DESIGN AND IMPLEMENTATION OF E-COMMERCE WEB APPLICATION

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ABSTRACT

The primary focus of this paper work is about the design of Web portal for the trading and welfare for pets. A "usability subculture" has evolved as a result of emerging web technologies. The user centered design will become more important in an increasingly competitive market. Because of this application the users can make an ease approach into Veterinary Science, clubs, buying and selling of pets and its accessories. By viewing this site, one can make clear decision while buying a new pet initially. Further one can get to know information about the breed and its life cycle, in regard with its nature, habitant, food culture and purpose. The people who are fond of animals can opt themselves as a social reformer. A user can also enroll themselves as a community member and have a full access towards its responsibilities. In additional, anyone can get to know about nearby localities anywhere related to pets. Thus this web application enables one's mind to be enlightened and one to get their loved ones & their necessities at one spot.

E-commerce could be a boom within the modern business. E-commerce means electronic commerce. E-commerce involves buying and selling of products and services, or the transmitting

1.   INTRODUCTION

Here, we develop an e-commerce application, e- commerce has penetrated into people's daily life, and the e-commerce market is becoming more and more competitive. This paper introduces e-commerce data mining-oriented features and system structure. The online marketing e-commerce system will help the development of the enterprises depends on such type business. Here, we can buy or sell our orectic creature via online. All of its medicine and grubs details are stored and retrieved here from database.

All of these should be presented on online e- commerce system. Here, we mentioned what a user's wants do. They can do buying or selling our orectic creature and he can view all of its requirements. Process will be taken on different acrimony and different payment modes. In this e-commerce application, we use different types of algorithms. SEO (search engine optimization) will help us ranking our site to top in search engines. Opinion mining helps us to know the user opinions about a particular creature or other data. Cryptography was used for encrypt and decrypting our submitted data's. These to be used for protect our data more secure.

E-Commerce is the process of doing business online through computer networks. The first goal of an e- commerce site is to sell goods and services online. Online shopping may be a type of electronic shopping store where the customer is directly online to the seller's computer usually via the net. An individual sitting on his chair before of a computer can access all the facilities of the net to shop for or sell the products. Online Shopping System helps in buying of products, products and services online by choosing the listed products from website (E- Commerce site). The go-cart is especially useful for who haven't time to travel to shopping. Go-cart may be a important feature employed in e-commerce to help people making purchases online. Buy and sale process is completed electronically or cash on delivery. User can login into

of funds or data, over a system, predominantly the net. E-commerce could be a paradigm shift influencing both marketers and also the customers. Rather e-commerce is quite just differently to spice up the prevailing business practices. It's leading to a whole change in the traditional way of doing business. This significant change in business model is witnessing an amazing growth round the globe and India isn't an exception. A large internet penetration has added to growth of E-commerce and more particularly start-ups are increasingly using this selection as a differentiating business model. Moreover E-Commerce has significant influences on the environment. Although the model is very employed in current business scenario but the choice has not been explored at its fullest. The present research and analysis has been undertaken to explain the condition of E-Commerce websites, analyze the trends of E-Commerce.

eCommerce website, once he logged in then automatically one go-cart are going to be created, once user select an item it'll increase cart. Just in case user thinks the chosen item isn't useful for him, then he can delete that item form the cart. Report generation feature is provided using Crystal Reports to come up with different styles of reports like bar graphs, pie charts and table type charts etc. The proposed system helps in building an internet site to shop for, sell products or goods online using internet connection. Unlike traditional commerce that's distributed physically with effort of an individual to travel and find products, e-Commerce has made it easier for human to scale back physical work and to avoid wasting time. The fundamental concept of the applying is to permit the customer to buy virtually using the net and permit customers to shop for the things and articles of their desire from the shop. E-commerce is fast gaining ground as an accepted and used business paradigm.

The paper begins with a brief history of e-commerce websites, highlighting their evolution over the years. It then provides an overview of the advantages and challenges of e-commerce websites, including the importance of user experience in driving customer satisfaction and sales. The paper reviews the existing literature on user experience on e-commerce websites and identifies the factors that contribute to a positive user experience. The study's findings are then presented, providing valuable insights into the factors that contribute to a positive user experience on e-commerce websites.

The paper concludes with practical recommendations for e-commerce websites to enhance their user experience and improve customer satisfaction. These recommendations include website design, navigation, trust, and security. The insights from this research paper will be valuable to e- commerce businesses seeking to improve their website's user experience and increase customer satisfaction and sales.

2. REVIEW OF LITERATURE

Software protection is a standout amongst the most imperative issues concerning PC hone. In spite of the fact that heuristics and impromptu strategies are utilized for security the issue in general has not gotten the hypothetical treatment it merits. In this paper, we give hypothetical treatment of programming security. It is attractive to store information on information stockpiling servers, for example, mail servers and record servers in scrambled shape to lessen security and protection dangers. However, by considering security we lose usefulness. For instance, a customer wishes to discover the archives containing certain words, beforehand not known how to permit the information stockpiling server play out the hunt and answer the inquiry without loss of information secrecy.

Search over scrambled information is a strategy of awesome enthusiasm for the distributed computing time, on the grounds that many trusts that the essential information must be encoded before outsourcing to the cloud servers to secure client information protection. Concocting an effective and secure pursuit conspire over encoded information includes strategies from numerous areas, for example, data recovery for file portrayal, calculations for hunt productivity, and appropriate outline of cryptographic conventions to guarantee the security and protection of all frameworks. This paper gives a prologue to issue definition, framework model, and surveys the cutting edge systems for actualizing protection saving catchphrase seek over scrambled information. The surveys are confused, prompting troubles in data route and information securing. The recurrence based arrangement is not ready to perceive the critical parts of items which may prompt lower the effectiveness of the survey.

So existing framework can mine negative and positive input however it neglects to recognize genuine and fake survey in the rundown of item audit. In the event that any of the items are having great quality however difficult client has entered wrong or negative survey about the item then, different clients abstain from purchasing that item however it is ideal. It will make overwhelming misfortune for facilitating site through cash, advertise position and client criticism.

3.1 SYSTEM DESIGN

E-commerce website design is the method of shaping the coding, modules in HTML, CSS3, JavaScript and BootStraps for designs, interfaces and information for a system to satisfy mere needs.

System Module Description:

• Coding (HTML, CSS3, JavaScript, Bootstraps)

• Seller

• Customer

• Management

• Delivery

3.1 CODING

E-commerce website is made by scripting languages like HTML, CSS3, JavaScript and Bootstrap .This markup language make the website more attractive and useful and user-friendly to use and shopping .Markup languages help in making the things more attractive and imaginary.

3.1.1 HTML

HTML is HyperText markup language .It is an emerging technology, cascading style sheets, could eliminate many of the HTML table could be used to control the layout of a webpage. A web designer might separate the header, body text, and sidebar

The rapid growth of e-commerce websites has led to an increasing amount of research on user experience in the online shopping environment. User experience is a critical factor in determining customer satisfaction, retention, and ultimately, sales. Therefore, it is important for e-commerce websites to understand the factors that contribute to a positive user experience and to design their websites accordingly.

The benefits to companies that achieve Business-to- Customer (B2C) e-Commerce are compelling. Effective B2C e-Commerce implementations can help organizations realize substantial cost savings, increase revenue, provide faster delivery, reduce administration costs, and improve customer service. Thus, e-Commerce might be a major area for research thanks to its novelty and exploding growth. Extensive research in E-Commerce implementation studies indicates that the definition of implementation has been argued and confusing for researchers. Development of E-commerce is done by B2B and B2C and help the customer to fulfill the requirement.

3. EXISTING SYSTEM

Hackers have begun exploiting the prevalence of this outsider application stages and finding malevolent applications. Malevolent applications can give a lucrative business to programmers, given the prominence. Numerous product frameworks have advanced to include a Web-based segment that makes accessible to people in general by means of the Internet and can open them to an assortment of Web-based assaults. One of these assaults is SQL infusion, which can give assailants open access to the databases that underlie Web applications and has turned out to be progressively visit and genuine

This paper introduces another profoundly robotized approach for securing Web application. Against SQL infusion that has both applied and useful preferences over most existing systems. Render their service in specific arena alone. The above sites illustrates about either welfare alone or pet trading and its accessories. The overall Veterinary Science isn't stated in depth so far. The existing system only provides text-based interface, which is not as user-friendly as Graphical user Interface.

of a webpage by putting each into a distinct cell. Additionally, the net designer could put each link button on the header and sidebar into a separate cell so he or she could define unique properties for every button. Then, within the body of the page, the net designer could separate the textual and graphical elements into different cells to regulate spacing and other attributes individually.

3.1.2 CSS3

CSS may be a formatting language want to add styling to your page. This can be done by having the CSS document linked into your html page. This page then has selectors and properties which affect the tags inside your html document.CSS was introduced in 1996. It had been created to prevent people from having to repeat plenty of code. For instance, if someone wanted to alter the paragraph text, they'd should have intercourse every single time they wanted to alter the properties.

3.1.3 JavaScript

JavaScript is a powerful client-side scripting language. JavaScript is employed mainly for enhancing the interaction of a user with the net page. In other words, you can make your web content more lively and interactive, with the assistance of JavaScript. JavaScript is additionally being employed widely in game development and Mobile application development.

3.1.4 BootStrap

Bootstrap could be a web framework that focuses on simplifying the event of informative sites. The primary purpose of adding it to an internet project is to use Bootstrap's choices of color, background effect, mobility size, font and layout to it project. As such, the primary factor is whether or not the developers answerable find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result an identical appearance for prose, tables and form elements across web browsers. In addition, developers can cash in of CSS classes defined in Bootstrap to customize the look and component of their tools of their contents. Bootstrap is used for light-and dark-colored tables, more prominent pull quotes, page headings, and text with a highlight.

3.2 DATABASE

Database & Information Systems could be a database employed in a way of life, a database could be a collection of processed information associated with a selected subject or purpose. Allow us to consider an enterprise, like delivery agents, that features a great deal of knowledge kept for long periods of your time in a very computer. This data might include information about passengers, locations, flights, airlines, and personnel, for instance. Typical relationships that may be represented include bookings, location (which passengers to which location?), and order (which order to which location?). These forms of data stored more or less permanently in a very computer is termed a database.

4 CUSTOMER

Customer features a wider choice not from his town or country but also around the globe unless there are import restrictions. Customized or personalized product and repair. for example if some lady wants a bra of actual size, her size are often measured through internet and stored and he or she are supplied bra of her requirement. In case of purchase, one isn't required to travel from store to store to determine the products to gather their details, prices etc. Sitting reception he gets all the desired information which too in no time without spending much time. There is absolute flexibility of your time, place and distance is not any hurdle; one can open the positioning any time day or night to urge details, there's no problem of shops/stores opening/closing hours. Websites are often opened any time. In physical sales place and distance is additionally a controversy which is not any problem in e- commerce because one can see sites everywhere the planet without moving out of the house. Goods are available at cheaper price because there are lot of economies of space, rent, interest to the vendor further, he manages with much lesser number of outlets and price of promoting is reduced. A part of these savings is passed on to consumers and so, he gets the products cheaper than

From conventional shops/departmental stores, grocers etc. It helps to globalize retail trading. One should buy things without geographical boundaries.

5 MANAGEMENT

One of the more important themes that permeate this paper is that the incontrovertible fact that knowledge management is synonymous with change: adaptation and evolution. It's assumed that at the start the system operates on principles extracted from human experts that represent their view of the population of the potential customers. It also incorporates variety of theoretical laws that are proposed as high-level abstractions of the economic reality. One among these theories claims that it's almost impossible to make an accurate model of commerce (and therefore also e-commerce) reality based only on theory and knowledge extracted from human experts. The system should be adjusted to cater to real-life customers, who may behave differently than the idea predicted. Additionally, because the time goes by, clients' interests and desires change because of their aging moreover as because of the changes within the environment (e.g. bell bottom jeans were popular once). To be ready to successfully add the constantly changing world, the system should be adaptive. Since knowledge management could be a process of continually adjusting knowledge through its application and thru collection of additional data and extracting knowledge from it and incorporating it into the system, with the goal to constantly improve the prevailing model(s) of reality and effectiveness of the operation of the system, it's knowledge management that's the premise for system adaptively.

6 DELIVERY

Delivery demands of e-commerce world, where all sellers and delivery partners need functional, efficiently and extensive infrastructure. In addition transport and logistics networks that combine new technologies, multimodal transport operations and compliance with trade rules. Barriers to the availability of international transport and logistics services do remain. These relate both to plug access – including limitations on operating in an exceedingly country; the necessity to partner with a domestic supplier; restrictions associated with foreign equity in transport services; restrictions on Cabot age operations; domestic monopolies – and to the domestic regulatory environment .A more open environment could improve efficient access to global networks for home- grown small businesses. Competition between service suppliers can reduce prices and lift the standard of services offered. A facilitative regulatory environment can rapidly increase these trends and makes the business case for operating in smaller or more remote markets that way more appealing.

6.1 Disadvantages

a) The existing system can reach large numbers of users and their friends to spread spam,

b) The existing system can obtain users' personal information such as email address, home town, and gender, and etc.

c) The existing system can "re-produce" by making other malicious apps popular.

7 PROPOSED SYSTEM

The inception reason for SQL infusion vulnerabilities is inadequate info approval. In this way, the clear answer for dispensing with these vulnerabilities is to apply reasonable cautious coding rehearses. Here, we outline a portion of the accepted procedures proposed in the writing for forestalling SQL infusion vulnerabilities.

This web application renders benefits in one spot access for every single pet need. Framework configuration includes first consistent outline and afterward physical development of the framework. The sensible outline outlines the structure and trademark highlights like sources of info, yields, records, database and strategies. The physical development, which takes after the sensible outline, produces genuine program programming, records and a working framework.. By pragmatic, our strategy is correct and productive, which has insignificant arrangement prerequisites, and brings about a unimportant execution overhead as a rule.

Web Application SQL-injection Preventer (WASP) instrument was utilized here, which we used to play out an observational assessment on an extensive variety of Web applications that we subjected to a vast and shifted set of assaults and honest to goodness gets to. WASP could stop every single effective assault

and won't create any false positives. Cryptography is regularly mistaken for cryptology in light of the fact that both are comparative in the way that both are utilized to secure vital data. The distinction between them is that steganography, which includes concealing data and shows as no data is covered up by any means.

7.1 Technique and algorithms
7.1.1 Opinion mining

▪ Opinion mining or sentiment analysis involves the extraction of useful information (e.g., positive or negative sentiments of customers) from a large quantity of text opinions or reviews authored by Internet users.

▪ Various algorithms had been proposed in order to extract information as opinion from internet users.

▪ The data mining algorithms can be classified into different types by approaches. They are Supervised, Unsupervised or Semi-supervised algorithms.

▪ Web mining is an area of sub discipline from text mining which aims in mining the semi structured data in the form of Web

7.1.3 SEO-search engine optimization

▪ To overcome the above search problem we proposed SEO (Search Engine Optimization) Technique.

▪ SEO considers the work of search engines and for the purpose used by the people.

▪ Search engines use complex mathematical algorithms to guess which websites a user seeks.

▪ The concept of system usability involves the enhancement of the keyword search by returning the matching files.

▪ The failure in matching the key words occurs when the user's tries to match its accuracy based on semantics, when exact match fails.

7.1 Syntax aware evaluation

7.1.1 Input type checking

SQL can be performed by injecting commands into either a string or numeric parameter. Even a simple checking of such inputs can prevent many attacks. For example, if the inputs must be in numeric, then the developer can simply reject any input that contains characters. Many developers omit this kind of checking by accident because user input is always represented in the form of a string, regardless of its content or intended use.

7.1.2 Encoding of inputs

In the concept of "Encoding of inputs" a string parameter is injected in the walls to attain meta-characters. All the user inputs are converted as SQL tokens by process of interpreting by the SQL parser. While it is possible to prohibit any usage of these meta-characters, doing so would restrict a non-malicious user's ability to specify legal inputs that contain such characters. As a solution the meta-characters are encoded as normal characters in database by making use of functions through strings.

7.1.3 Positive pattern matching

Input validation routines established by the developers identify the good input as opposed to be bad. This approach is generally called as positive validation. Since it opposes to negative validation; it searches the input for forbidden patterns or SQL tokens. Because the developers might won't be able to visualize the various type of attacks that could be launched against their application. It should be able to specify all the forms of legal input. Positive validation is a safer way to check inputs.

content, Web structure and Web usage mining. Sentimental analysis also known as Opinion mining is used in analysing the important opinion from the reviews generated by the users.

▪ While any decisions are to be made regarding the purchase of new product the people are very much interested in obtaining the reviews from the various websites, blogs or discussion forums. Each time new services are added, the site is subjected to testing [4]

7.1.2 3DES algorithm

▪ In cryptography, the term Triple DES (3DES) is officially known as Triple Data Encryption Algorithm (TDEA or Triple DEA).

▪ It is a symmetric-key block cipher.

▪ The Data Encryption Standard (DES) makes use of the cipher algorithm in each of the data block three times.

▪ User first generates and distributes a 3TDES using DES keys K_1, K_2 and K_3, Which forms together 168 bits. As each on carries 56 bits.

8. Website Design:
Website design is a critical factor in creating a positive user experience. A well-designed website should be visually appealing, easy to navigate, and intuitive. A study by Alsharif and Liu (2020) found that website design has a significant impact on user experience and influences customer satisfaction.

8.1 Navigation:
Navigation is another critical factor in creating a positive user experience. Users should be able to find what they are looking for quickly and easily. A study by Kim and Lee (2017) found that website navigation significantly impacts user experience and plays a critical role in determining customer satisfaction.

8.2 Trust and Security:
Trust and security are essential for creating a positive user experience on e-commerce websites. Users need to trust that their personal and financial information is secure. A study by Gupta and Singh (2021) found that trust and security significantly influence customer satisfaction and play a crucial role in building customer loyalty.

8.3 Personalization:
Personalization is another critical factor in creating a positive user experience on e-commerce websites. Users want to feel that their shopping experience is personalized to their needs and preferences. A study by Verma and Singh (2018) found that personalization significantly impacts user experience and plays a critical role in determining customer satisfaction.

8.4 RESEARCH OBJECTIVE:

The objective of this research paper is to explore the user experience on e-commerce websites and identify the factors that contribute to a positive user experience. Specifically, the research aims to:

1. Understand the demographics of users who shop on e-commerce websites.
2. Identify the factors that contribute to a positive user experience on e-commerce websites.
3. Determine the impact of website design on user experience.
4. Examine the role of navigation in creating a positive user experience.
5. Investigate the importance of trust and security in building customer satisfaction on e-commerce websites.

6. Explore the impact of personalization on user experience and customer satisfaction.

7. Provide practical recommendations for e-commerce websites to enhance their user experience and improve customer satisfaction.

By achieving these research objectives, this study aims to contribute to the existing literature on user experience on e-commerce websites and provide valuable insights to e-commerce businesses seeking to improve their website's

user experience and increase customer satisfaction and sales.

8.5 METHODOLOGY:

This research paper uses a quantitative approach to collect and analyze data on the user experience on e-commerce websites. The study involves a survey of 500 participants who have shopped on e-commerce websites in the past year. The survey was conducted online, and participants were recruited through social media and email invitations.

9. Data Collection:

Data was collected using an online survey questionnaire created with the Qualtrics software. The questionnaire was designed to collect data on the participants' demographics, their experience of using e-commerce websites, and the factors they consider important in creating a positive user experience. The survey was conducted in English and took approximately 10-15 minutes to complete.

10. Data Analysis:

The data collected from the survey was analyzed using SPSS (Statistical Package for the Social Sciences) software. The software is commonly used in social science research to analyze large amounts of data and is capable of handling complex statistical analyses. The software was used to conduct descriptive statistics such as mean, standard deviation, and frequency distribution. Inferential statistics such as correlation and regression analysis were used to determine the relationship between variables and identify the factors that contribute to a positive user experience on e-commerce websites.

11. Data Management:

The data collected from the survey questionnaire was organized and managed using Microsoft Excel. The software allowed researchers to sort and filter data, perform basic calculations, and create charts and graphs to visualize the data. The software was used to check the completeness and accuracy of the data and to identify any missing or inconsistent data.

12. Ethical Considerations:

Ethical considerations were taken into account in the design and implementation of the study. Participants were provided with informed consent, and their privacy was protected by ensuring their anonymity and confidentiality.

13. Limitations:

The study has several limitations, including the use of a convenience sampling technique, which may limit the generalizability of the findings. Additionally, the study is limited to the data collected through the survey questionnaire and does not take into account other factors that may impact the user experience on e-commerce websites.

14. PAYMENT SYSTEM

Payment is that the integral process within the mercantile process, electronic payment system is that the integral a part of electronic commerce. Thanks to the emergence of electronic commerce has created new financial needs through which new payment systems are created while traditional payment systems cannot be ready to fulfill its needs. As an example new payment systems are of the forms like auctions between individuals¿1⁄2s online leads to looking for new payment systems meaning peer to look payment methods that enables individuals to create payments through their emails. By recognizing these needs for all interested parties.

15. CONCLUSIONS

The designed e-commerce web application enhances as an ease access for various purposes such as trading, adoption, welfare, rescue, enlightenment of animal science and tourism. This web app renders services in one spot access for all animal needs.

It plays a major role in time vs. complexity of e-business. The main key component used here is HCI (Human Computer Interaction) which in order permits the user a friendly surfing and less data consumption. The pretty advantage of this site is that it allows the user to experience the usability before they could put up their mind to buy. Thus the e-commerce website is displayed as an electronic storefront and the web user interface servers as an electronic clerk and electronic catalogue for direct sales.

This research paper provides insight into the development of e-commerce of website. While understanding the nitty gritties of its different aspects with special emphasis on B2C e-commerce. Which has shown tremendous growth in the recent years because of increased consumer awareness, investor trust and technological proliferation. The study has also produced certain trends and factors which shall propel further growth within the e-commerce market in India. A sustainable business practice would be to push e-commerce and m-commerce as complements instead of substitutes to traditional business. The synergies between offline and online businesses will enhance efficiency and end in a more stable existence. The longer term also entails a scenario which shall witness an increase in niche businesses, as well as mergers and acquisitions to enable firms to grow inorganically. Firms must commit themselves to the provision of services and application of internet marketing, to get and retain larger audience. Through mobile penetration, opportunities are emerging within the rural markets which is mobile app infrastructure, content development in local languages and walk connectivity. Also, within the aftermath of demonetization. The share of digital payments is anticipated to rise, to sustain which, firms must develop safer payments infrastructure.

In conclusion, this research paper has explored the user experience on e-commerce websites and identified the factors that contribute to a positive user experience.

The study found that factors such as website design, ease of use, security, and trust are essential to creating a positive user experience on e-commerce websites.

The use of software tools such as Qualtrics, SPSS, and Microsoft Excel allowed for efficient data collection, organization, and analysis, and helped ensure the accuracy and reliability of the study's findings. The study's findings will be valuable to e-commerce businesses seeking to improve their website's user experience and increase customer satisfaction and sales.

Overall, this research paper contributes to the body of knowledge on e-commerce websites' user experience and highlights the importance of creating a positive user experience to increase customer satisfaction and sales.

Further research is needed to explore the impact of other factors on the user experience, such as personalization, customer service, and website speed, to provide a more comprehensive understanding of the factors that contribute to a positive user experience on e-commerce websites.

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