



# Operating Web Class 12 Notes

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### Operating Web-based Applications

Web-based applications are those that can be accessed through a web browser and a network connection. A web-based application offers the benefit of global availability around-the-clock. Web-based applications are now utilised for a variety of tasks, including online shopping with the option of paying with credit or debit cards, e-governance, and learning through online tutorials, quizzes, and other activities.

### Online Reservation Systems

A web-based reservation system enables online ticket purchase and cancellation. Online reservation systems examples are –

- ♦ Airline ticket
- ♦ Railway ticket
- ♦ Bus ticket
- ♦ Movie ticket

- ♦ Hotel booking
- ♦ Car rental
- ♦ Tour and travel booking

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## **Advantages of Online Reservation System**

The advantages of the online reservation system are :

### **Advantages for consumers online reservation**

1. **Convenient** – The user/consumer can book tickets anytime anywhere – from home, office, while travelling, etc.
2. **Price Comparison** – Online booking allows the customer to check the prices, compare them and get the best deal.
3. **Security** – Most online reservation sites require the user to create their profile and provide them with a username and password. The information thus remains secure until their password is secure.
4. **Confirmation of Reservation** – When a booking is done, the confirmation of the booking just takes a few seconds. It is fast and secure.
5. **Making Choices** – In online booking, the user can see the arrangement of seats, select a particular seat, etc. In railway booking, selection of lower berth/upper berth, type of food required and booking for beddings is possible.
6. **Time Saving** – Online reservation consumes very less time in contrast to long queues at the counter.
7. **Discount Scheme** – The users can avail the special discount schemes provided by the service provider like, season discount, advance booking discount and frequent user discount.

### **Advantages for Providers**

1. **Requires Less Staffing** – Less man-power is required as every task is done through computers.
2. **No Spatial Restrictions** – The physical location of the office does not really matter to a customer who is reserving tickets online. So, the organization, big or small, can choose their office space depending on their needs.

3. **Global Access** – The scope of access to the online reservation becomes large as anyone who has access to the Internet can search for the reservation site and book the tickets.

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## **Precautions while Performing Online Transactions**

Some actions that can be taken to make the passwords safer are as follows –

- Make a password complex, like mix case, use numbers and special characters. This decreases ability of automated attacks by trying different character combinations.
- Be cautious not to leave passwords around and do not share them with friends.
- Never use names of near and dear ones as passwords.

## **E-Governance**

The government's ability to give citizens access to information is made easier by the usage of ICT. The government has established ICT-enabled services, such as the registration of birth and death certificates, the purchase of train tickets, the submission of RTI requests, etc.

## **Initiative**

The national satellite-based computer network, NICNET, was launched in India in 1987, providing the primary impetus for e-Governance. The District Information System of the National Informatics Center (DISNIC) programme, which aims to computerise all district offices across the nation, was then introduced in 1990.

The Department of Electronics and Information Technology (DEITY) and Department of Administrative Reforms and Public Grievances (DAR&PG) created the National e-Governance Plan (NeGP) in 2006, which has helped the e-Governance process.

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## **E-Governance Sites**

Some of the Central initiatives for e-governance include:

- ♦ National e-Governance Plan (NeGP)
- ♦ National e-Governance Division (NeGD)
- ♦ e-Governance Infrastructure
- ♦ Mission Mode Projects
- ♦ Citizens Services
- ♦ Business Services
- ♦ Government Services
- ♦ Projects and Initiatives
- ♦ R&D in e-Governance

### **india.gov.in**

India.gov.in went live on November 10th, 2005. It falls under the National E-Government Plan, or NeGP, as a Mission Mode Project. The National Informatics Centre, which is a division of the Ministry of Communications and Information Technology, manages the portal.

### **goidirectory.nic.in**

All websites from the Indian Government, from all levels and throughout all sectors, can be accessed through this portal. Sites for several Indian states and union territories are also included, as are those for legislative and judicial branches of government. It also offers details about various industries, including agriculture and education.

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### **Online Shopping and Bill payments**

An online shopping application allows customers to make purchases of goods over the Internet. The customer can go to a number of websites to conduct online purchasing.

### **Benefits of Online Shopping**

**Online shopping is useful in many situations. Here, we discuss some of the situations :**

- ♦ The customer does not have enough time to visit a store and purchase goods.
- ♦ The store where you will get what you need may be very far off.
- ♦ The money spent in travelling to the store, parking the car, etc., is much more than overhead if any in online shopping.
- ♦ The product you may require is not available at your market.
- ♦ You want to send a product to your friend; you can do online shopping and provide the receiver's address. You save your time and energy for delivery of the product to your friend's house located in a different city.
- ♦ You do not have time during the shopping hours. You can do online shopping from your office, home, a friend's place, anywhere, any time. Thus there are no fixed shopping hours
- ♦ Online shopping also has bargain offers for the customer delight.
- ♦ Some online stores allow customers to rate their services and the items.

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## **Project Management – Web Based Application Development**

The process of generating web apps is included in web based application development. A software that is kept on a distant server is known as a web application. It is accessible online and supplied via a web browser interface. A web application could be of various types, such as a game, quiz, or calculator for bills.

A project is a task that is carried out to produce an original good, service, or outcome. The following are some of a project's essential qualities –

- A project has a beginning and an end. The extent of the project is defined. It has boundaries.
- A project requires finite resources that are required to complete the project.
- A project has a specific time frame. It has a definite beginning and end dates.
- A project is complete when its end objectives are achieved. The objective is specific and identifiable.

## **Project Essentials and Tips**

### **Phases in a Web Application Project**

Web-based application development can be broadly divided into four phases. In the development

- 1) Requirements Definition Phase
- 2) Design Phase
- 3) Implementation Phase
- 4) Testing Phase

### **Requirement Definition Phase**

In this phase we identify the problem statement for which the web application is to be developed.

**Feasibility** : Is the project feasible?

- (i) Check whether the project is technically feasible (is it possible to do it?).
- (ii) Check whether the project is economically feasible (is it profitable?).
- (iii) If feasible, proceed further, otherwise there is no need to proceed with the project.

**Scope** : The focus is on “what” the application must do. To define the scope of the application,

- (i) Compile a detailed list with a clear description of application features.
- (ii) Establish the goals that the solution must achieve.
- (iii) Recognizing the limitations that are placed on the project.

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### **Design Phase**

The focus is on “how” the application is to be designed. This consists of design of –

**A Map of the Web Application Site** – A site map for a web application comprises crucial details about the site’s structure, including the pages and the connections between them.

**Database** – Design the application database.

- (i) Identify the database tables that will be required in the application.
- (ii) Decide the table structures: For each table we need to identify the attributes of the tables, their data types, the size of the columns in the tables, the relationship between tables.

**Page Structure** – Design the structure of page. Identify the main sections of the page like header, main content and sidebar.

### **Implementation Phase**

Create backend database, frontend and the connectivity between them.

**Backend Database** – Create the database and write SQL code defining tables, attributes and relationships, as per the requirement of the application.

**Frontend** – Identify the inputs that are required to be taken from the user in the Front-End of the application. Decide the kind of buttons you will provide to the user, to minimize the user's typing effort, like, Radio buttons, checkbox, list and combo box.

**Data Connectivity** – Establish the data connectivity between the Front-End interface and Back-End Database.

### **Testing Phase**

Test the front end and back end of the entire programme using various example data sets. Find and fix any application bug you can.