Published by :
http://www.ijert.org

International Journal of Engineering Research & Technology (IJERT)
ISSN: 2278-0181
Vol. 9 Issue 10, October-2020

Website Design Testing for Online Business

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***Abstract*— E-commerce become very popular and essential buying and selling platform which growth very rapidly in recent era. Now the world considers as global village and this happened due to massive improvement of IT technologies. By the help the IT technologies people can do lots of difficult task very easily and instantly without any error and interruption. Like all other sector the commercial branch engaged with the IT technologies and the world experienced the revolution in financial department. Bangladesh is a developing country. Like all other country Bangladesh also taking part in economical and technological revolution and challenging competition. In Bangladesh the business sector connected with IT sector and contributing abundant in human activities. Nowadays people are showing keen interest on online shopping because his shopping techniques are time saving and customer can get freedom to choose their desired product. They can buy their goods without move to market, through some smart devices with internet connection. The young people largely connected with online shopping in Bangladesh. The businessmen are also showing their keen interest in online business. They can manage different types of product without labor. They can show numerous goods for customer attraction without store and can run their business from their house. Lots of youth are showing interested to engage in online business. Most of them now become successful businessman. For displaying numerous products, making order and connecting with the buyer and seller need a strong website for handling these tasks. In Bangladesh, the online business in on developing mode and sometimes the businessman are unable to manage their business without efficient website. In this paper we successfully designed a website for online store. For design this website we used different software like Adobe Photoshop CS4, Adobe Dreamweaver CS5, developing tools are PHP, HTML, CSS, and JAVASCRIPT. We also show the software testing process in details. Seller can manage their product and buyer can buy their desired goods through this software without physical meeting and with guarantee**

Keywords—— E-commerce, Online shoping, Website design, Website testing.

I. INTRODUCTION

Bangladesh is under development country. IT and Internet support increasing and the country is becoming small day by day for the technology. People of the country is showing increasing pattern and they can communicate long distance within very short time because of the blessing of technology. Nowadays people are very busy and they have no enough time to go the shop to buy their product .So it would be wise to provide service of selling product on internet so that on the leisure time or home or road or office people can choice their product and purchase on internet even though they are in the long distance.

The advantages provided by Internet commerce are self-evident, and explain the enthusiasm shared by companies and customers for trading in this manner. For the supplier, there is greater potential to compete on a global scale, and cost savings can be attained in terms of staff and real estate by removing the need for public-facing premises. For the consumer, a means is provided to browse and search for products, and compare the prices of different suppliers, more quickly and easily than was previously possible. The Internet, Computer and IT related services to their day to day work is increasing rapidly. So the customer of the shop would be grow as per of the company demand .They would easily place order on the internet. As per my belief and market studies it will be a pretty much effective and helpful tools for shop to use the Information Technology for the betterment of the shop and also to achieve the goal of the shop. Online shopping system is the method whereby clients unswervingly can buy goods from a seller interactively in real-time without an intermediary service over the internet.

Online shopping allows you to browse through endless possibilities, and even offers merchandise that's unavailable in stores. If you're searching for a niche product that may not be distributed locally, you're sure to find what you're looking for on the internet. What's even more useful is the ability to compare items, similar or not, online. You can search through multiple stores at the same time, comparing material quality, sizes and pricing [1] simultaneously. Shopping via the internet eliminates the need to sift through a store's products with potential buys like pants, shirts, belts and shoes all slung over one arm. Online shopping also eliminates the catchy, yet irritating music, as well as the hundreds, if not thousands, of other like-minded individuals who seem to have decided to shop on the same day. So, it is time to say 'goodbye' to the days when we stood in line waiting, and waiting, and waiting some more for a store clerk to finally check out our items. Online shopping transactions occur instantly-saving our time to get our other errands done! Additionally, unlike a store, online shopping may easily implement friendly customer service representatives available up to 24 hours a day, 7 days a week to assist us with locating, purchasing and shipping our merchandise items.

In our research work we design a software through seller can sell the products of the shop efficiently. Then they can process these data and convert into valuable information so that, management can have a clear picture of the current status and able to plan, scheduled, fine tune and mange the process to achieve the goal of the organization. For doing these activities the online store needs to cover lots of activities like user management, purchase management, sell management and stock management.

Scope of the Software is pretty much wide. Primarily it is focused on online store. And there is a huge market share for

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International Journal of Engineering Research & Technology (IJERT)
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my product. And at the same time as it have different module for Purchase management, Sell Management, Stock management, User Management so, it will be very much possible to use the system to different domain's business some minor to midlevel changes. As the software will use very much common and used framework/ environment alone with very less dependency, so it will be very easy to use from Computer, Tablet, Smart Phone etc.

II. EXISTING AND PROPOSED SYSTEM STUDY

Information systems projects' instigate from many reasons; to achieve greater speed in processing data, better accuracy and improved steadiness, faster information rescue, amalgamation of business areas, reduced cost and better safekeeping. The sources also vary project proposals initiate and systems analysis. Sometimes [2] the real origin is an outside source, such as a government agency which stipulates systems requirements the organization must meet. When the request is made, the first systems activity, which means the preliminary investigation begins. The activities follow three steps like clarification request, feasibilities study and approval of request. The existing system was an automated system. But it was found to be inefficient in meeting the growing demands of population. The existing system have some deficiency like more time consuming, maintain cost high, required agent and physical location, customer need to out for that.

A. Proposed System

The online shopping system is very easy to run, maintain, it is reliable to cost, scale able, affordable and user friendly. Our system provides some benefit and characteristics like providing security, low cost, required basic computer knowledge, configurable and extensible. The system which we introduces here need not any educative, experienced, technical expertise in IT field person. This system can run all stages and native people. But the person who has a little bit knowledge on computer operating is good suit for using this system.

The system which we proposed is all about to convert the manual shopping system into online system. Customer can get permission for purchase their product after login the site. Administrator can add, edit and delete product from the database. After buying and making payment the products are send to customers' address that has been given. Customer can see the price list of the products. Admin can change password and add new admin. Admin can see daily and previous order lists. Admin can delete daily and previous order lists.

Online Shopping Software main purpose is to provide customers with the possibility to perform online purchases of products already on store. Customers are identified properly and are able to perform online transactions using three kinds of methods: either using credit or debit card or mobile banking, or with cash on delivery. Online Customers are divided on two categories upon user account types: basic and business. Basic accounts beside other attributes contain a specific one named Fidelity which deals with the number of years the user has been joining the online shop. On the other hand is business plan which is characterized uniquely by the Volume attribute that is the total amount of transactions performed within the online shop. The customer is able to operate throughout the system after properly authenticated. He is able to create a cart and add products to it or delete them as well. Then he decides whether he might go on with the checkout operation and complete the purchase. Once the user decided upon the plan to use; basic or business, he is given the alternatives to pay through the previously mentioned methods accordingly. Once the purchase is confirmed by the customer and admitted by shop commission, customer details come into use in order to define the shipping address and other supplementary information.

III. SYSTEM IMPLEMENTATION

For designing a system numerous contents need to gather and implement that content through that system. For software design required lots of document and official statement.

A. Software Requirement Specifications (SRS)

The Software requirement specification (SRS) is the official statement [3] of what is required for the system developers. This requirement document includes the requirements definition and the requirement specification. The software requirement document is not a design document. It should set out what the system should do without specifying how it should be done. The requirement set out in this document is complete and consistent.

The software specification document satisfies the following:-

1. It specifies the external system behaviors.
2. It specifies constraints on the implementation.
3. It is easy to change.
4. It serves as reference tool for system maintainers.
5. It record forethought about the life cycle of the system.
6. It characterizes acceptable response to undesired events.

B. User Class and Characteristics

There are 3 types of user of this software:

1. General public – General public can use the system to see the product, product's prices and details. General user cannot buy the products.
2. Customers – Customers are using for viewing and buying the products. Customer can also placed order for products and services.
3. Administrator – Administrators can add, edit & delete products and provide services to the customer. Administrator can see the daily sell and can also see the order list placed by the customer. Administrator can maintain the deliveries.

C. Functional Requirement

The System must provide following functionalities —

1. Keeping records of customers.
2. Keeping records of the category, subcategory and their products.
3. Keeping the daily and previous orders list.
4. Storing the items selected by the customer in the temporary storage.

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5. Provide the checkout functionalities for the customer to buy the products.
6. Keeping company and its shipping and delivery information.
7. Provide the products searching facilities for the users.

D. Modeling the Requirements

Use Requirement:

Service and option that must be followed to the system are described below:-

F1 –Display entire Category: Once the user selects the "Category Name" The System should output details of all product relate to the Category.

F2 –Display entire Subcategory: Once the user selects the "Subcategory Name" The System should output details of all product relate to the Category.

F3 –Display entire Products under Category or Subcategory: Once the user selects the "Category Name" or "Subcategory Name" The System should output details of entire products relate to the category.

F4 –Display Product information: Once the user selects the "Product Name", the System should output details of the product.

F5 –Price list: Once user select the "Price List" option The System should output price of the entire products.

F6 –about us: Once user select the "about us" option The System should output details Information relate to the Company.

F7 –Shipping & Delivery: Once user select the "shipping & Delivery" option The System should output details Information relate to the customer services.

F8 –Search: Once user select the "search" option system will ask to enter the key words .If system find any products relate to this keyword, system will output details of those products.

Customer Requirement:

F9 –Login: A user name & a password will be required in order to log in to the system. There must be registration form where user can create user name with password.

F10 –Registration: User need to register to purchase products. Once user selects the "Registration" option he is asked to enter the first name, last name, address, city, zip code, Phone number and email.

F11 –Shopping Cart: Customer need to log in to add the products to the shopping cart. Once user logged in and select the "Shopping Cart" option The System should output details Information relate to her Shopping cart.

F12 –Changed Shopping Cart: After logged in and adding the products to the shopping cart. Customer can update, remove, or empty his shopping carts.

F13 –Check Out: Once user selects the "Check Out" option The System should output details Information relate to the Check Out and customer can place order from there.

Administrator Requirements:

F14 –Add Category: This function must allowed user to add Category Id and Category Name. Same Category cannot be added twice to the system.

F15 –View Category: This function will list the entire Category alone with all the information of respective Category.

F16 –Alter or Delete Category: This function will allow altering or deleting the current Category.

F17 – Add Subcategory: This function must allowed user to add Subcategory Id and Subcategory name under a category Id and category name. Same Subcategory name cannot be added under a category name twice to the system.

F18 –View Subcategory: This function will list the entire subcategory alone with all the information of respective subcategory.

F19 –Alter or Delete Subcategory: This function will allow altering or deleting the current subcategory.

F20 –Add Product and its Features: This function must allowed user to add the product under a category and a subcategory and the details of the product that are product name, price, discount, description Of the Product, Upload Photo, and quantity.

F21 –View or Search Product and its Features: This function will list the entire Product alone with all the information of respective Product.

F22 –Alter & Delete Product and its Features: This will allow altering and deleting current Product and its features.

F23 –View Current Order Sheet: This will list entire current day's orders and its related information.

F24 –Alter or Delete Current Order Sheet: This will allow to altering and deleting current order sheet.

F25 –View or Search Order Sheet: This function will list the entire orders by date wise.

F26 – Alter or Delete Order Sheet: This will allow for altering and deleting order sheet by date wise.

F27 –View Current About us Content: This function will display the current about us content of the websites.

F28 –Alter About us Content: This will allow to altering and deleting current about us content of the websites.

F29 –View Current Shipping and Delivery Content: This function will display the current shipping and delivery content of the websites.

F30 –Alter Shipping and Delivery Content: This will allow altering and deleting shipping and delivery content of the websites.

Admin User Requirements:

F31 –Add New Admin User: Add User with Unique Admin Name, Admin Password.

F32 –Alter or Delete Admin User: This will allow altering and deleting the Admin Name and Password of the Admin user.

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IV. SOFTWARE DESIGN

After analyzing all requirements the whole system is divided into 11 Module:

1. Login System Module.
2. Registration Module.
3. Search Module
4. Category Module.
5. Sub Category Module.
6. Product Details Module.
7. Check Out Module.
8. Order Info Module.
9. Auxiliary Module

Login System Module:

1. This module will compose of one User Admin Panel and one User Log In window.
2. Administrator of the system will define the role and permission level of particular user or group.
3. Also will be able to Create or Delete User Account, Reset Password.

Category Module: This module will compose of Category information.

Sub Category Module: This module will compose of Category information.

Product Details Module: This module will compose of Product Details Module.

Registration Module: This module will compose of Registration module of the Customer.

Order Info Module: This module composed of Order info module.

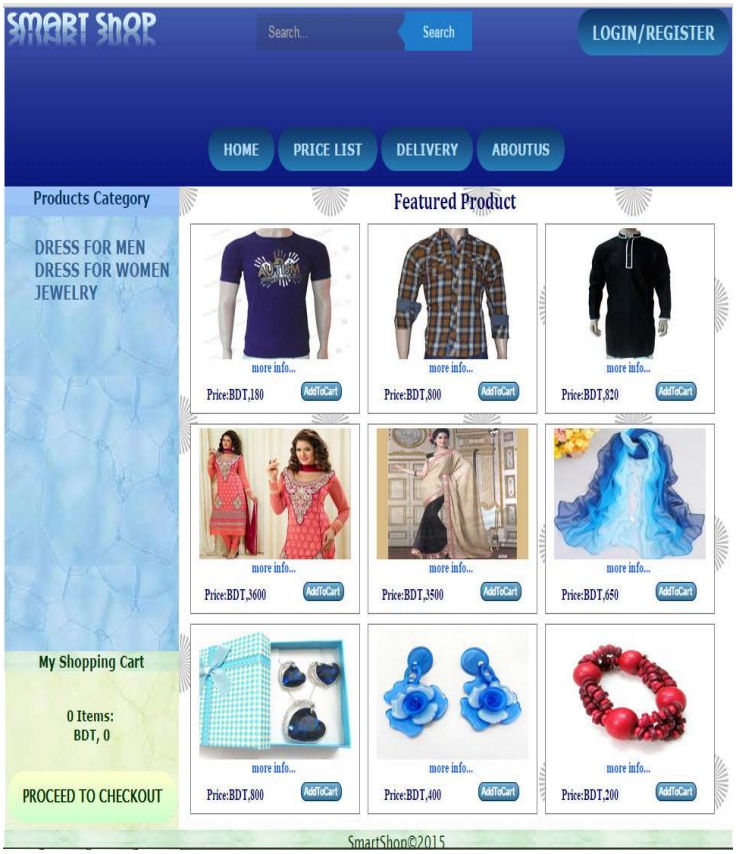
V. SOFTWARE IMPLEMENTATION AND SCFEEN SHOTS

I have listed front end screen i.e. customer's site and backend i.e. admin section's screen shots of the software below:

Front End of the Software: I have listed Frontend i.e. customer section pages below

Search Module: I have added search module with the most of the pages using search box.

Home Page:



Product List Page:

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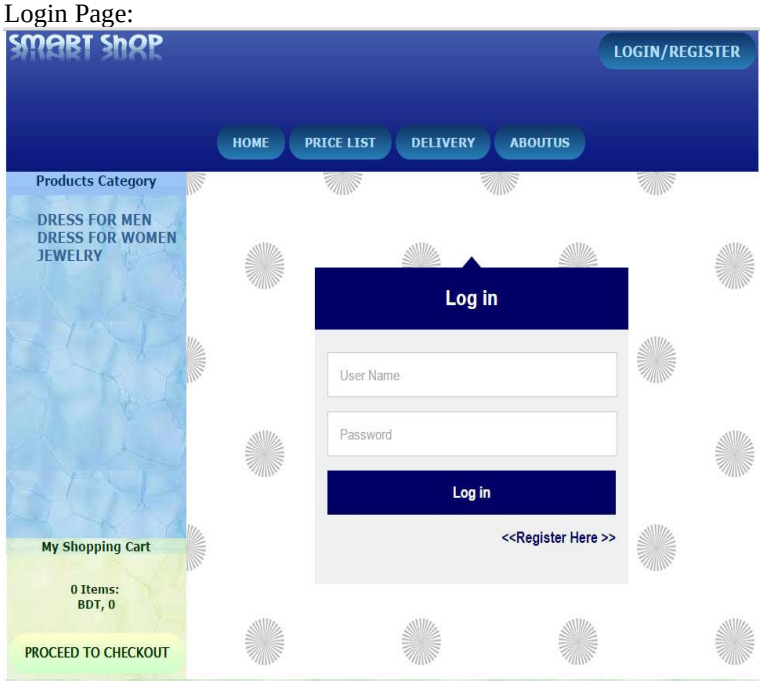
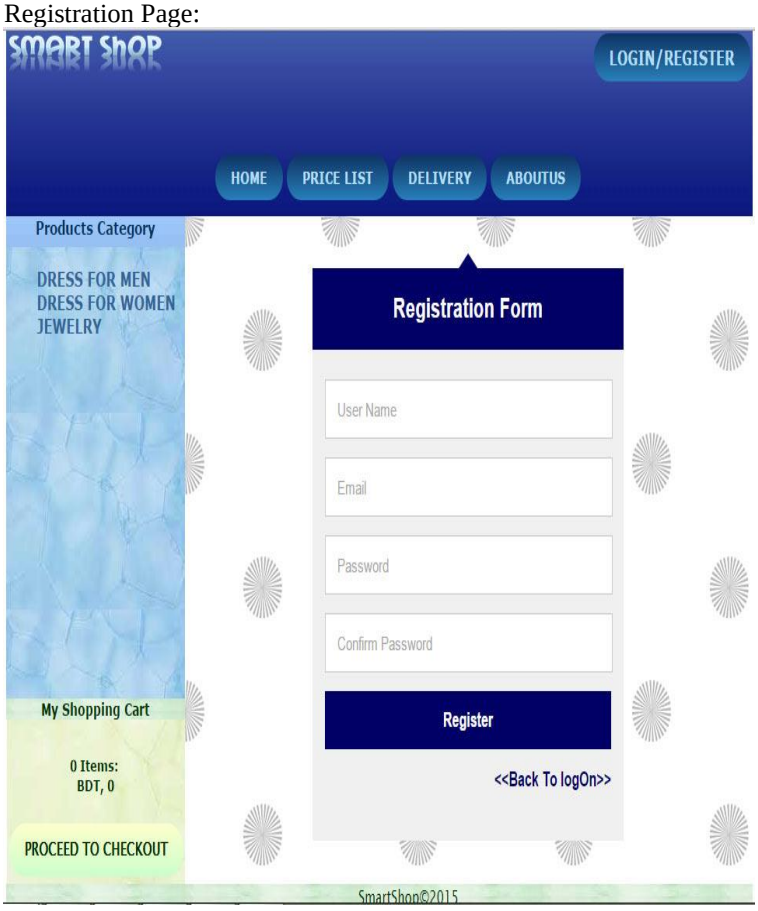
Product Detail Page:

Login Page:



Product Detail With Large Picture Page:

Registration Page:



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Shoping Care Page:

Price List Page:

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International Journal of Engineering Research & Technology (IJERT)
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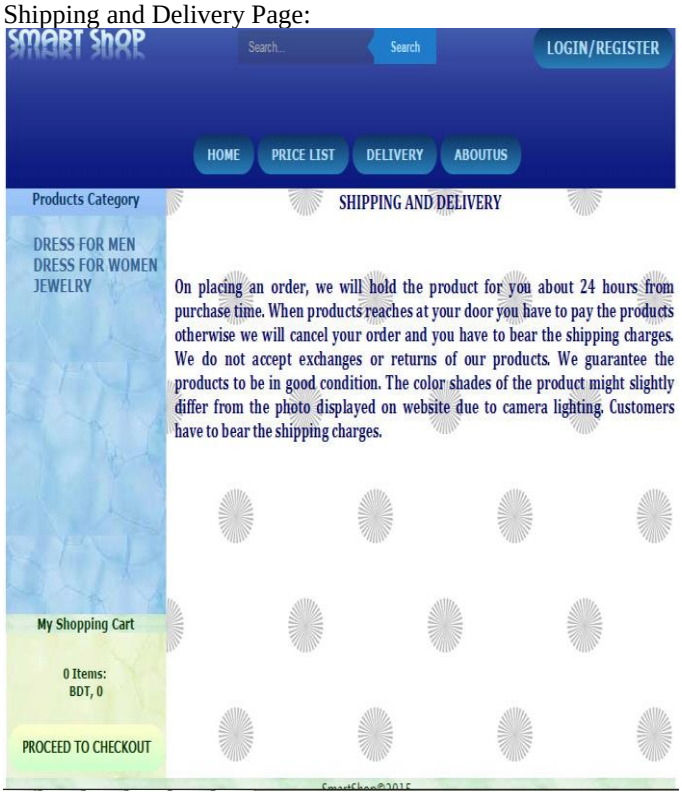
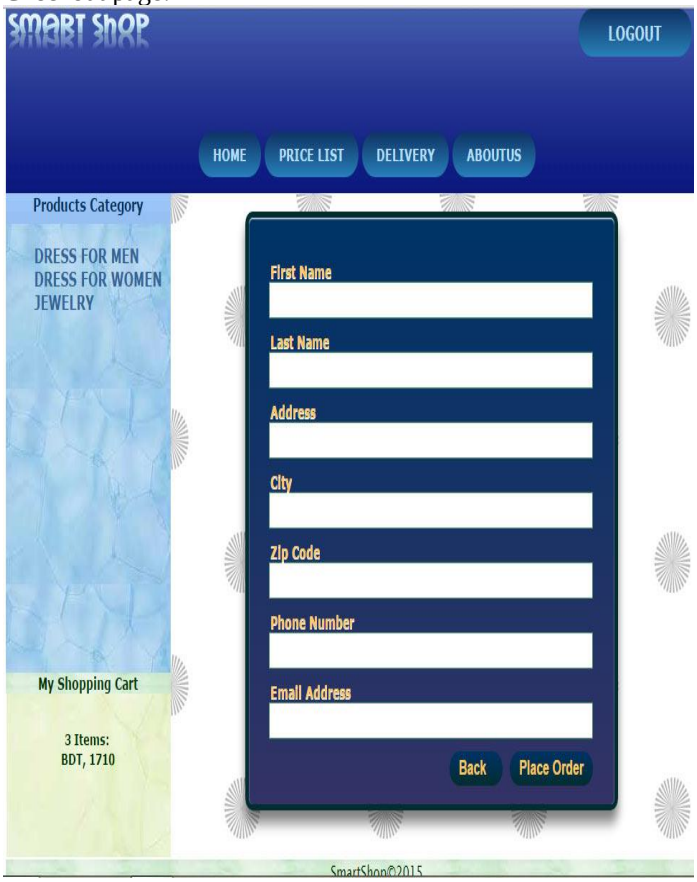
Shipping and Delivery Page:



Checkout module: We have implemented the checkout module

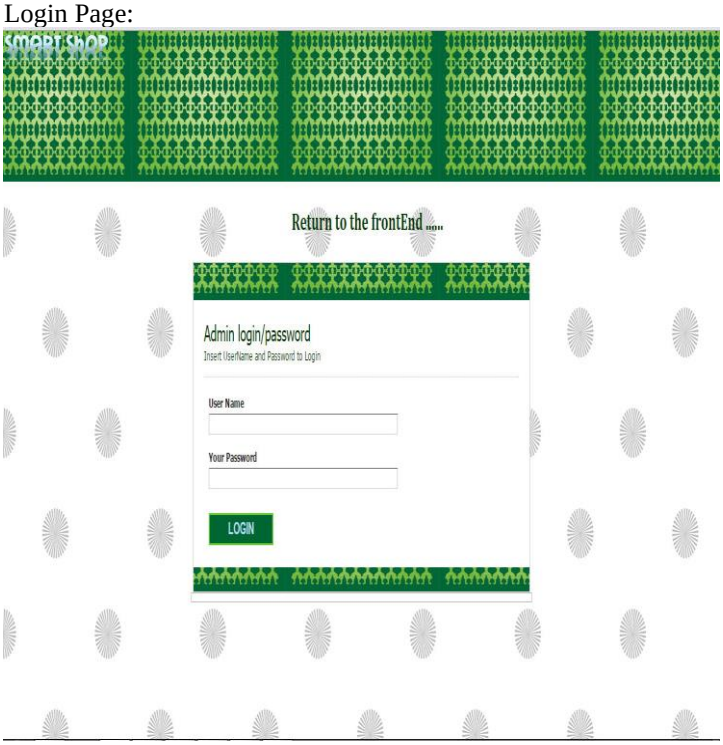
Checkout page:



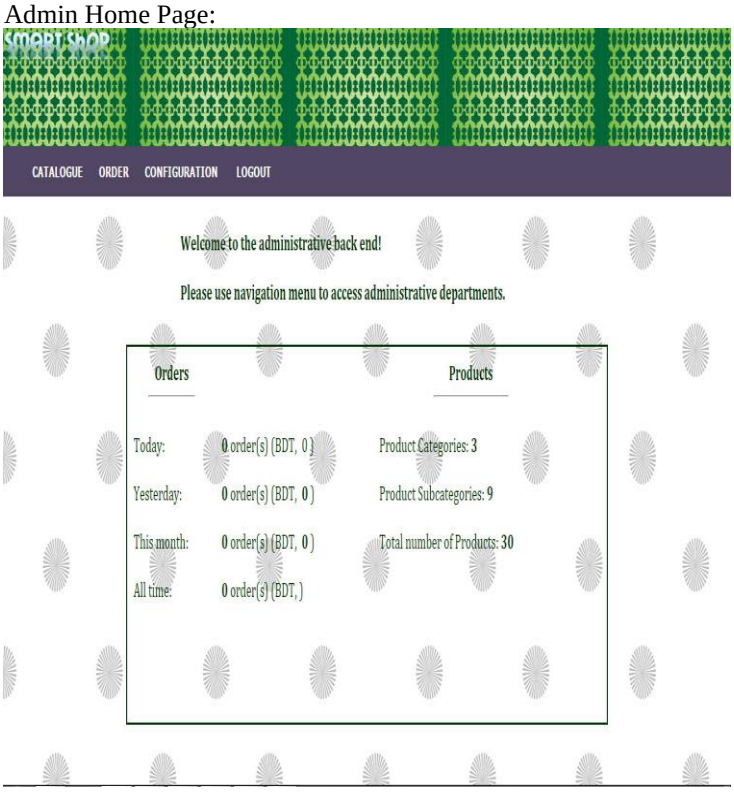
Admin Section: Pages implementation of the admin section listed below.

Login System Module: We have also implemented the login system module.

Login Page:



Admin Home Page:



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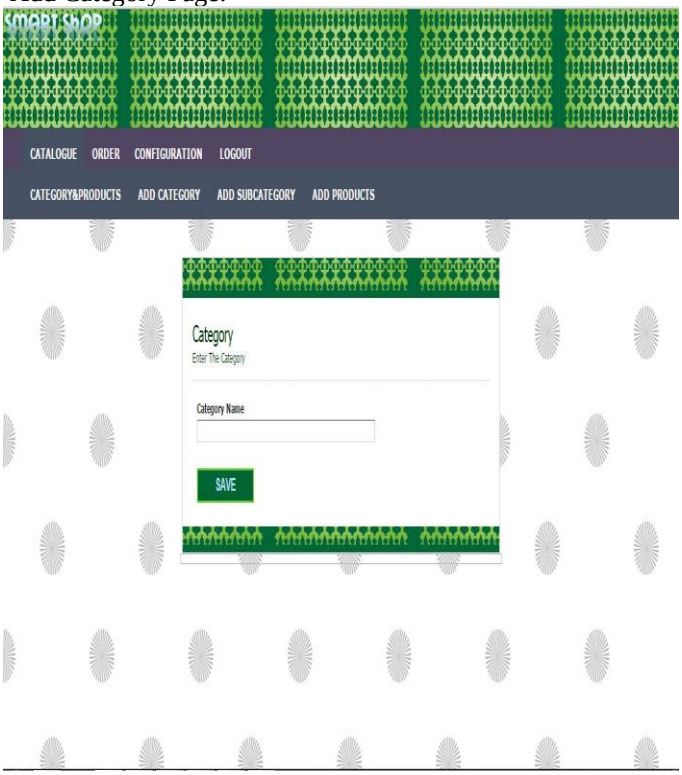
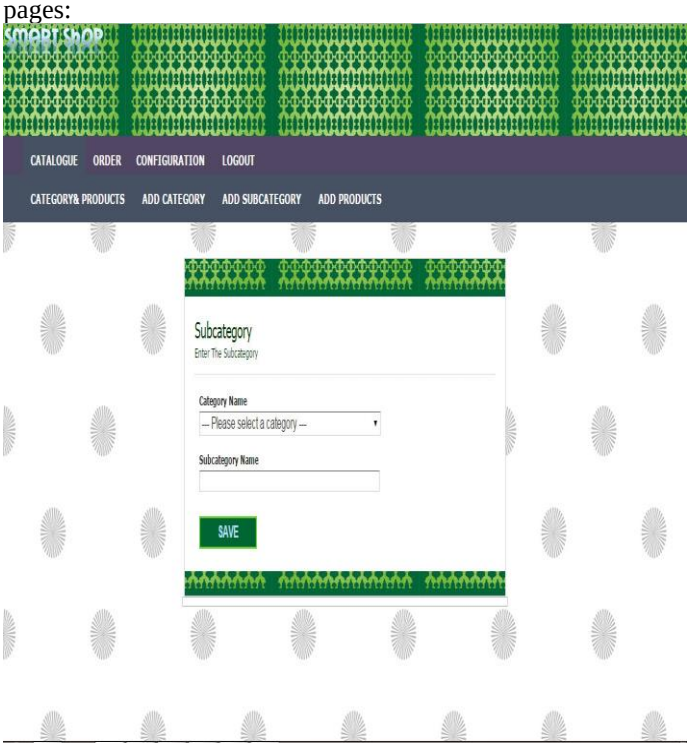
Category Module: The following pages add the category module.

Add Category Page:



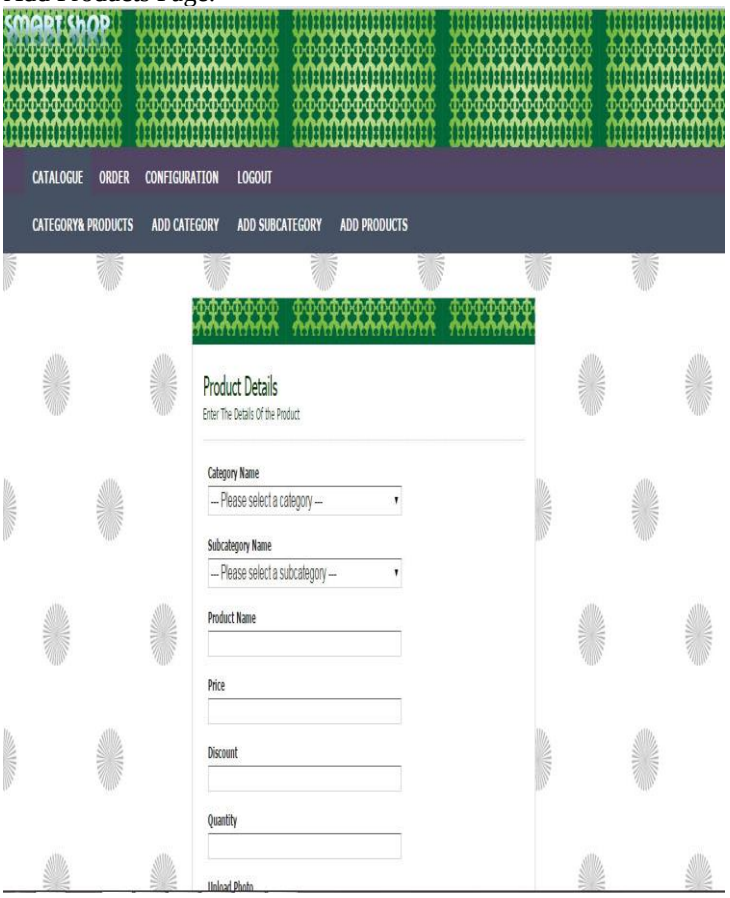
Subcategory Module: The following pages add the subcategory module and also edit the subcategory module.

Add subcategory pages:



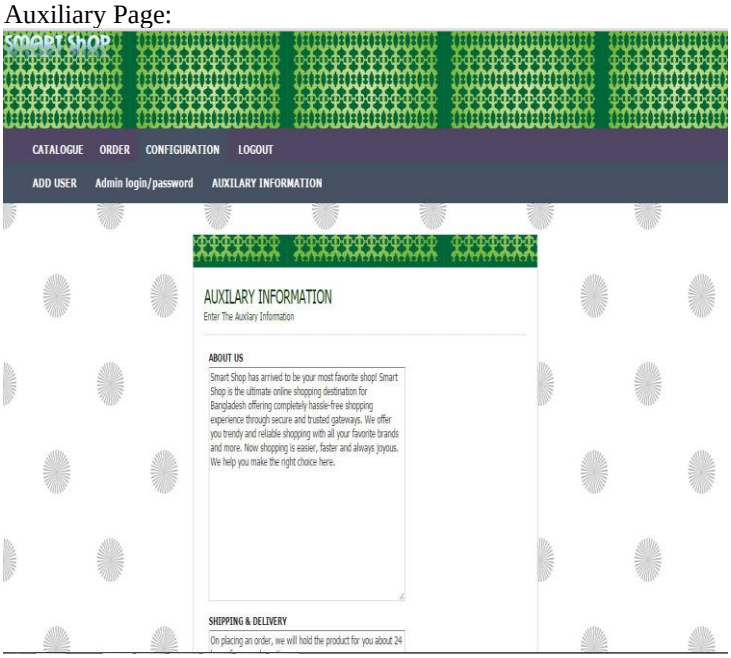
Product Detail Module: Provide form to input the product details and edit the details of the products.

Add Products Page:



Auxiliary Module:The following pages add the auxiliary module and also edit the auxiliary module.

Auxiliary Page:



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International Journal of Engineering Research & Technology (IJERT)
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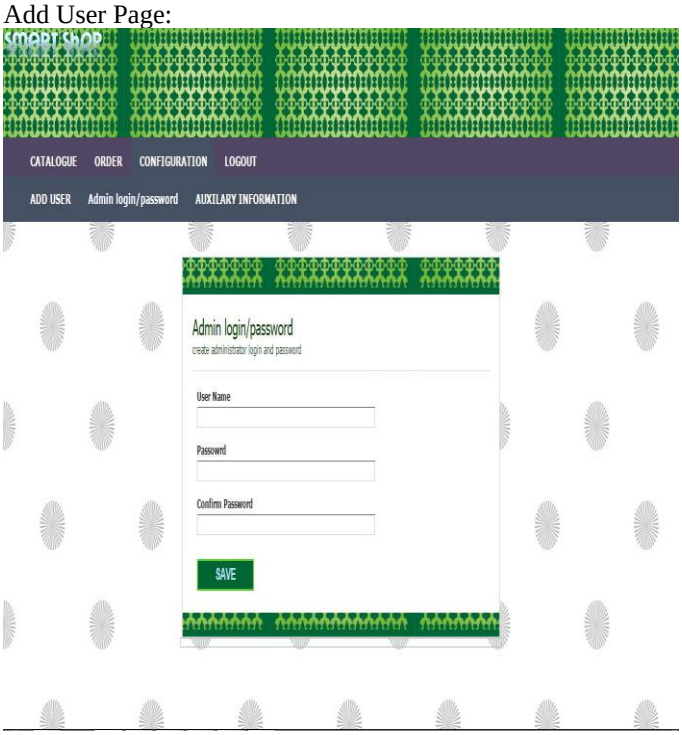
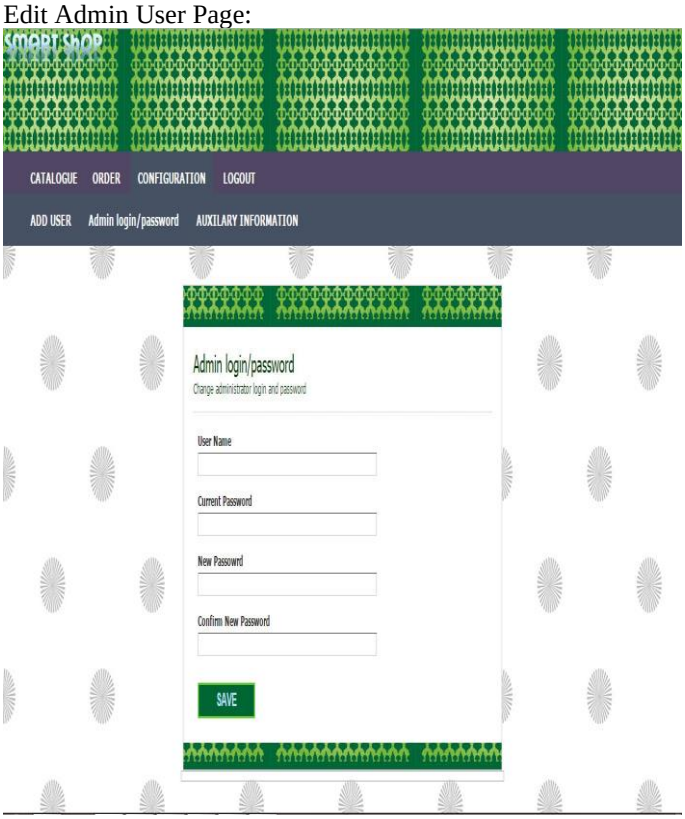
Registration Module: Provide form to input admin details.

Add User Page:



Edit the admin user detail pages.

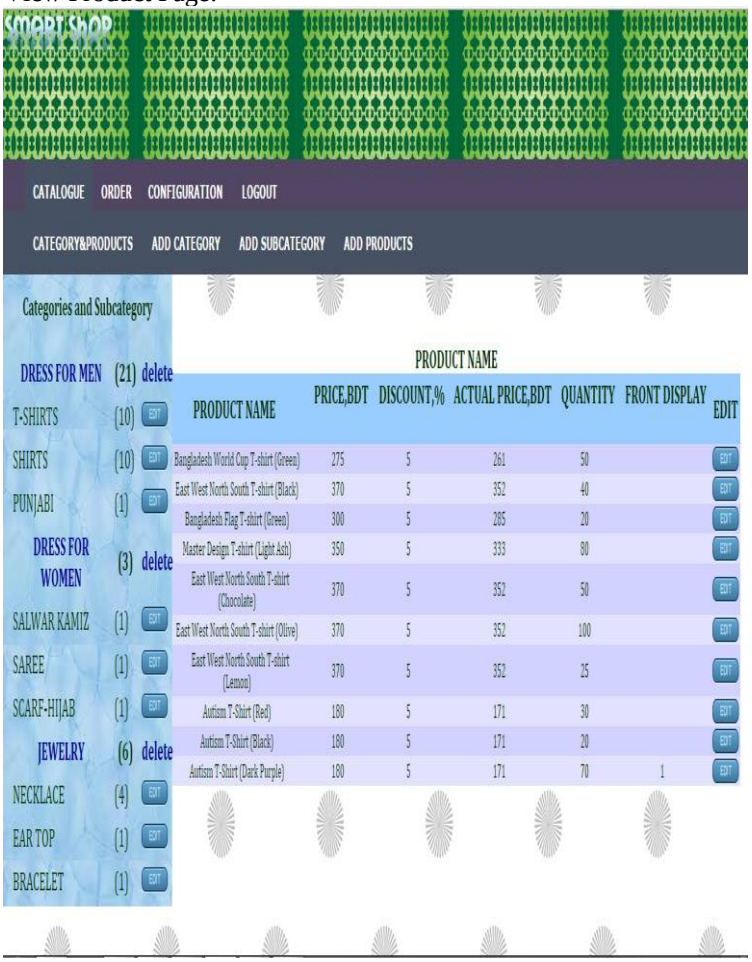
Edit Admin User Page:



Order Information Module: Page shos list of orders previous and present.
List of Order Page:

View Product shows the all category, subcategory and products.

View Product Page:



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VI. SOFTWARE TESTING

A. *Testing Plan*

Testing is an important part of the systems design. It involves checking for correctness, which is one of the focuses of this project. The way to test to see if the system is working correctly is to use black box testing (or functional testing). What black box testing does is to feed in inputs and obtain relevant outputs. These inputs and outputs are then studied and checked to make sure that they are desired the result, in order to make sure that the system is behaving properly. I planned to perform test parallel with the implementation of the new system and I am going to follow some testing procedures defined in the software engineering literature.

First, I will build my database and insert sample data in it. These sample data were taken from Wear & Style record section. As a result, the quality of those sample data will be the same as real environment. The functionalities of the database will be tested with sample operations such as queries, updates, insertions and deletions. Actually, all of these operations will be performed by custom written methods which will be called from various sections of our software. I just need to check out that the database is appropriate to store results of these operations. The most important thing for proper operation is to ensure that the database is in correct location at all times. Then I will build my software interface. I will start from the user interface in order to identify the components and objects that will need. Then I will define the appropriate classes and methods. I will test the operations of each function with sample data independently. Then I will test the functionality of each with my database. I also need to check the format of the data entered by the user which are fixed such as Order quantity. Quantity can only contain numbers. Any characters into Quantity data will make a error and the user will be notified accordingly.

B. *Testing Schedule*

Testing of the system was predominantly “Black Box” based. The test schedule followed the implementation schedule and was carried out incrementally. Testing was a mixture of ‘bottom-up’ and ‘top-down’. Each unit was tested first independently. Then the whole system was tested with all components. The final test of the system was completed successfully Black Box testing is a software testing technique whereby the tester does not know the internal workings of the items being tested. For example, in a black box test in software design, the tester only knows the inputs and what the expected outputs should be and not how the program arrives at those outputs. The tester does not ever examine the programming code. More specifically, this technique checks that the program behaves accordingly to the specification, meaning that the program produces the correct output for each input. In this part, we are going to analyze the testing schedule and the techniques we have planned to use.

Code-Walkthrough:
As the developer of this software, it is completely my responsibility to check the code for each part of the system. This is seen as far better to find a problem at this low level rather than later in this testing cycle where several components have just grouped together. This should be completed as soon as the coding for each section of the system has been completed. Things to look for in the code are syntax errors, incorrect/invalid function or variable names, and inefficient data structures. Once the changes are completed, a second walkthrough should occur to check for any problems created by changes made to the cod.

Component Testing:
This should occur on the development machine, immediately after the cod has been given the “all clear” in the cod-walkthrough. The code for individual functions are compiled and executed to see whether it performs the functions that it was designed to. If a section of code does not produce the required outcome, then the code should be checked against the requirement specification given for that section, and rewritten as required.

Bottom-up Integration Testing:
Integration testing is where all the components will be combined together and checked to see if they all work correctly. If they don’t, then there are problems with the code and unit testing will have to review again in order to pinpoint the problem and fix it. According to Somerville, the integration should ideally be completed on a machine that was not used during productions of any individual sections of code.

System Test:
In this part, the objective is to make sure that the system can perform the way the user or the visitor has asked it to and that the system design has been implemented correctly. The two major issues those need to be taken into consideration here are:

Function Testing:
Functional testing checks that once the system has been integrated together, it works as desired, by checking that the functional requirements have been satisfied.

Performance Testing:
Functional testing checks that the non-functional requirements have been satisfied. This will include security matters, speed, accuracy and reliability.

The testing schedule that used in order to test the system was the following:

1. Unit/component testing
2. Integration testing
3. System testing

C. *Unit Testing*

Here is a brief description of how we tested our system. During implementation, each unit was built and tested in parallel, making sure it meets its requirements to the fullest extent. The first testing task that was performed was to check whether my database connection is correct and SQL queries work properly and if so, am I obtaining correct results? The

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International Journal of Engineering Research & Technology (IJERT)
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next text included adding, deleting, modifying and searching records in the database. Similar tests were performed for all functions those were used to build this software. Some errors were found and they were fixed. The database was also tested to check that values fit into it nicely. The values entered by user in the quantity and in/ out section were also checked for valid format.

D. Integration Testing

In this part, units had to be tested to see if they work together properly. The general test performed on each section was to make sure that values entered in the relevant textboxes were updated the database according to the functions performed by the uses, and at the same time, updates all the pages in the software.

E. System Testing

Once the integration test has been made, we set out to make sure that our system worked as specified in the design document. We checked together that the system works as desired, by checking that the functional requirements have been satisfied.

The two major issues those need to be taken into consideration here are:

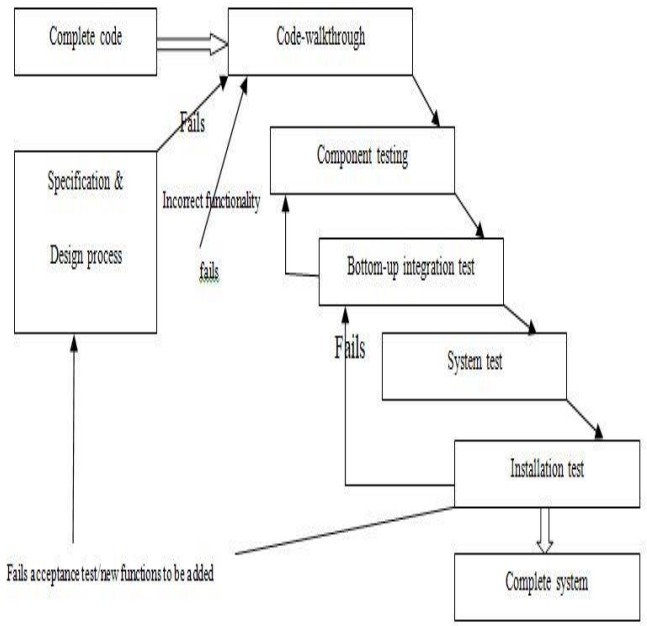

Fig: 6.1 Testing Process of the System

VII. CONCLUSION

We sincerely design and implement a website for online store management on the platform of E-commerce and this is our main goal. To develop one country the role of the information system is very important .It makes the life easier and provide facilities to the people so that they could get benefit from that technology. Through online business businessman can easily handle their business and extended it throughout the world. This system added a quality time saving process. For gaining general public it is very important to implement a strong, flexible, user friendly and secured system so that they can easily access the software. The software which we design here is very secured and user friendly. If a businessmen use this software he/she can easily manage it and the buyer can access the website by smart device with internet connection. Public can easily buy their required product without going to the shop physically and they can order product form anywhere over the world. So in our research work we successfully, perfectly and efficiently design a website for online business.

REFERENCES

[1] Patthanid Cheangtawee, Natspun Paopun, and Wanno Fongsuwan, "The Development of Key Perforance Indicators for E-Connerce in Hotel Businesses Using Balanced Scorecard", Proceedings of the Fourth International Conference on eBusiness, November 19-20, 2005, Bangkik, Thailand.

[2] Syed Emdad, Tania Alauddin and Hasan U. Zaman, "Developing an E-Commerce Website"

[3] Yot Amomkitvikai and Cassey Lee, "Determinants of E-Commerce Adoption and Utilisation by SMEs in Thailand", January 2020.

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