Online Software Selling in E-Commerce Application providing Login Security

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Abstract: *This paper is on the e-commerce web application which is based onsoftware selling where software products are sold online. This e-commerce web application is improving the login authentication using the improved MD5 algorithm. A buyer can browse product list, pick the items in cart, update the cart, checkout and make payment. An email is sent to registered customer email id stating successful placement of order.Customer can track the placed order and able to cancel. Admin will check and verifies the order and serial key is provided online to customer's email id to get start the software buys by him/her. This application also provides the reminder to customer for buying product added to cart through the e-mail notification and customer will provide the feedback about product reviews and it will display in the form of graph which gives the better analysis of the software product quality and this leads to the business profit.*

Keywords:E-Commerce,E-Services,Improved MD5,Login authentication.

1. Introduction:

All users will do the registration through the website on registration page.When users fill the basic information such as username, email password and so on, then the user clicks on the button called register, the information is submitted to the database service where the password will be encrypted by the improved MD5 algorithm based on encryption algorithm, can effectively protect the users password information. Then user login will done using user id and password. (If registration done previously for login).If the password get match with the previously stored password then user get access to the system of e-commerce. After getting access to system application server will get start.Browser Security is provided to the application. All the above verification get done from database. A well-designed application infrastructure is provided for the e-commerce firm to adopt in order to achieve the satisfaction of e-service.

Ecommerce easily handle the low value or high value orders transactions.Any member can register and view available products.Only registered member can purchase multiple products regardless of quantity.Contact us page is available to contact Admin for queries.Admin can add products, edit product information and add/remove product. when user login is done then users have access to select the products they want and when user want to buy some product then firstly they have to add products to cart,after adding product to cart the payment gateway is available for online transaction. It is used by customers who have accounts enabled with Internet banking.

After filling in the order, the customer enters his/her credit/debit card number that travels along a channel solely accessible to the bank. The bank checks the customer's account and decides whether or not to authorise the payment.The operation takes a few moments. If approved, the bank performs the transaction and transfers the payment to the account. If denied the user is notified that the transaction cannot be completed and his order is cancelled. After approving of payment, order is placed and confirmation mail is sent to the customer. In addition to the cost of products purchased, the system manages the GST charges. The e-commerce module is able to manage GST rates in country. Discounts and promotions are managed for a single product or product category.This second phase of the site requires a detailed analysis of your current storage and order management systems with which it will be necessary to integrate.

The below figure shows the evolution of ecommerce system.

Figure 1: E-commerce evolution

2. Proposed System:

The e-commerce provides the number of services for selling products, in addition to this we provide the software selling services, inwhich allsoftware are gone to be sell and give the login authentication to the customer for accessing the software which he/she wants to buy from the web application. The login authentication is provided using the improved MD5 algorithm in which login information like password is the input to the process of the authentication and that input are converted in to the 128 bit encrypted string are generated and that string is stored on the database which will do not store the real password(non encrypted password). This web application also provides the web browsing security which is also one of the securities provided to the user of the web application. Customer will provide the feedback about product reviews and it will display in the form of graph.

Figure 2: Proposed system

2.1.Block Diagram:

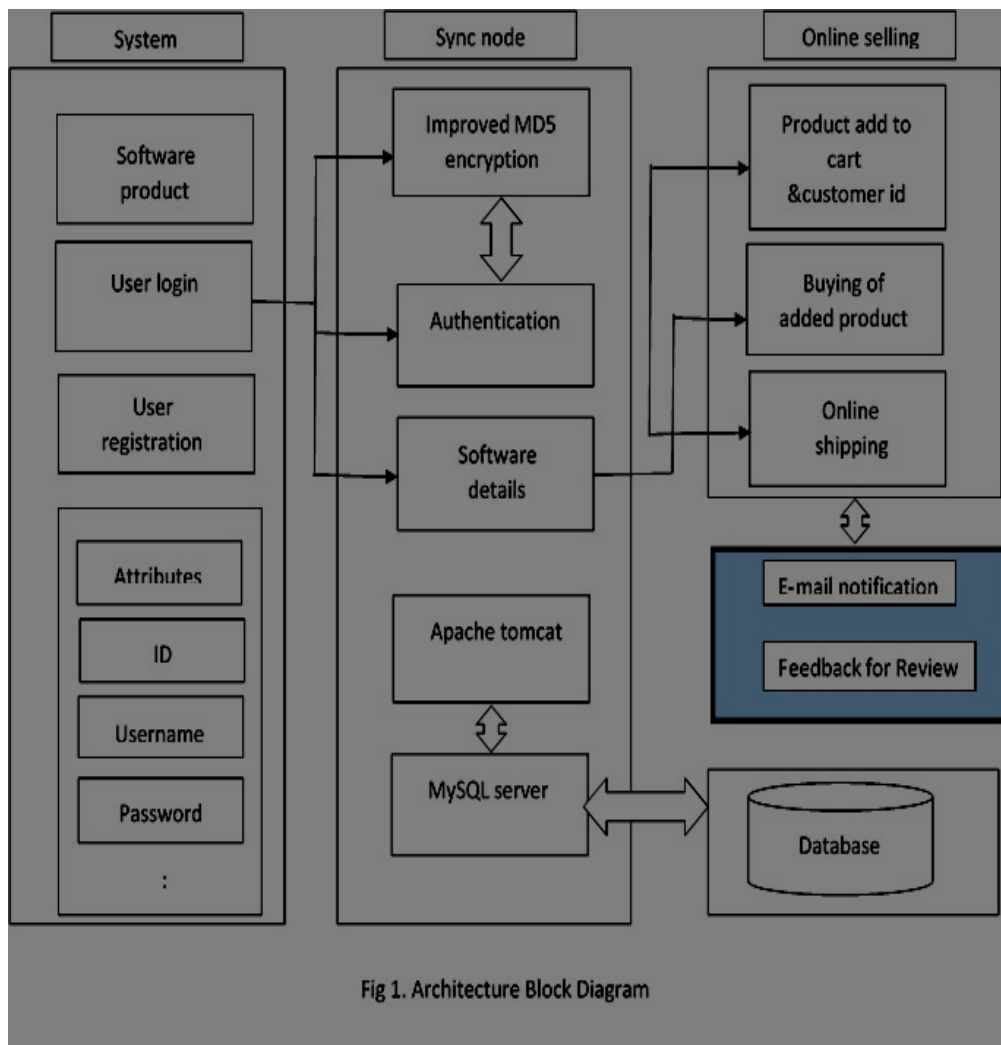Fig 1. Architecture Block Diagram

Figure 3: E-commerce Block diagram

There is 3 phase architectural system:

1. System

2. Sync node

3. Online selling

User will login to the system by using user ID and password. If the user is new user, he/she will go to User registration, where user will fill the form for registration and will create new user ID and Password for buying the software products. When user enters the password then that password will get encrypted by MD5 Encryption algorithm and encrypted password will get stored in database. Then user will entered into the system using created user ID and password. There will be software products list with details and selling options like, Buy and add to cart, then Buying of added product done.

2.2 Implementation Modules:

I.Login security using Improved MD5 algorithm:
The MD5 algorithm is encryption algorithm which provides the 32 bit of encrypted password .Improved MD5 provide the 128 bit of encrypted string.
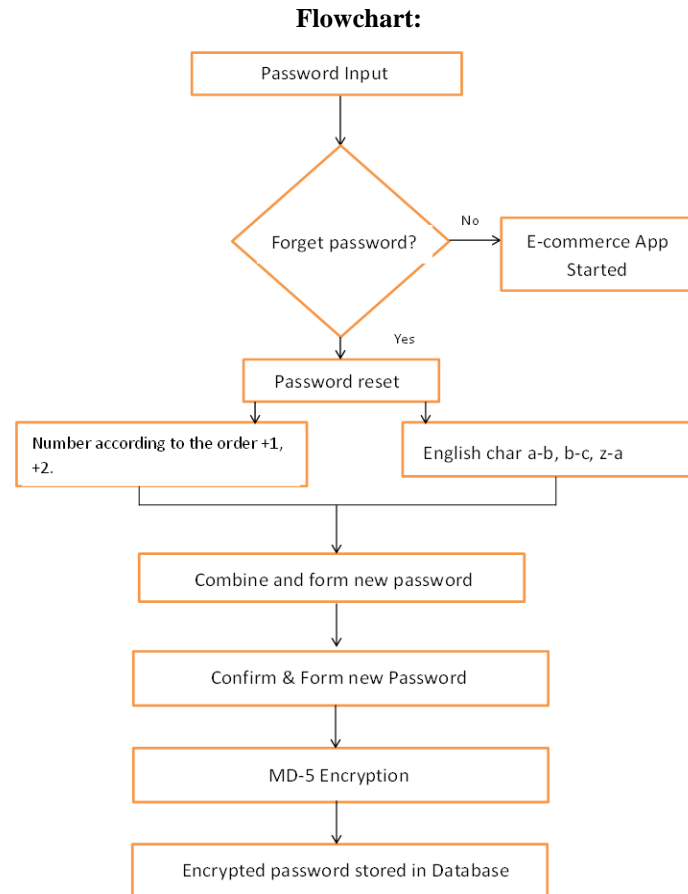
Flowchart:

Figure 4: Improved MD-5 Flowchart

Description of flowchart:

As we know MD-5 gets cracked in 2009 but even if attacker obtain the password is encrypted & attacker won't get the real password set by users. We know that MD-5 algorithm was still get used for login authentication. After some improvement the novel algorithm based on MD-5 get implemented, Flow chart shown in figure 4

Step 1: Input Password

User will enter user_id and password while entering for buying products from e-commerce application.

Step 2: Checking for Password match

Entered password and password stored in database get compare, if both are same then login will done and buying process will get start on e-commerce application.

Step 3: Password Reset if forgot

If user forgot the password then password reset link will get send on his email to reset the password, then password get reset successfully.

Step 4: Blocking Password

When user will enter password while registering, the spring MVC controller will get the password

Step 5: Processing digits

After block processing the digital part, according to the order of occurrence, complete +1, +2, +3…… operations.
$n = (n+i) \bmod 10$

Step 6: Processing character

The following transformation is performed for each character in the English character block i.e. a->b, b->c,….z->a, A->B. B->C,….., Z->A. the encryption can be represented using modular arithmetic by first transforming letters in numbers.

Step 7: MD-5 Encryption

The combination of number and character are used as input password which will be encrypted by MD-5 algorithm.

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II. Registration/signup & buying product:

if customer wants to buy product he/she must signup/register to the web application first then do login using userid and password created by him/her. After login user can able to buy the software product online. Customer can able to see product list and access to web pages without registration or login.

III. E-mail Notification:

On successful order customer gets mail of success on their email. E-mailnotification is services to customer which sends notification of reminderto customer's mail id about the product added to cart and not buy up to current date. It'sa reminder for buying the product. Customer will get notification before offer get end on product.

IV. Feedbackof review in the form of graph:

In this service all the feedback which are the given by the customers about the product are collected. All the reviews get converted into the graph. It will help to suggest recommended product to customers.

V. URL Browser Security:

The URL web browser security is maintained in system. If URL of logged in account get copy and paste in other browser or other tab of browser, then system will show the "unauthorised access" message on screen. No hacker can able to get access to system on copy URL of logged in customer account.

Conclusion:

E-commerce is continuously progressing and is becoming more important to business as technology continues to advance.This e-commerce system can help to grow business faster, it saves time of seller. It is a helpful technology that gives the consumer access to business and companies all over the world. The future of E-commerce will drastically progress over the years as the amount of internet users among businesses and consumers grows drastically every year.The improved MD5 encryption algorithm can effectively solve the security problem of user login authentication and system become more secure. No hacker can able to hack the system due to this strong security

References:

[1] Yanmin Cheng, Baotian Dong(s), Analysis and Design of Campus E-commerce System, in School of Traffic and Transportation- Beijing Jiaotong University Beijing, China , Year 2016.

[2] Ratna Sari, Cadelina Cassandra, Build e-Services Satisfactory Through e-Commerce Application Infrastructure (A Case Study Approach), 2016 International Conference on Information Management and Technology.

[3] XiaolingZheng, Jidong Jin, Research for the Application and Safety of MD5 Algorithm in Password Authentication,9th International Conference on Fuzzy Systems and Knowledge Discovery (FSKD 2012),2012.

[4]Ratnasari,CadelinaCassandra,java web Login Authentication based on improved MD5 algorithm.(2016)

[5] KeonwooKim,Un Sung Kyong, Efficient implementation of MD5 algorithm . In password recovery of a PDF file.(2012).