Database Query

A database query is the principal mechanism to retrieve information from a database. It consists of predefined format of database questions. Many database management systems use the Structured Query Language (SQL) standard query format.

Example

```sql
SELECT DOCUMENT#
FROM JOURNAL-DB
WHERE (DATE >= 2004 AND DATE <= 2008)
AND (LANGUAGE = ENGLISH OR FRENCH)
AND (PUBLISHER = ASIST OR HFES OR ACM)
```

Users perform better and have better contentment when they can view and control the search. The database query has thus provided substantial amount of help in the human computer interface.

The following points are the five-phase frameworks that clarifies user interfaces for textual search –

- **Formulation** – *expressing the search*
- **Initiation of action** – *launching the search*
- **Review of results** – *reading messages and outcomes*
- **Refinement** – *formulating the next step*
- **Use** – *compiling or disseminating insight*

Multimedia Document Searches

Following are the major multimedia document search categories.

Image Search

Performing an image search in common search engines is not an easy thing to do. However there are sites where image search can be done by entering the image of your choice. Mostly, simple drawing tools are used to build templates to search with. For complex searches such as fingerprint matching, special softwares are developed where the user can search the machine for the predefined data of distinct features.

Map Search

Map search is another form of multimedia search where the online maps are retrieved through mobile devices and search engines. Though a structured database solution is required for complex searches such as searches with longitude/latitude. With the advanced database options, we can retrieve maps for every possible aspect such as cities, states, countries, world maps, weather sheets, directions, etc.

Design/Diagram Searches

Some design packages support the search of designs or diagrams as well. E.g., diagrams, blueprints, newspapers, etc.

Sound Search
Sound search can also be done easily through audio search of the database. Though user should clearly speak the words or phrases for search.

**Video Search**

New projects such as Infomedia helps in retrieving video searches. They provide an overview of the videos or segmentations of frames from the video.

**Animation Search**

The frequency of animation search has increased with the popularity of Flash. Now it is possible to search for specific animations such as a moving boat.

**Information Visualization**

Information visualization is the interactive visual illustrations of conceptual data that strengthen human understanding. It has emerged from the research in human-computer interaction and is applied as a critical component in varied fields. It allows users to see, discover, and understand huge amounts of information at once.

Information visualization is also an assumption structure, which is typically followed by formal examination such as statistical hypothesis testing.

**Advanced Filtering**

Following are the advanced filtering procedures –

- Filtering with complex Boolean queries
- Automatic filtering
- Dynamic queries
- Faceted metadata search
- Query by example
- Implicit search
- Collaborative filtering
- Multilingual searches
- Visual field specification

**Hypertext and Hypermedia**

Hypertext can be defined as the text that has references to hyperlinks with immediate access. Any text that provides a reference to another text can be understood as two nodes of information with the reference forming the link. In hypertext, all the links are active and when clicked, opens something new.

Hypermedia on the other hand, is an information medium that holds different types of media, such as, video, CD, and so forth, as well as hyperlinks.

Hence, both hypertext and hypermedia refers to a system of linked information. A text may refer to links, which may also have visuals or media. So hypertext can be used as a generic term to denote a document, which may in fact be distributed across several media.

**Object Action Interface Model for Website Design**

Object Action Interface OAI, can be considered as the next step of the Graphical User Interface GUI. This model focusses on the priority of the object over the actions.

**OAI Model**

The OAI model allows the user to perform action on the object. First the object is selected and then the action is performed on the object. Finally, the outcome is shown to the user. In this model, the
user does not have to worry about the complexity of any syntactical actions.

The object–action model provides an advantage to the user as they gain a sense of control due to the direct involvement in the design process. The computer serves as a medium to signify different tools.