

Hypermedia Application Design consideration

Hypermedia Application Design Consideration

- In addition to control of their desktop environments, user also need control of their system environment.
 - The ability to specify a primary server for each object class within a domain specified by the system administrative.
 - A domain can be viewed as a list of servers to which they have unrestricted access.
 - The ability to specify whether all multimedia -objects or only references should be replicated.
 - The ability to specify that the multimedia object should be retrieved immediately for display versus waiting for a signal to "play" the object.
 - This is more significant if the object must be retrieved from a remote server.
 - Display resolution defaults for each type of graphics or video object.

Essential for good hypermedia design:

- 1.Determining the type of hypermedia application.
 - 2.Structuring the information.
 - 3.Determining the navigation throughout the application.
 - 4.Methodologies for accessing the information.
 - 5.Designing the user interface.
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Integration of Applications

- The computer may be called upon to run a diverse set of applications, including some combination of the following:
 1. Electronic mail.
 2. Word processing or technical publishing.
 3. Graphics and formal presentation preparation software.
 4. Spreadsheet or some other decision support software.
 5. Access to a relational or object-oriented database.
 6. Customized applications directly related to job function:
 - * Billing
 - * Portfolio management
 - * Others.
- Integration of these applications consists of two major themes:
 - * The appearance of the applications
 - * The ability of the applications to exchange of data.

Common UI and Application Integration

Microsoft Windows has standardized the user interface for a large number of applications by providing standardization at the following levels:

- * Overall visual look and feel of the application windows
 - * Menus
 - * Dialog Boxes
 - * Buttons
 - * Help Features
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- This standardization level makes it easier for the user to interact with applications designed for the Microsoft Windows operational environment.
- Standardization is being provided for
 - Object Linking and Embedding (OLE).
 - Dynamic Data Exchange (DOE).
 - Remote Procedure Call (RPC).

Data Exchange

- The Microsoft Windows Clipboard allows exchanging data in any format.
- It can be used to exchange multimedia objects also.
- We can cut and copy a multimedia objects in one document and pasting in another.
- These documents can be opened under different applications.
- The windows clipboard allows the following formats to be stored:
 - ∴ Text Bitmap
 - ∴ Image Sound
 - ∴ Video (AVI format).

Distributed Data Access

Fully distributed data access implies that any application at any client workstation in the enterprise-wide WAN must be able to access any data object as if it were local.

Hypermedia Application Design

- Hypermedia applications are applications consisting of compound objects that include the multimedia objects.
- An authoring application may use existing multimedia objects or call upon a media editor to CD create new object.

Structuring the Information

A good information structure should consist the following modeling primitives:

- .. Object types and object hierarchies.
- .. Object representations.
- .. Object connections.
- .. Derived connections and representations.

Object Types and Object Hierarchies

- Object types are related with various attributes and representations of the objects.
- The nature of the information structure determines the functions that can be performed on that information set.
- The object hierarchy defines a contained-in relationship between objects.
- The manner in which this hierarchy is approached depends on whether the document is being created or played back.

Object representations

A hypermedia object is a compound object, consists of some information elements, including data, text, image, and video. Since each of these multimedia objects may have its own sub objects, the design must consider the representation of objects.

Object connection

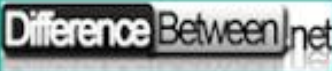
In the relational model, the connections are achieved through joins, and in the object oriented models, through pointers hidden inside objects.

Derived Connections and Representations

Modeling of a hypermedia system should attempt to take derived objects into consideration for establishing connection guidelines.

Difference between Multimedia and Hypermedia

MULTIMEDIA VERSUS HYPERMEDIA

Multimedia	Hypermedia
It refers to the integration of multiple forms of expression and communication.	It is a more diverse form of the term hypertext used in non-linear data representation.
It requires multimedia delivery systems with the provision of audio and video and a display output.	It extends the abilities of multimedia by creating clickable links on web browsers to access media.
It primarily comes in two basic formats: linear and non-linear multimedia. Linear is a sequential presentation of media while non-linear is a non-sequential presentation of media.	It is a non-linear representation of interactive multimedia information that is often linked to other content via clickable links.
It uses a variety of output devices to present visual content.	It uses computer display as the output device to let users access and interact with the information.
Multimedia model is based on integration and interactivity.	Hypermedia model is based on interconnectivity and cross-referencing.
	

S.NO.	COMPARISON	MULTIMEDIA	HYPERMEDIA
1.	Basic	It represents the various forms of representing the information.	It is an extension of hypertext and not considered as text-based.

		Both linear and non-linear	
2.	Types available	available.	Only non-linear available.
3.	Relation	It combines with hypertext to form a hypermedia.	It combines both hypertext as well as multimedia to represent information.
4.	Based on	It basically works on interaction and interactivity.	It is used for inter-connectivity among elements and also for the cross referencing.
5.	Requirements of hardware	It requires its own delivery system called as multimedia delivery system.	It provides the clickable links to increase capability.
6.	Information present	It is the combination of the media and content which stores the information in some form across the devices.	It is more contrasting in nature and used in non-linear data representation.

Difference between Hypertext and Hypermedia

What is Hypertext?

Hypertext is a powerful cross-referencing tool meant for user-driven access to an ocean wealth of interconnected information either static or dynamic in an electronic format. Simply put, hypertext may refer to plain simple text that contains links to access other chunks of text within the same or different document. It provides a means to organize and present information in a way that is easily accessible to the end users. It's more like a user-driven tool to represent textual information which are linked together to provide more flexibility and a greater degree of control. This allows users or readers to move from one location to another via hyperlinks or "go to" links. Links connect nodes to other documents and are usually activated when clicked upon by a mouse or other pointing device. Hypertext refers to text elements that contain links to access blocks of

text in the same document or some other document. Hypertexts allow the users to move from one location to another using hyperlink. In this way, the users can easily access the information they require.

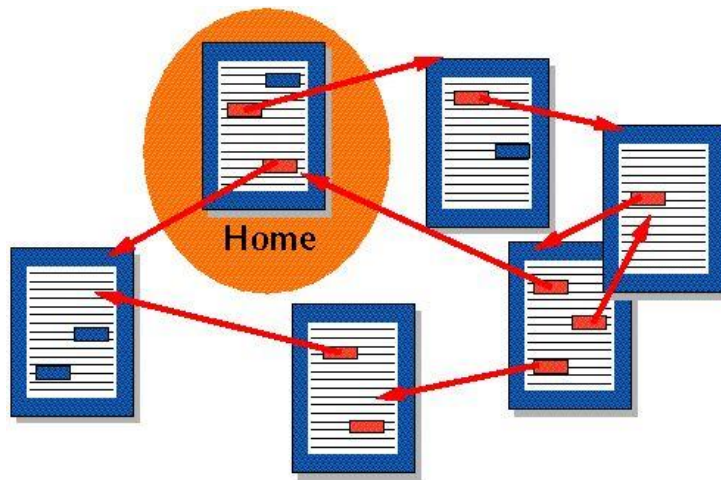


fig: hypertext

Hypertext represents textual information which is linked together to provide more flexibility in accessing information. Furthermore, hypermedia is an extension of hypertext but it is not restricted only to text. It represents multimedia elements such as images, videos, audio and animations. Overall, hypertexts help to make the webpages more interactive.

```
1 <!DOCTYPE html PUBLIC "-//W3C//DTD HTML
2 <html>
3   <head>
4     <title>Example</title>
5     <link href="screen.css" rel="sty
6   </head>
7   <body>
8     <h1>
9       <a href="/">Header</a>
10    </h1>
11    <ul id="nav">
12      <li>
13        <a href="one/">One</a>
14      </li>
15      <li>
16        <a href="two/">Two</a>
17      </li>
```

What is Hypermedia?

Hypermedia is an extension of hypertext that employs multiple forms of media such as text, graphics, audio or video sequences, still or moving graphics, etc. The structure of hypermedia is quite similar to that of a hypertext, except it's not constrained to be just text-based. It extends the capabilities of hypertext systems by creating clickable links within web pages to create a network of interconnected non-linear information which user can both access and interact with for a better multimedia experience. The most common hypermedia type is image links which are often

linked to other web pages. It is used in a variety of applications from problem solving and qualitative research to electronic studying and sophisticated learning.

Difference between Hypertext and Hypermedia

Definition

Hypertext simply refers to text that contains links to other chunks of text to which the user is transferred to usually by a mouse click or keypress. The documents are linked together via hyperlinks which allow users to jump from one document to another within the same or different web pages. Hypermedia, on the other hand, is an extension of the term hypertext used in a similar way except it's not constrained to text elements. In fact, hypermedia contains different media elements or morphologies such as audio, images, video, and still or moving graphics.

Representation

Hypertext is an interconnected network of documents and other media referenced through links between them. It can contain either static or dynamic content in an electronic format. The static content is the content that can be delivered directly to the end users without any modification whereas dynamic content may subject to change based on user inputs. Hypermedia is the next level of multimedia experience which extends the notion of hypertext links to include not only text but a wide range of other multimedia elements such as audio, video, and graphics.

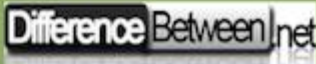
Technology

Although the term hypertext is widely used in association with the World Wide Web, the technology has been around since ages. The hypertext technology is solely based on human-computer interaction by strong cross referencing tools called hyperlinks. It facilitates effective use of text and links and how to implement it on the World Wide Web. Hypermedia technology is based on non-linear forms of media which include not only plain text but also other multimedia elements to enhance your overall multimedia experience. Hypermedia technology is a major breakthrough in the field of education.

Applications

Hypertext technology goes beyond the usual clicking and accessing “go to” links from one location to another on the internet. The hypertext model can be implemented on a wide range of applications and the degree of dynamic linking in the hypertext is not just limited to the internet. In fact, it can be applied to electronic studying, literary exploration, and qualitative research. Hypermedia application can be defined as a network of interconnected documents that are linked together by extensive cross-referencing tools such as hypertext. The best example of hypermedia is the World Wide Web.

Hypertext vs. Hypermedia: Comparison Chart

HYPertext	VERSUS	HYPERMEDIA
Hypertext		Hypermedia
It refers to text which links to other chunks of text within same or different document.		It is an extension of hypertext which is not constrained to be text-based.
It is an interconnected network of documents linked together via strong cross referencing tools called hyperlinks.		It refers to a non-linear presentation of content that includes plain text, images, audio, video, and still or moving graphics.
It simply allows users to jump from one document to another by clicking on "go to" links.		It extends the ability of hypertext to include links within all sorts of multimedia objects.
Hypertext technology is based on effective human-computer interaction and relevant cross referencing of related items.		Hypermedia technology extends the use of multimedia elements to create clickable links that readers can both access and interact with.
It represents multimedia content in electronic text format.		It combines both hypertext and multimedia to represent a wealth of information. 

Difference between Hypertext and Hyperlink

The main difference between hypertext and hyperlink is that **hypertext is a text with references to some other text while hyperlink is a reference in a hypertext that directs the users to a section in the same document or a different document.** There are millions of web pages available on the internet. These pages are connected to each other. Hypertext and hyperlink are two terms related to internet and web pages. Hypertext is a text with reference to some other text that users can access quickly. These references are called hyperlinks. A hyperlink points to some other document or a specific section within the documents. In brief, hypertext is a text with hyperlinks while hyperlinks are the references in hypertext.

HYPERTEXT VERSUS HYPERLINK

HYPERTEXT	HYPERLINK
Text with references (hyperlinks) to other text that the user can easily and quickly access	Reference in a hypertext to a whole document or a specific section in the same document
Contains only text with hyperlinks	Include various types of media including text, audio, graphics, images, etc.
Provides information about the subject of interest when clicked or hovered upon	A reference in a hypertext that directs the user to some other location
Associated with keywords	Associated with anchor text
	Visit www.PEDIAA.com

What is Hyperlink

A hyperlink is a URL the hypertext directs the user to. Clicking on them will take the user to a section in the same web page or a different web page. Hyperlinks can take various forms such as bold text, italic text, images, etc. When hovering upon a hyperlink, it provides brief information regarding what the hyperlink refers to.



fig: hyperlink

Hyperlink

Today, most of the web pages contain hyperlinks referring to the same page or other web pages. When the user surfs the internet, the mouse pointer changing into a pointing finger means that it is a hyperlink. While reading the articles in Pediaa.com, you must have also noticed multiple hyperlinks.

Difference between Hypertext and Hyperlink

Definition

Hypertext is a text with references (hyperlinks) to other text that the user can easily and quickly access. Hyperlink is a reference in a hypertext to a whole document or a specific section in the same document.

Format

Hypertext contains only text with hyperlinks. Hyperlinks include various types of media including text, audio, graphics, images, etc.

Usage

Hypertext provides information about the subject of interest when clicked or hovered upon. Hyperlink is a reference in a hypertext that directs the user to some other location.

Association

Hypertext is associated with keywords while hyperlink is associated with anchor text. An anchor text is a visible text in a hyperlink, that the user can click.

