**CHAPTER 1**

**INTRODUCTION**

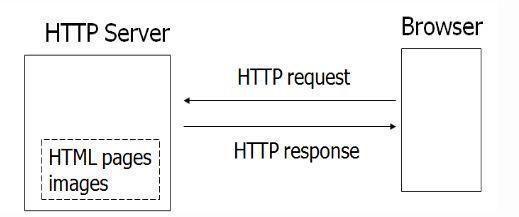
# The term web application refers to a software system that provides a user interface through a web browser. Examples of web applications include blogs, online shopping, search engines, etc.

# Web applications can be simple, consisting of only static web pages or they can be dynamic and interactive. Static web pages are stored in the file system of web server usually displays the same information to all visitors. Whereas dynamic pages are constructed by a program that produce the HTML. This type of web application provide individual information to the user and let them personalize the content according to their preferences.

# 1.1 How the static web page work?

We already know that to open a web page we enter URL or click on link and web browser displays web page that we request. Let's discuss the steps that happen behind the scene.

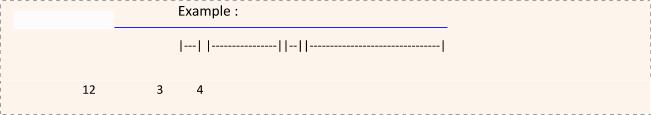
* The user enters a URL in the browser.
* The browser sends a request to the web server over the internet.
* Web Server examines the request and based on the request server finds the requested page already stored in its local drive.
* Web Server sends the response to the web client(browser).
* Browser gets the HTML and renders it into a display for the user​.



**Figure 1.1:** ​Static Web page

**1.1.1 URL (Uniform Resource Locater)**

You have undoubtedly used URLs to access HTML pages from the Web. An http URL may be broken down as shown below:



The first part, http, is the protocol name. It is followed by a colon (:) and two slash characters (//).

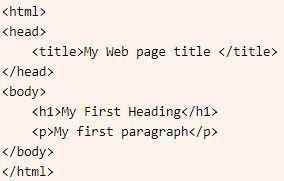
The second part is the hostname of the computer on which the document resides.

The third part, which is optional, is the port number. Internet hosts have a certain number of ports. HTTP usually runs on port 80, but this is not necessary. If it is running on port 80 in the machine you named in the hostname part, then you don't need to specify a port number. If it is running on a different port, a colon (:) followed by the port number is required to point to that port.

The fourth part is the path to the document you are requesting. The path is a set of characters separated by slashes (/).

**1.1.2 Create Web Page using HTML**

With HTML, you can create your own web page. HTML is the core technology in which all pages are written. HTML use markup tags to describe web pages. You can use notepad to type HTML code. Here is an example code.



**Figure 1.2:** ​Code Snippet

Save this file using .html extension. When you open this file in a browser, it displays as web page. The browser does not display Html tag (Keywords surrounded by angle brackets) but use the tags to interpret the content of the page.

In previous code example,

The text between <html> and </html> describes the Web page. The text between <body> and </body> is the visible page content. The text between <h1> and </h1> is displayed as a heading.

The text between <p> and </p> is displayed as paragraph.

Output will look like this:



**Figure 1.3:** ​Code Snippet Output

The following is an HTML Quick List:

**Heading Element**

<h1></h1>

<h2></h2>

<h3></h3>

<h4></h5>

<h6></h6>

**Text Element**

<p></p> paragraph

<br> line break

<hr> horizontal rule

**Physical Style**

<b></b> bold

<i></i> italic

**Unordered (bullet) List**

<ul>

<li>First Item</li>

<li>Second Item</li>

</ul>

**Ordered (Number) List**

<ol>

<li>First Item</li>

<li>Second Item</li>

</ol>

**Tables**

<table border ="1">

<tr>

<th>some heading</th>

<th>some heading</th>

</tr>

<tr>

<td>some text</td>

<td>some text</td>

</tr>

</table>

**Forms**

<form action="" method="post">

<p>Name:</p>

<p><input type="text" name="name" value="Your name"></p> <p>Comments: </p>

<p><textarea name="comments" rows="5" cols="20">Your comments</textarea></p> <p>Gender:</p>

<p><input type="radio" name="gender" value="male"> Male</p> <p><input type="radio" name="gender" value="female"> Female</p> <p><input type="submit"></p>

</form>

**Image Element**

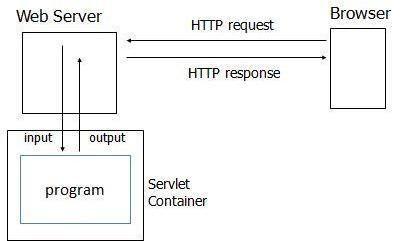
<img src ="" />

**Links**

<a href ="​[http://www.examples.com](http://www.examples.com/)​/"> This is a link </a>

**1.2 How the dynamic web page work?**

Dynamic web content is the content that changes with every user request. This type of web application let the users personalize the content according to their preferences. To build such a powerful web app, you need Java technologies, like servlet, JS, and JQuery. Web Server is mostly designed to serve static HTML content.



**Figure 1.4:** ​Dynamic Webpage

**1.3 Storage with respect to database**

According to the principles of database systems, the data is stored in such a way that it acquires lot less space as the redundant data (duplicate data) has been removed before storage. Let’s take a layman example to understand this- In a banking system, suppose a customer is having two accounts, one is saving account and another is salary account. Let’s say bank stores saving account data at one place (these places are called tables we will learn them later) and salary account data at another place, in that case if the customer information such as customer name, address etc. are stored at both places then this is just a wastage of storage (redundancy/ duplication of data), to organize the data in a better way the information should be stored at one place and both the accounts should be linked to that information somehow. The same thing we achieve in DBMS.

**1.3.1 Fast Retrieval of data**​: Along with storing the data in an optimized and systematicmanner, it is also important that we retrieve the data quickly when needed. Database systems ensure that the data is retrieved as quickly as possible.

* The choice of a database product is often influenced by factors such as:
* the computing platform (i.e., hardware, operating system)
* the volume of data to be managed
* the number of transactions required per second
* existing applications or interfaces that an organization may have
* support for heterogeneous and/or distributed computing
* cost
* vendor support

**1.3.2 Design and Modeling:**

The first task of a database designer is to produce a ​c​onceptual data model that reflects the structure of the information to be held in the database. A common approach to this is to develop an entity-relationship model, often with the aid of drawing tools. Another popular approach is the ​Unified Modeling Language.

A successful data model will accurately reflect the possible state of the external world being modeled: for example, if people can have more than one phone number, it will allow this information to be captured.

# 1.4 Objective

Fitness is certainly a solo phenomenon; however, efficiency and consistency are increased ten-folds when it has a sense of community. The community provides us a sense of belonging which keeps us motivated to achieve personal fitness goals.

This soul reason brought us the idea of creating a community of people who share a common interest in physical fitness and mental health. We live in an era of absolute uncertainty. What we can promise ourselves is a healthy life. Just taking 30 min of our time out today to be fit is all it takes to build a strong and healthy tomorrow.

# 1.5 Problem Statement

# To build an online community, to collaborate with like-minded people and to create awareness about physical and mental health. There exists an immense lack of motivation and companionship for fitness, to overcome this there is a need for community which gives us the sense of belonging.

# Scope of the report

The essential framework of this report would be to elaborate the design of E.R-diagram, Schema Diagram and to display how the functionalities of the website works in order to achieve the most of it.