UNIT – 4
Building E-commerce System

❈ E-commerce Website/Software:

E-commerce website/software is an online tool that enables the commercial process of buying and selling, process payments, compute taxes, add or remove products, fulfill orders etc. over the internet. An e-commerce software generally includes features such as catalog, shopping cart and transaction processing.

E-commerce software maily does following things:

→ Manage customers and orders
→ Manage products and inventory. ⟶ (means list, record, or directory, or checklist)
→ Simplify marketing
→ Automates shipping and taxation.
→ Enhance customer experience.

A Better Website/Software must have following features:
→ User friendly
→ Mobile friendly and responsive
→ Compare products
→ High resolution graphics (photos and videos)
→ Special offers
→ Security
→ Advanced payment system
→ Return policy etc.

❈ Building Catalogs:

A company that wants to sell products on the web must have a list, or online catalog, of it's products, available on it's Web site. Product catalog includes the product details and description using text and graphics. A better product catalog is the key to success in e-commerce. The complexity of the catalog will vary depending on the size of company and it's product lines.

Types of catalog:

i) Static catalog: A static catalog is a simple list, tagged with HTML codes, that can be displayed on a single Web page or a series of related Web pages. This simple list approach can provide a short description and perhaps a photo of each item offered for sale. To add an item, delete an item, or change an item's listing, the company must edit the HTML-tagged text in one or more files.

ii) Dynamic catalog: A dynamic catalog stores the information about items in a database, usually on a separate computer, which is accessible to the server that is running the Website itself. A dynamic catalog can feature multiple photos of each item, detailed descriptions, a serach tool to search items etc. To add, delete, or change an item's listing, the company does it easily from dashboard without editing html files.

⊛ Building Shopping Cart:

Every e-commerce website must include a shopping cart. An online shopping cart in an e-commerce website provides the customer a facility to collect the desired products for checkout. Some of the features in shopping cart include:

→ Check out button to complete the purchase.
→ Continue shopping to add more products in the cart.
→ Remove products from cart.
→ Edit the product
→ Search product in the cart
→ Edit the order detail etc.

Shoppers consider shopping carts as a place where they can see and place their desired products before actually paying it. They choose to purchase a product from store. They need to determine whether the product is suitable for them or not.

✴ Transaction Processing:

Transaction Processing connected to the e-commerce site works in conjunction with the shopping cart. When the user verifies the cart and proceeds to checkout, the transaction processing starts. The transaction processing in e-commerce allows customers to pay online using their card or mobile wallets. It follows SET protocol to make the transaction more secure and reliable. Transaction processing verifies the customers credit/debit card and puts through the debit to the card and credit to the merchant's account after checkout.

✴. Development of E-commerce Website/Software:

We should have plan before actually building an e-commerce website/software. Two fundamentals of planning are timeline and budget. We must also have better vision for an e-commerce website/software. Vision includes: Problem statement and System Development Life Cycle. Once we have plan and vision we can think about building and implementing, that presence. Management, Software, Hardware architecture, Design, Telecommunications, and Human resources are the factors to consider in developing E-commerce presence.

Next step in building an e-commerce website will be creating a plan document. We will have to proceed systematically through a series of steps. One methodology is the Systems Development Life Cycle (SDLC). The major steps involved in SDLC are:

→ System analysis/Planning
→ System Design
→ Building the System
→ Testing
→ Implementation.

✱ Integration of e-commerce software with other softwares:

Some of the things to consider for integration are:

1) Database: A database is a collection of information that is stored on a computer in a highly structured way. The most commonly used low-end database manager is Microsoft Access. More complex database managers that can handle larger databases and can perform more functions at higher speeds include IBM DB2, Microsoft SQL Server, and Oracle. Large companies use distributed database systems. Online stores that sell many different products use databases that store product information, including size, color, type and price details.

2) Application Programs: A program that performs a specific function, such as creating invoices, calculating payroll, or processing payments received from customers, is called an application program. An application server is a computer that takes the request messages received by the web server and runs application programs that perform some kind of action based on the contents of the request messages. The actions that the application server software performs are determined by the rules used in the business. These rules are called business logic. The integration is accomplished by programs that transfer information from one application to another.

3) Integration with ERP Systems:

Enterprise resource planning (ERP) software packages are business systems that integrate all aspects of business, including accounting, logistics, manufacturing, marketing, planning, and more. Eg. one popular ERP vendor is Oracle. A typical installation of ERP software costs a lot.

Smaller online businesses cannot afford to buy a full ERP software implementation. Some vendors provide ERP system on a subscription basis. Instead of installing and customizing ERP software on their own computer network, the business uses a Web browser to access the ERP software on the vendor's site. This practice of offering software online is called software as a service (SaaS).

4) Integration with Payment Gateways:

A payment gateway is a service that authorizes and processes payments online in e-commerce websites/softwares. A gateway serves as a portal to facilitate transaction flow between customers and merchants. It uses security protocols and encryption to pass the transaction data safely. Generally there are four main methods to integrate a payment gateway. All of them differ by two major factors:

→ Whether we must be in compliance with any financial regulation (PCI DSS), and

→ the degree of user experience concerning the checkout and payment procedure.

⊛. Using Open Source CMS for Development of E-commerce Applications:

Content Management Systems (CMS) helps companies control the large amounts of text, graphics, and media files that have become crucial to doing business. Most CMS's includes tools that help companies manage information that was once stored in paper reports, schedules, analyses, and memos. The increased use of social media and networking as part of online business operations has made content management even more important as all kinds of websites now put content online. Content management systems helps them organize, control and move this information to and from their web sites.

Open source content management systems are platforms with a source code that anyone can inspect, modify, or enhance. These tools are designed to be publicly accessible and are commonly managed and maintained by organizations. Some open-source CMS require some development skills to customize them according to our need.