Unit -2

Basic Internet Skills

Web Browser

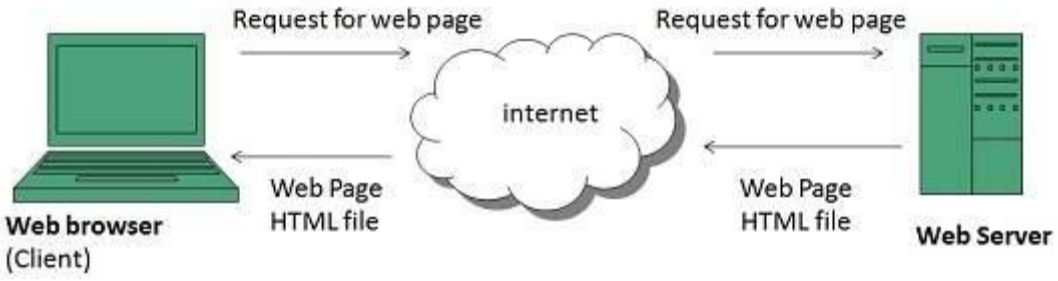
The web browser is an application software that is used to explore, retrieve, and display the information available on the World Wide Web.

Whenever we search anything on the internet, the browser loads a web page written in HTML. Google Chrome, Microsoft Edge, Mozilla Firefox, Safari are examples of web browsers.

A browser is a client program that runs on a user computer or mobile device and contacts the web Server for the information requested by the user. The web server sends the data back to the browser that displays the results on internet supported devices. On behalf of the users, the browser sends requests to web servers all over the internet by using HTTP (Hypertext Transfer Protocol).

How does a browser work?

- When a user enters something (like javatpoint.com) in the browser. This request goes to a domain name server.
- The browser sends the user request to the server using an IP address, which is described by the domain name server.
- The domain name server sends an IP address to the web server that hosts the website.
- The server sends the information back to the IP address, which is defined by the browser at the time of the request.
- The browser gathers all the information requested by the user, and displays on your device screen in the form of web pages.



Purpose of web browser?

- Web browser is used to run the software application that allows retrieving, presenting and traversing the information from one place to another.

- Web browser provides the resources using the WWW (World Wide Web) this can be identified by URI (Uniform Resource Identifier).

- Web browser fetches the data like web page, image, video or other piece of content from the server and displays it accordingly.

- Web browser uses hyperlinks to display the resources and allow the users to navigate their browsers according to the resources.

- Web browser defines the application software that is designed for the user to access and retrieve the documents using the Internet.

URL

Every document on the Web has a unique address. This address is known as **U**niform **R**esource **L**ocator (URL).

Each website or webpage has a unique address called URL

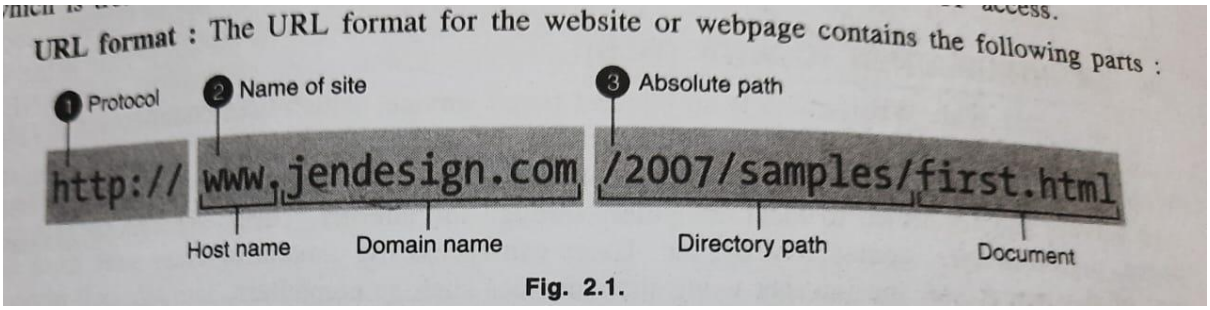


Fig. 2.1.

1. Protocol: The first part of a URL is the protocol. On the web, we almost always use Hypertext Transfer Protocol (HTTP). Sometimes it might also be HTTPS, which is simply a secure version of HTTP.

2. Domain name : The domain name is the unique identifier of the site. Usually, it begins with www. but this is not necessarily always the case.

3. Absolute path: The absolute path indicates the location on the web server of the requested file.

4. Directory path: The directory path in the URL tells us where the requested file is located.

5. Document: The last portion of the URL is always a file name, followed by the extension.

Types of URL: URL gives the address of files created for webpages or other documents like an image, pdf for a doc file, etc.
There are two types of URL:

- Absolute URL
- Relative URL

Absolute URL: This type of URL contains both the domain name and directory/page path. An absolute URL gives complete location information. It begins with a protocol like "http://" and continues, including every detail. An absolute URL typically comes with the following syntax.
protocol://domain/path

Relative URL: This type of URL contains the path excluding the domain name. Relative means "in relation to", and a relative URL tells a URL location on terms of the current location. Relative path is used for reference to a given link of a file that exist within the same domain.
Let us assume a web developer setting up a webpage and want to link an image called "geeksforgeeks.jpg".

<imgsrc="geeksforgeeks.jpg">

It would internally be interpreted like the following.

<imgsrc="./geeksforgeeks.jpg">

World Wide Web

World Wide Web, which is also known as a Web, is a collection of websites or web pages stored in web servers and connected to local computers through the internet.

These websites contain text pages, digital images, audios, videos, etc.

Users can access the content of these sites from any part of the world over the internet using their devices such as computers, laptops etc.

The WWW, along with internet, enables the retrieval and display of text and media to your device.

The three key components of WWW are:

I URL (Uniform Resource Locator)

2 HTTP (Hyper Text Transfer Protocol)

3. HTML (Hyper Text Markup Language)

URL: World Wide Web browsers use a Universal Resource Locator (URL) to indentify the location of an object. The URL contains three pieces of information. First is the protocol required to get the object. To retrieve HTML documents, the protocol used is HTTP, or Hyper Text Transfer Protocol. The second piece of information is the machine name where the object is located. A machine same might be www.yahoo.com. The third is the path name of the object.

HTTP: HTTP is the Hyper Text Transfer Protocol. It defines how information is transferred between the server and the browser. All HTML files are transferred using the HTTP protocol.

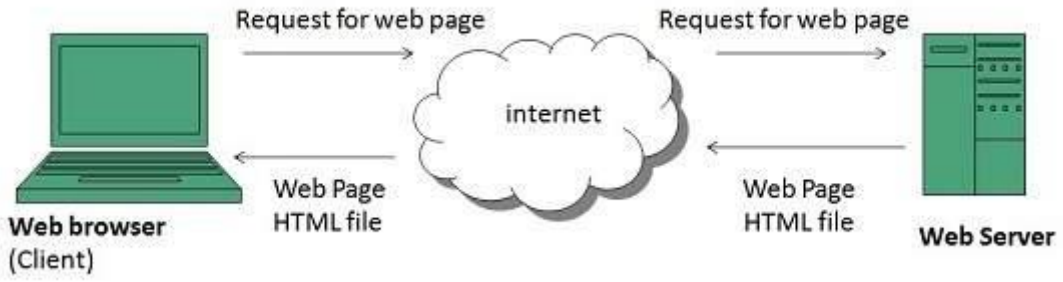
HTML: Hyper Text Markup Language (HTML) is used for creating web pages. Browsers understand this language and display these pages on be computer screen. World Wide Web is a collection of millions of on line documents/pages written in HTML and they provide a link from one document/pages to others. These pages are called web pages.

WWW Operation

WWW works on client- server approach. Following steps explains how the web works:

1. User enters the URL (say, **http://www.gmail.com**) of the web page in the address bar of web browser.
2. Then browser requests the Domain Name Server for the IP address
3. After receiving IP address, browser sends the request for web page to the web server using HTTP protocol

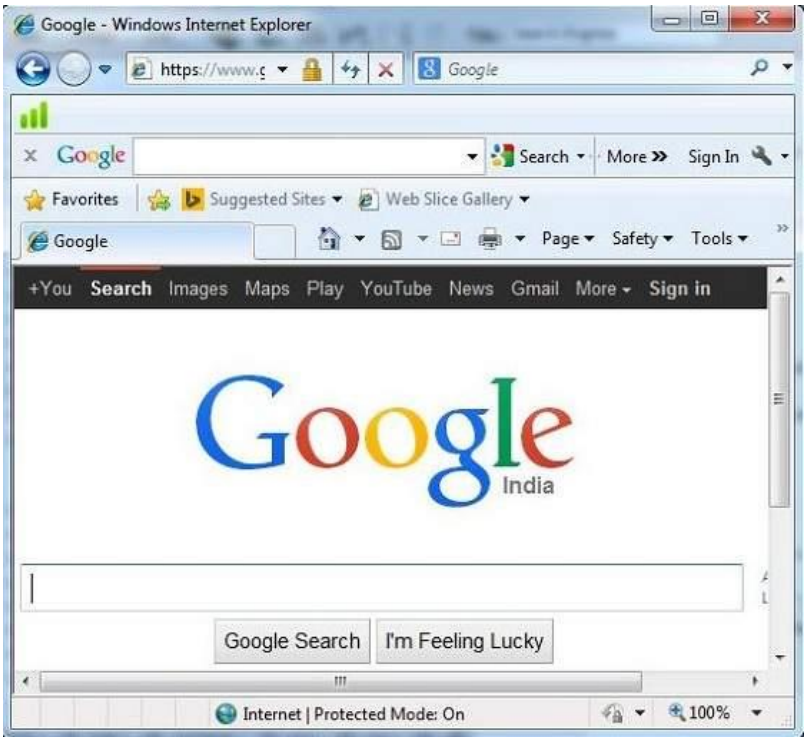
4. Then web server receives request using HTTP protocol and checks its search for the requested web page. If found it returns it back to the web browser and close the HTTP connection.
5. Now the web browser receives the web page, It interprets it and display the contents of web page in web browser's window.



Search Engine

Search Engine refers to a huge database of internet resources such as web pages, programs, images etc. It helps to locate information on World Wide Web.

User can search for any information by passing query in form of keywords or phrase. It then searches for relevant information in its database and return to the user.



Search Engine Components

Generally there are three basic components of a search engine as listed below:

1. Web Crawler
2. Database
3. Search Interfaces

Web crawler

It is also known as **spider** or **bots.** It is a software component that traverses the web to gather information.

Database

All the information on the web is stored in database. It consists of huge web resources.

Search Interfaces

This component is an interface between user and the database. It helps the user to search through the database.

Efficient use of search Engines

Get Specific With Quotes: As we mentioned in the article quotes will help you narrow the focus of a search. For example, if you use banana bread as your keywords Google shows you over 20 million results. If you enter "banana bread" using quotes you will get about 15 million results.

Use the Minus Sign to Remove Words: If you put a minus sign in front of a word Google will not return pages with content that matches this word in its results. Let's say you want results for "Michael Jordan" but you don't want results for the basketball player. Michael Jordan is a very popular celebrity so it is hard to remove him from your results completely but if you use the minus sign it will help. If you search "Michael Jordan -bulls -basketball" you can see that the basketball player shows up much less in your results.

Use the Asterisk as a Wildcare: The asterisk acts like a wildcard in a search. This is useful if do not know part of a phrase or you forget exactly how a word or name is spelled. For example, onomatopoeia is a word that resembles the sound it describes. If you use onomato* as your search you will get results that are very similar to actually searching for the correct full word, onomatopoeia. This also works with phrases, such as "An * keeps the doctor away."

Search Within a Site: To search within a site just put site: in front of the domain followed by your keywords. For example, "site:writerswrite.com harry potter" will return to the Harry Potter coverage on our site. If you wanted to search weather.com for tornado information you would use "site:weather.com tornadoes". Note: If you use this search and then click the tab for videos, you will see tornado videos from weather.com. Be sure not to put a space between the colon and the domain name when using this type of search.

Calculations: Google also has a built-in calculator. You can enter a math equation like 15+25 or 18*2343 or 553/17 and Google will return the answer within a calculator that appears in your results. It will also convert units and even graph equations. You can find more about the Google calculator here.

Definitions: Google also returns definitions. Use define: followed by the word you want defined. For example, "define:perquisition" will provide the definition for perquisition. You can also include wildcards. For example: define:onomato* will return the definition for onomatopoeia.

Related Sites: Google will also provide you with sites that are related to other sites. If you use "related:google.com" it returns Yahoo, Bing, DuckDuckGo and other search tools.

Search Recently Updated Webpages: If you want to narrow your search results to recent information you can use the news search tab or you can click the tools tab. You will see that the default search in tools is "any time." This can be narrowed to past hour, past 24 hours, past week, past month, past year or a custom range. Let's say you want articles about a recent Chicago Cubs victory so you enter "Cubs win." The first article results are about the Cubs finally winning the World Series in 2016. However, if you change the recency from "any time" to "past week" you will get results of more recent Chicago Cubs victories.

Various search Engines

1) Alta Vista
2) Google
3) Excite
4) Hot Bot
5) Infoseek
6) Rediff
7) Yahoo

Digital India

Digital India is **a flagship programme of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy**.

E-governance initiatives in India took a broader dimension in the mid-1990s for wider sectoral applications with emphasis on citizen-centric services.

Digital India Portal

The Indian Government launched the Digital India campaign to **make government services available to citizens electronically by online infrastructure improvement and also by enhancing internet connectivity**.

It also aims to empower the country digitally in the domain of technology.

Objectives of Digital India Portal

Digital Infrastructure Creation, Digital Delivery of Services, and Digital Literacy are the three main components of the Digital India initiative. The key objective is **providing high-speed internet in every part of the country and improvising the online infrastructure**.

The major objectives of this initiative are listed below:

1. To provide high-speed internet in all gram panchayats.
2. To provide easy access to Common Service Centre (CSC) in all the locality.
3. Digital India is an initiative that combines a large number of ideas and thoughts into a single, comprehensive vision so that each of them is seen as part of a larger goal.
4. The Digital India Programme also focuses on restructuring many existing schemes that can be implemented in a synchronized manner.

Services of Digital India Portal

- Pan Card Services.
- Mobile & DTH Recharge..
- Electricity Bill
- ITR services.
- GST services.
- Digital Signature.
- UTI services.
- Shopping Portal.

What is an Email?

Email stands for Electronic Mail. It is a method to sends messages from one computer to another computer through the internet. It is mostly used in business, education, technical

communication, document interactions. It allows communicating with people all over the world without bothering them.

Why use E – Mail?

An email is communication that happens in real time and can get important data across to people in various geographies. An email is a record of the communications that has happened and is stored in the server of the organization. One has to be very cautious while typing out a mail.

Advantages of Email Services
These are the following advantages of email services:

Easy and Fast:
Composing an email is very simple and one of the fast ways to communicate. We can send an email within a minute just by clicking the mouse. It contains a minimum lag time and can be exchanged quickly.

Secure:
Email services are a secure and reliable method to receive and send information. The feature of spam provides more security because a user can easily eliminate malicious content.

Mass Sending:
We can easily send a message to many people at a time through email. Suppose, a company wants to send holiday information to all employees than using email, it can be done easily. The feature of mail merge in MS Word provides more options to send messages to many people just by exchangingrelevant information.

Multimedia Email:
Email offers to send multimedia, documents, images, audio files, videos, and various types of files. We can easily attach the types of files in the original format or compressed format.

Search Operators

Search operator	Function

Search operator	Function
from:	Specify the sender
to:	Specify the recipient
subject:	Words in the subject line
older:	Search for messages that are older than a certain time period
newer:	Search for messages that are newer than a certain time period

What is Google Drive?

- **Google Drive** is a free service from Google that allows you to store files **online** and access them anywhere using the **cloud**.
- Google Drive also gives you access to **free web-based applications** for creating **documents**, **spreadsheets**, **presentations**, and more.
- ***Drive lets you keep all your work in one place.***
- It was launched on April 24, 2012.
- It offers 15 GB of free storage through Google One.

Features of Google Drive

Sharing

One of its fascinating features is sharing. It allows access to files or folders from your Drive to other users.

Backups

Google Drive allows its users to take a backup from several apps. It will store and restore the backups from & to different resources.

File limits

Google Drive allows us to upload files having a size of up to 5 TB.

Documents (Google Docs)

The document file size can be up to 1.02 million characters, regardless of the number of pages or font size.

Spreadsheets (Google Sheets)

The document size for the sheets can be up to 2 million cells.

Presentations (Google Slides)

The presentation files can not be larger than 100 MB.

Third-Party Apps

Google drive supports several external web applications that work with Gdrive. They are available on the Chrome Web Store.

Quick Access

The quick access feature is one of the handy features of Google Drive. It intelligently predicts the files that you need and puts them in the Quick Access menu.

How To Use Google Drive

To use Google Drive, we must have a google account. Google provides one account for all of its services like Gmail, Youtube, Youtube music, Hangout, Drive, Maps, Play, Meet, Calender, etc.

Create a new account, select the **Create an account** option from the above link & fill the account form. If you already have a Google Account, select the **Go to Google Account** option.

When we have a Google account, we can use Google Drive.

Google Sheets

- It is a spreadsheet program developed by Google.
- Google Sheets organizes data in columns and rows and allows you to do mathematical functions.
- It runs on the web browser.

- It is Completely Free
- The first version was released in 2006.

Google Sheets is typically used for:

- Analysis
- Data entry
- Data management
- Accounting
- Budgeting
- Data analysis
- Visuals and graphs
- Programming
- Financial modeling
- And much, much more!

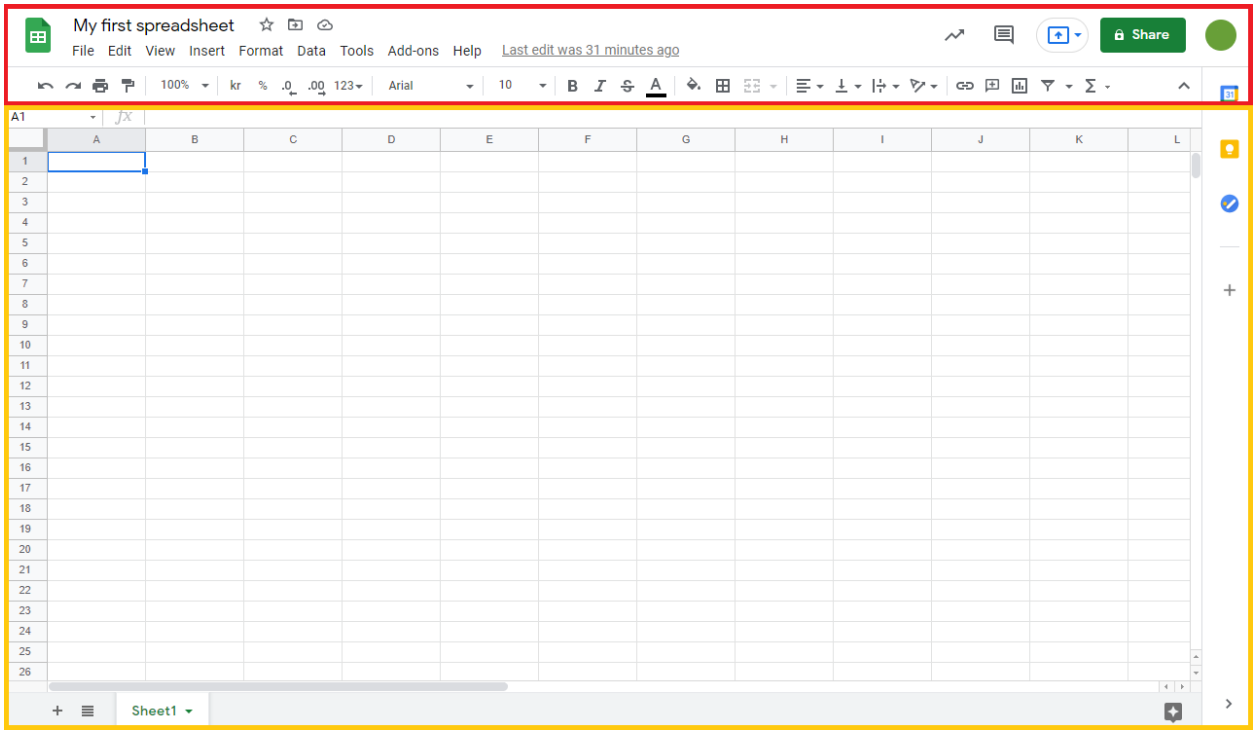
Google Sheets are made of two pieces, the **Ribbon** and the **Sheet**.

The **Ribbon** provides shortcuts to Google Sheets commands. A command is an action that allows you to make something happen.

The **Sheet** is a set of rows and columns. It forms the same pattern as we have in math exercise books, the rectangle boxes formed by the pattern are called **cells**.

Values can be typed to cells.

Values can be both numbers and letters:



How to use Google Sheets

Step 1: Create a spreadsheet

To create a new spreadsheet:

1. Open the Sheets home screen at sheets.google.com.
2. Click New +. This will create and open your new spreadsheet.

You can also create new spreadsheets from the URL sheets.google.com/create.

Step 2: Edit and format a spreadsheet

You can add, edit, or format text, numbers, or formulas in a spreadsheet.

Step 3: Share & work with others

You can share files and folders with people and choose whether they can view, edit, or comment on them.

Google Sheets features

Google Sheets includes the following core features:

- **Spreadsheet editing and formatting.** This includes operations and functions for data entry; data summary; text translation; data import; data validation; data protection; cleaning to return text with unprintable characters removed and trimming to remove spaces that may be leading, trailing or repeated in text; filtering data by conditions such as date, alphabetical or numerical order and basic and advanced formulas.
- **Data visualization.** Users can generate spreadsheet data for graphs, charts and other types of diagrams and embed them in websites.
- **Machine learning-based features.** The Explore feature uses machine learning to build charts, create pivot tables and answer questions about the data. It can auto-update based on selected data.

- **Offline editing.** Even when not connected to the internet, Sheets can edit offline, and changes will update once an internet connection is restored.
- **Compatibility.** Sheets documents are compatible with a variety of formats, including Excel (XLS), Apache OpenOffice, PDF, Text, HTML and comma-separated values (CSV).
- **Google product integration.** Google Sheets can be integrated with other Google services, such as Drawing, Finance, Form and Translate. It is also compatible with Microsoft files and shares many of the same keyboard shortcuts.
- **Collaboration features.** Emails can be sent when other collaborators make comments or changes to the shared spreadsheet, and users can view the version history.
- **Security.** Users can manage permissions for editing, downloading, copying or printing for specific collaborators through individual-, group- or domain-level access.

Google Sites

- **Google Sites** is a tool that makes creating a website easy.
- Create and build a site to include a variety of information.
- Use a variety of page templates based on your needs.
- Collaborate with others on creating your site.
- Choose to keep your site as private or as public as you like.
- Google Sites is Google's own CMS that allows you to build a website for free.
- You can use your own domain and customize your template with copy, images, fonts, headers, footers, and menus.

How to use Google Sites

Create a site

1. On your computer, open new Google Sites.
2. At the top, under "Start a new site," select a template.
3. Edit your site.
4. To publish your changes, at the top right, click **Publish**.

Step 1: Add content to your site

- Add, delete & organize pages
- Add or edit text & images
- Add Google files, video & more

Step 2: Publish and share your site

- Publish & share your site
- Invite others to edit your site
- Delete or restore your site

Google Sites Features

Google Sites comes with a host of useful features, including:

- Google Sites templates with responsive design across devices
- Themes that give a coherent, designed look
- The ability to embed Youtube videos, images, and other content
- Tables of contents and expandable text for easy overview
- Integration with other Google Workplace tools:
- Add documents or sheets (Google Docs and Google Sheets)
- Display forms (Google Forms)
- Add map (Google Maps)
- Show calendar (Google Calendar)
- Tool for embedding code to the pages
- User access and visibility management

The Benefits of Google Sites

- Free to use
- Intuitive tools that let you get started in minutes, without installing or downloading any software
- You can access Google Sites anywhere and from any device
- Integrated with other Google Workplace tools such as Google Docs, Google Calendar, and Google Maps
- Easy to edit and manage access

Google Calendar

Google Calendar is a time-management and scheduling calendar service developed by Google.

Google Calendar allows users to create and edit events.

Event locations can also be added, and other users can be invited to events.

Users can enable or disable the visibility of special calendars, including Birthdays, where the app retrieves dates of births from Google contacts and displays birthday cards on a yearly basis, and Holidays, a country-specific calendar that displays dates of special occasions.

Get Google Calendar

1. On your computer, visit Google Calendar.
2. If you already have a Google Account, sign in. If you don't have one yet, click **Create an account**.
3. Once you sign in, you'll be taken to Google Calendar.
4. To change any of your settings, go to the top right corner and click Settings .

Features[edit]

- Google Calendar allows users to create and edit events. Events have a set start time and stop time, with an option for an "All-day event".
- Users can enable a "Recurring" functionality with optional parameters for frequency.
- Users can add a color to an event for recognition or to distinguish the event from others.
- Events are viewable in different types of setups, including day, week, month, or schedule.
- Locations can be added for easy understanding of an event's place.
- Users can optionally set notifications, with options for type (email, mobile push notification) and time.
- Users can invite other people to events; for other Google Calendar users, the event becomes visible in their calendar, and for non-Google Calendar users, an email will have options for "Yes", "No", or "Maybe".
- Privacy settings allow the user to define the levels of public visibility of the entire calendar or individual events. Although the calendar defaults to showing users event times in their local time, users can specify a different time zone for an event.
- Users can enable or disable the visibility of special calendars, including a Birthdays calendar, that automatically retrieves dates of births from a user's Google contacts and displays the dates on a yearly basis, and a Holidays calendar, a country-specific calendar featuring dates of special occasions.[4]

What is video conferencing?

Video conferencing offers a way for individuals to connect remotely across various platforms, devices and screens. It provides multiple users the ability to connect all at once from any location with a stable Internet connection.

Anyone with a Google Account can create an online meeting with up to 100 participants and meet for up to 60 minutes per meeting.

Online Communication

Online communication is how people communicate, connect, transact to send, retrieve, or receive information of any kind via the internet using digital media. All the communication that is carried out via the internet is known as Online communication.

1. Emails

This is arguably the first form of communication developed in an online communication method. This is considered and accused as the sole reason for the decline of postal services across the world. It is one of the fastest ways and is deemed to be professional everywhere.

2. SMS

It is the common abbreviation of Short Messaging service. As the name suggests, it is short and instant, usually with 160 characters. They are typically transmitted from the sender to the receiver via phone or the internet.

3. Instant messengers

This is a recently evolved, more popular method of communicating. It is more prevalent amongst youngsters and college students since it features alphanumeric characters – pictorial messages known as emojis.

Online Conferencing

An Online Conferencing service is an audio web video conferencing solution that combines all services into one online conference solution. Online meeting services allow you to use internet access from your computer for a complete online conference solution. Online Conferencing can be done as scheduled, or reservationless, with operator assisted conferencing available.

Online Conferencing service is also known as an **Online Meeting Service**, **Online Collaboration Tool**, **Online Web Conference**, **eMeeting**, **Internet Conferencing**, or **Webmeeting**.

Online Web Conferencing is used by businesses to remotely present and share with online collaboration on different applications including documents, web sites, data files, video, emails, and reduce the time and cost of business travel for meetings.

Google Meet

Google Meet (previously known as Hangouts Meet) is a video-communication service created by Google that allows users to communicate with one another through video.

It is available as a web application, an Android application, and an iOS application.

capabilities of Google Meet were added to improve the original Hangouts programme,

The number of video feeds that may be shown at one time has also been limited to 8

Additionally, elements such as the chatbox have been modified to overlay the video streams rather than shrinking the latter to suit the former's dimensions as before.

Features[edit]

Features of Google Meet include:

- Two-way and multi-way audio and video calls with a resolution up to 720p
- An accompanying chat
- Call encryption between all users[19]
- Noise-canceling audio filter
- "Activities" offers features like polls and voting, live YouTube and Spotify sharing, Q&A, mini games like UNO! Mobile, Kahoot! and Heads Up! etc.[20]
- Low-light mode for video
- Ability to join meetings through a web browser or through Android or iOS apps
- Integration with the Google ecosystem, e.g. YouTube for live sharing,[21] Google Calendar and Google Contacts for one-click meeting calls
- Screen-sharing to present documents, spreadsheets, presentations, or (if using a browser) other browser tabs[19]

- "Knock Knock" shows a live preview of the caller before the recipient picks up, which Google says is to "make calls feel more like an invitation rather than an interruption".[22]
- Ability to call into meetings using a dial-in number in the US
- Hosts being able to deny entry and remove users during a call.[23]
- Ability to raise and lower hand
- Video filters, effects and augmented reality masks.[24

WebEx

WebEx is **a multi-functional desktop Video/Audio Conference call application**. It allows you to meet with anyone, anywhere, in real time from your office or home, as long as you have Internet access on your computer or have the WebEx mobile app installed for your iPhone, iPad, Android, or Blackberry.