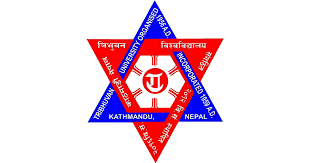
**Tribhuvan University**

**Institute of Engineering**

**Himalaya College of Engineering**



**A MINOR PROJECT PROPOSAL ON**

**“HOME DECOR MARKETPLACE WITH RECOMMENDATION SYSTEM”**

**[CT 654]**

**SUBMITTED TO:**

**DEPARTMENT OF ELECTRONICS AND COMPUTER**

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# ABSTRACT

One of the most important applications of the Internet is that of E-commerce, which is expanding and developing very quickly due to its many advantages. Electronic Commerce or E-commerce is business transactions that take place by communication networks. E-commerce is a set of dynamic technologies, applications and business process that link organizations, customers, suppliers, and communities through electronic transactions and the electronic exchange of information products and services. It provides customers with the convenience to buy the products they need instantly from the convenience of their offices, homes and anywhere provided they can access the internet. This proposal report presents a brief description of the goals we aim to achieve with this project and the methodology we plan on using.

**Keywords:** E-commerce, Electronic Data Interchange, Electronic transactions.

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# LIST OF ABBREVIATIONS

# INTRODUCTION

Online marketing is a good opportunity for business promotion. E-commerce (electronic commerce) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet. These business transactions occur either as business-to-business, business-to-consumer, consumer-to-consumer or consumer-to-business. E-commerce shops have become part of our daily lives. Technological advancement has made it possible for people to sit in the convenience of their homes and still shop online without going to a physical shop.

E-Commerce entails a company accessing the internet as well as IT, such as the electronic data interchange (EDI). It concerns an internet vendor's website, trading goods or services to the user directly from the platform. The gateway uses a wireless purchase cart to pay by credit card, debit card or Electronic fund transfer (EFT). Electronic communications and digital information processes in business transactions are used to create, modify and redefine value generation relations between organizations and individuals. With the increasing spread of ICTs, specifically the Internet, the global corporate world pushes rapidly into e-commerce (Business-to-Business). As the internet enables consumers to enter the global economy, they can compare prices across areas, find out how they vary by request, and become aware of substitution. The buyers obtain a distinct advantage. Thanks to market openness, consumers can conveniently compare e-commerce offerings from different websites. The rivals would immediately be one click away from the customer if the company is electronic. If consumers aren't comfortable with certain e-goods, content's pricing or services, they can adjust even more quickly than in traditional terms. They don't need a physical store from the point of view of the vendors.

The biggest advantage from the consumer viewpoint is that it improves the shopping experience dramatically. It saves a lot of time and provides convenient access from anywhere in the world. At any time, the customer is free to place the order. Increased sales and decreased running and sustaining costs through the internet are the key advantage of e-commerce from the point of view of sellers.

For e-commerce web sites, cyber security is the most common problem. Usually, financial institutions and banks are reluctant to play an active role in supporting the e-commerce market. Retailers need the participation of banks in expanding e-scope commerce and popularity and in mitigating theft and possible losses related to credit card fraud.

Home decor is the art of making your home look nice. It refers to the aesthetic components used to make a home more attractive and visually appealing. It is inclusive of physical items and objects (furniture, art, and accessories), placement of physical items and objects, and room colors and materials (flooring, wall coverings, window coverings, and ceilings). Home décor is important because it can affect everything from our self-perception to our confidence and productivity. It reflects your personality and lifestyle.

# PROBLEM STATEMENT

Physical stores are generally not open 24/7 since the workers need to rest. Customers can’t browse items and shop whenever they need. Also, the customers are unable to track their orders. In case a certain item is unavailable in the shop, the customer will have wasted his/her time when visiting the shop physically. For popular and busy shops, there may not be sufficient personnel to tend to all the customers. The customers may have difficulty in finding the right product if no one is present to guide them, and they may need to wait till someone is available. This causes an unpleasant experience when shopping online. For small businesses, the costs of maintaining a sales outlet is high and a lot of the budget is spent in setting up the store.

A lot of e-commerce platforms fail to sell through a high percentage of their merchandise. This is often due to poor user browsing experience. Customers can spend hours scrolling through hundreds, sometimes thousands of items of merchandise never finding an item they like. Shoppers need to be provided suggestions based on their likes and needs in order to create a better shopping environment that boosts sales and increases the time spent on a website.

There aren’t many good e-commerce sites that provide services for browsing, purchasing and customizing home decoration products in Nepal. People usually buy individual products without considering the aesthetic aspect of home decorations.

# OBJECTIVES

* To create an e-commerce web portal with a content management system, specifically for home decoration items.
* To include a recommendation system that will suggest home decor merchandise to the customer based on different factors.

# SCOPE AND APPLICATION

* E-commerce sites helps in improving marketing and sales by providing convenient and easy access to shop.
* Sales are promoted with the recommendations that the system provides to the users.
* The business can reach a wider customer base through the internet.
* Various offers, discounts for the products can be easily conveyed to the customers using the web portal.
* The customers can order custom merchandise through the web which helps them to purchase items exactly meeting their needs.

# LITERATURE REVIEW

# REQUIREMENT ANALYSIS

## FUNCTIONAL REQUIREMENTS

The functionalities that the system should provide in order to satisfy the needs and requirements of the users are as listed below:

1. **Login and Register**The users must be able to register and login to access full functionality of the system.
2. **Browse products**The users can browse different products with an option to filter items based on different categories. The system should sort the list of products based on ratings, popularity.
3. **View description of products**The users should be able to view the descriptions of the products. The descriptions include specifications of the products.
4. **Add/Remove from cart**The system should provide users with an option to add products into their virtual cart which can later be checked out. The users can remove items from the cart later on.
5. **Payment options**The users must be able to choose one of the many payment options. The payment options include **Cash on Delivery, Digital Payment.**
6. **Recommend products**The system must recommend different products to the users based on their interest. The recommended products should be based on the purchase records of others users.
7. **Notification**The system should notify users about stock, discounts and offers of the products. Also, the users must be notified about the changes in the system.
8. **Chat system**The system should provide the users with the provision to communicate with the sellers and with the customer support team also.

## NON-FUNTIONAL REQUIREMENTS

1. **Reliability**The system has to be reliable by properly handling unwanted actions or exceptions.
2. **Availability** The system should have uptime to the maximum level.
3. **Performance**The User Interface should be interactive by responding to the actions fast.
4. **Scalability**The system should be capable of supporting the growth and address the concurrent actions.
5. **Maintainability**The system should be maintainable after the deployment.
6. **Security**The system should store the users’ credentials securely.
7. **Usability**The User interface should be simple and easily adaptable for the users to operate the system with ease.

# FEASIBILITY ANALYSIS

## TECHNICAL FEASIBILITY The web application uses software technologies and tools which are freely available, the technical skills required can be easily manageable. There are many commerce sites available for analysis with proper documentations. The hardware technology required for operation is easy to obtain since the application can run on any computer with a web browser and an internet connection. The system must be adequate enough to hold the marketplace database and should be manageable in future. So, the hardware and software technicalities are within accessible boundaries.

## OPERATIONAL FEASIBILITY

Since the web application is interactive and data drive, the user can easily be familiarized with the software system. This system highly focuses on design-dependent parameters like reliability, maintainability, supportability, usability, sustainability, etc. that fits into the operating functions of the project. As the system is accessible with a web browser, it can be easily operated to obtain the desired functionalities, both by the user and the administrator.

## ECONOMIC FEASIBILITY Economic feasibility attempts to weigh the costs of developing and implementing a new system, against the benefits that would increase from having the new system in place. This feasibility study gives the top management the economic justification for the new system. There could be various types of intangible benefits on account of automation. These could include increased user satisfaction, improvement in product quality, better expediting activities, improved accuracy of operations, better documentation and record keeping, faster retrieval of information, better employee morale. All these may be achieved with a little investment and some periodic maintenance of the system which will prove beneficial to the organization in the long run.

# SYSTEM DESIGN

**Fig (1) : Use case diagram**

**Fig (2) : DFD level 0**

**Fig (3) : DFD level 1 for**

# METHODOLOGY

## SOFTWARE DEVELOPMENT APPROACH

We plan on using the **Incremental Software Model** in the SDLC of this project.We will develop the whole project in some increments. In each successive increment, we will add few functionalities. After completion of each increments, testing will be performed to ensure quality of the system.



**Fig (4) : Representation of incremental model**

## PROJECT TOOLS

* **Python**  
  Python is our main programming language. Several python based libraries will be used to complete our project. Python is widely used general-purpose, high-level programming language. Its design philosophy emphasizes code readability, and its syntax allows programmers to express concepts in fewer lines of code that would be possible in languages such as CPython supports multiple programming paradigms, including object-oriented, imperative and functional programming or procedural styles. It features a dynamic type system and automatic memory management and has a large and comprehensive standard library.

# PROJECT REQUIREMENTS

## HARDWARE SPECIFICATIONS

* **Processor :** Intel Pentium IV or later
* **Memory :** 1 GB (minimum)
* **Device :** PC/Smartphone

## SOFTWARE SPECIFICATIONS

* **Operating system :** Windows/Linux/MacOS
* **Web Browser :** Edge/Chrome/Firefox or equivalent
* **Database :** MySQL

# SCHEDULING

**Fig(7) : Gantt Chart**

# EXPECTED OUTCOME

The proposed system provides a digital version of marketplace which will benefit the customers as well as the sellers. The outcome is a platform for displaying the products that are for sale, and for purchasing the products in a convenient way. The User Interface is expected to be interactive, responsive and easy to be familiar with. The users would be provided with the functionalities such as: searching for a particular product, filtering by categories, digital payment.

The users should be able to stack the items to be purchased in the cart which will be processed together for payment. The system is expected to provide recommendations to the users based on users’ purchase history, similarities with other products, searching records and item ratings. The system is expected to have minimum downtime.

# REFERENCES/BIBLIOGRAPHY