



# CSC-370

## E - Commerce

(BSc CSIT, TU)

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# E-commerce Application / Software

- The term 'Electronic Commerce' (or e-Commerce) is the use of an electronic medium to carry out commercial transactions.
- Most of the time, it refers to the sale of products through Internet
- Sharing business information, maintaining business relationships and conducting business transactions using computers connected to telecommunication network is called e-Commerce.
- E-commerce is a process of buying and selling of products and services by businesses and consumers through an electronic medium, without using paper documents.

# Applications of E-commerce

- The applications of E-commerce are used in various business areas such as retail and wholesale and manufacturing. The most common E-commerce applications are as follows :
  - Online marketing and purchasing
  - Retail and wholesale
  - Finance
  - Manufacturing
  - Online Auction
  - E-Banking
  - Online publishing
  - Online booking (ticket, seat etc)

# Static Web Pages

- Static web pages are generally simple HTML written pages which serve as response from browser to server in which all the information and data is static in nature and it does not get changed until someone changed it manually
- data in static web pages is static and do not require any interpretation before rendering so static web pages are simple in complexity
- Static web pages are generally written in client side scripting languages such as HTML, JavaScript, CSS, etc.
- Static web pages due to static data take less time to get load.

# Dynamic Web Pages

- Dynamic webpages are the pages written in server side languages such as PHP, ASP.NET, JSP in which data is rendered after some interpretation and capacity to produce distinctive content for different calls
- does the interpretation process which make data dynamic in nature and due to which dynamic web pages become complex in complexity as compare to static web pages
- takes comparatively more processing time as compared to static web pages

# Building Shopping Cart

- A shopping cart on an online retailer's site/app is a piece of software that facilitates the purchase of a product or service.
- It accepts the customer's payment and organizes the distribution of that information to the merchant, payment processor and other parties.
- Shopping carts bridge the gap between shopping and buying, so having the best shopping cart software is extremely important on your website.
- A cart typically has three common aspects
  - It stores product information
  - It's a gateway for order, catalog and customer management
  - It renders product data, categories and site information for user display

# Transaction Processing

- Online transaction is a payment method in which the transfer of fund or money happens online over electronic fund transfer.
- Online transaction process (OLTP) is secure and password protected.
- Three steps involved in the online transaction are registration, Placing an order, and, Payment.
- There are three stages of Online Transactions
  - **Pre-purchase/Sale** : In this stage, the product or service is advertised online with some details for the customers
  - **Purchase/Sale** : When a customer likes a particular product or service, he/she buys it and makes the payment online
  - **Delivery Stage** : This is the final stage where the goods bought are delivered to the consumer

# Development of E-commerce Application

- **Databases :**

- A database is a data structure that stores organized information.
- Most databases contain multiple tables, which may each include several different fields.
- For example, a company database may include tables for products, employees, and financial records.
- All e-commerce applications uses databases to store product inventory and customer information.
- These sites use a database management system (or DBMS), such as Microsoft Access, or MySQL as the "back end" to the application.
- By storing website data in a database, the data can be easily searched, sorted, and updated.
- This flexibility is important for e-commerce applications and other types of dynamic websites



# Development of E-commerce Application

- **Applications Programs :**

- Applications programs are the computer programs written in server side programming language that manage, process, manipulate and render data in the applications
- There are various programming languages used to build e-commerce applications such as PHP, .NET, JSP, Python etc.

# Enterprise Resource Planning

- Enterprise resource planning (ERP) refers to a type of software/process that organizations use to manage day-to-day business activities such as accounting, procurement, project management, risk management and compliance, and supply chain operations.
- A complete ERP suite also includes enterprise performance management, software that helps plan, budget, predict, and report on an organization's financial results.
- ERP systems tie together a multitude of business processes and enable the flow of data between them.
- By collecting an organization's shared transactional data from multiple sources, ERP systems eliminate data duplication and provide data integrity with a single source of truth.
- Today, ERP systems are critical for managing thousands of businesses of all sizes and in all industries.
- To these companies, ERP is as indispensable as the electricity that keeps the lights on

# Business Benefits of ERP

- It's impossible to ignore the impact of ERP in today's business world.
- As enterprise data and processes are corralled into ERP systems, businesses can align separate departments and improve workflows, resulting in significant bottom-line savings.
- Examples of specific business benefits include
  - **Improved business insight** from real-time information generated by reports
  - **Lower operational costs** through streamlined business processes and best practices
  - **Enhanced collaboration** from users sharing data in contracts, requisitions, and purchase orders
  - **Improved efficiency** through a common user experience across many business functions and well-defined business processes
  - **Consistent infrastructure** from the back office to the front office, with all business activities having the same look and feel
  - **Higher user-adoption rates** from a common user experience and design
  - **Reduced risk** through improved data integrity and financial controls
  - **Lower management and operational costs** through uniform and integrated systems

# Integration with Payment Gateways

- A payment gateway as a merchant service that processes credit card payments for ecommerce sites and traditional brick and mortar stores.
- Popular payment gateways include PayPal/Braintree, Stripe, Square, Esewa etc
- Most payment gateways accomplish that in a few seconds with these steps
  - **Encryption** : Between the user's browser and the server of the retailer, a payment gateway will encrypt (encode for private use) data for exclusive use between seller and buyer
  - **Request** : The authorization request occurs when a payment processor gets approval from a credit card company or financial institution to proceed with the transaction
  - **Fulfillment** : When the payment gateway has the authorization, it allows the website and interface to proceed to the next action

# Open Source CMS for Development of E-commerce

- When you open an online shop, one of the most important decisions you must make is which platform (or CMS or frameworks) you're going to choose to design it.
- To make the right choice, you must make sure that it:
  - Can be set up easily
  - Can be updated conveniently.
  - Is inexpensive.
- There are various open source cms/frameworks developed in various programming languages such as PHP : Laravel, Codeigniter, Zend, Python : Django, Java : Grails etc.