}

product_info = {Batch_no, invoice_no, pakage_date, expiry_date, purchase_cost, sale_cost, product_name}

Database= {product_info, Profile_info}

CPU_corecnt= {1, 2, 3, 4, 5, 6, 7, 8}

B. *Start State*

s= {initial_val_Regs | initial_val_Regs are initial values of all registers on power ON}

C. *End State:*

e=Fexit

D. *Set of Input:*

$X = \{X1, X2, X3\}$

Where,

$X1 = \{username, password\}$

$X2 = \{product_info\}$ where, $product_info \in Database$

$X3 = \{order_details\}$ where, $product \in Database$

5) set of Output:

$Y = \{Y1, Y2, Y3, Y4, Y5, Y6\}$

Where,

Success= {Y1, Y2, Y3, Y4}

Failure= {Y5, Y6}

E. *Set of Functions*

$F = \{F_me, F_friend\}$

1) $F_me = \{F_K1, F_K2, F_K3, F_K4\}$

a) $F_K1 = Register_user(Username, Password)$

= Login; where, $Username \in Usernames, Password \in Passwords$

b) $F_K2 = Enter_product_detail(product_info)$

= store in database ; where, $product_info \in Database$

c) $F_K3 = Billing_Product(Product_info)$

= Display total prize ; where, $product_info \in Database$

d) $F_K4 = Enter_order_details(Product_info)$

= Display product want to the customer; where, $product_info \in Database$

1) $F_friend = \{F_AS1, F_AS2\}$
a) $F_AS1 = \text{valid_user}(\text{username})$; Where, $\text{username} \in \text{Usernames}$
= login ---if valid
= Error ---if in-valid
b) $F_AS2 = \text{check_user_already_exist}(\text{username}, \text{Usernames})$
; where, $\text{username} \in \text{Usernames}$
 $\text{Usernames} \in \text{Database}$
= login ---if $\text{username} \in \text{Usernames}$
= Create new user ---if $\text{username} \in \text{Usernames}$

F. $DD = \{\text{product_info}, \text{order_details}\}$

G. $NDD = \{ \}$

H. $CPU_corecount = \{2, 4\}$

I. $Success = \{Y1, Y2, Y3, Y4\}$

Y1 = Fk1 (User login successful)

Y2 = Fk2 (Bill generated)

Y3 = Fk3 (Order placed)

Y4 = FK4 (credit & debit history seen by customer)

J. $Failure = \{Y5, Y6\}$

Y3 = FL1 (User details are invalid)

= error; where username & password are incorrect

Y4 = FL2 (Order details are invalid) = error; where $\text{Order details} \in \text{product_info}$

V. CONCLUSION

The purpose of the proposed system is to provide web-based portal of surgical products. This system will help the customers like medical retailer, pharmacist to purchase the products from the website. In the proposed system recommendation system is restricted because in the pharmaceutical area prize recommendation is restricted. For the prize recommendation take the permission from the government. In this system in future android application and the online payment system will be implemented.

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