ASSIGNMENT

QUESTION

In 300 words or more, describe with the aid of diagram, the architecture of the web.

SOLUTION

Web application is a piece of software that can be accessed from a browser. A browser is therefore defined as a software application which is used to locate, retrieve and display content on the world wide web, which includes the following webpages, images, video and other files.
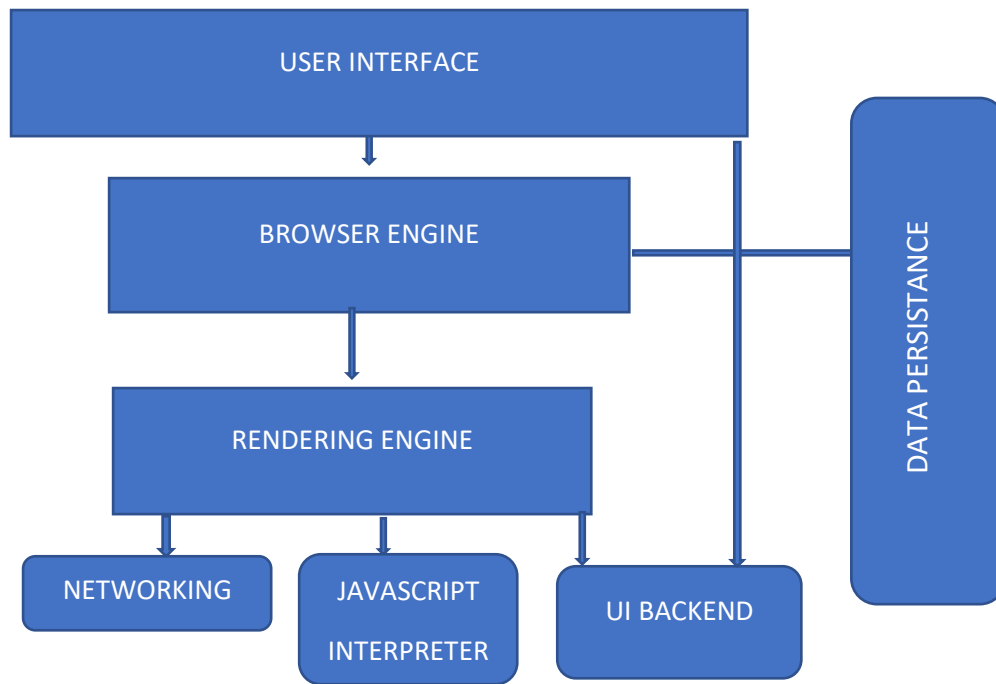
The browser is also known as the web client or user agent. The web client then communicates with the server to request information, the webserver then sends the information back to the web browser which displays the results on the computer that supports a browser.

The protocol is used to transmit data, there are various types of protocols they include HTTP (Hyper Text Transfer Protocol), FTP (File Transfer Protocol) and WebSocket Protocol etc.

Hyper Text Transfer Protocol is the most commonly used and it is also known as request and response because it communicates between the browser and the server.

Web resources is any document like html, pdf and JSON which is hosted by the server. The URL (Uniform Resource Locator) refers to a web address which is uniquely identifies a document over the internet. The document can be a webpage, image, audio, video or anything else present on a web. E.g. www.shopsave.com/shopping _ladies/index.html is an URL to the index.html which is stored on shopsave we server under shopping_ladies directory.

ARCHITECTURE OF THE WEB

USER INTERFACE

BROWSER ENGINE

DATA PERSISTANCE

RENDERING ENGINE

NETWORKING

JAVASCRIPT INTERPRETER

UI BACKEND

- USER INTERFACE: This is a means by which the user and the computer system interact, in particular the use of input devices and software. E.g. address bar. Back and next button, home buttons and bookmark option.etc

- BROWSER ENGINE: The browser engine transforms HTML documents and other resources of a web page into an interactive visual representation on a user's device. It also works as a bridge between the user interface and the rendering engine.

- RENDERING ENGINE: Is a software that draws text and images on the screen. The engine draws structured text from a document often HTML and formats it properly based on the given style declarations often given in CSS. Examples of layout engines are Blink, Gecko, Webkit. Etc

- NETWORKING: Is the component of the browser which retrieves the URLs (Uniform Resource Locator's) using the common internet protocols of HTTP or FTP. The networking handles all aspects of the internet communication and security.

- JAVASCRIPT INTERPRETER: This component of the browser interprets and executes the JavaScript code embedded in a website. The interpreted results are sent to the rendering engine for display.

- UI BACKEND: The backend exposes a generic interface that is not platform specific. UI backend is used for drawing basic widgets such as combo boxes and windows.
- DATA PERSISTENCE: It is a small database created on the local drive of the computer where the browser is installed. It manages user data such as cache, cookies, bookmark and preferences. It is also known as persistence layer.