

Basics of Online Information Retrieval

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What is information?

- Encapsulated knowledge
- Packaged human experience
- A source that can provide a myriad of data
- A resource that takes different formats, packaging, transfer media, and varied methods of delivery
- People: family, friends, tutors, fellow students
- Institutions, i.e., national health service professionals or help facilities

Need for Effective Use of Information

- A vital element for creativity and innovation
- A basic resource for learning and human thought
- A key resource in creating more knowledgeable citizens
- A factor that enables citizens to achieve better results in their academic lives, with regard to health, and at work
- An important resource for national socio-economic development

What is Retrieval?

The basic definitions of Retrieval are

- “the process of getting something back from somewhere”
- “the action of obtaining or consulting material stored in a computer system”

(Oxford Dictionary)

What is information Retrieval (IR)?

Generally, IR involves

- Tracing and recovery of specific information from stored data

(OXFORD Dictionary)

- Searching and retrieval of information from storage according to specification by subject

(Calvin Mooers, 1951)

- “The process of locating and selecting data relevant to a given requirement”

(Shera)

- “The activity of obtaining information resources relevant to an information need from a collection of information resources.

Wikipedia

Elements of Information Retrieval

Information Retrieval mainly consists of four elements, i.e.

a. **Information carrier:** Something that carries or store information. For example: Film, Magnetic Tape, CD, DVD etc.)

b. **Descriptor:** Sear terms or key words used to search information from a storage device

c. **Document address:** Anything identifying the location of document such as ISBN, ISSN, Call No., URL, DOI, etc.

d. **Transmission of information:** Refers to supply any document at the hands of the users when needed. IRs uses various communication/networking channels for doing this.

Approaches to Information Retrieval

- Human Perspective

- Known-item searching
- Subject Searching

- Information Professionals View Point

- User-centered: Info resources are set out in a way that users can retrieve independently.
- Intermediate Approach: Info professionals search info on behalf of end-users

- Machine Perspective

- Citation Indexing (Linking the document)
- Hypertext Links
- Filtering (Eliminate the least relevant)
- Image and Sound Processing
- MARC-based

Information Retrieval Tools

- **Traditional IR Tools**
 - **Catalogue:** A list of books confined to a particular library.
 - **Index:** An alphabetical list at the back of a book saying where particular things are mentioned in the book.
 - **Abstract:** A concise and accurate representation of the contents of a document.
 - **Bibliography:** A list of books, not confined to a particular library
 - **Authority File:** A list of files contains call number and class number without any specific rules.
- **Non-traditional or Modern IR Tools**
 - **Semi-automatic Systems:** Punch card, EDGE notes card, Apache card etc.
 - **Automatic Systems:** Computer, CS-ROM, Hard Disk, Floppy Disk, Internet.

Online Information Retrieval

- A process in which users retrieve their desired information from different machine-readable online databases.
- An activity of obtaining information resources relevant to an information need from a collection of information resources via the help of computer or other related technology.
- Online IR systems works by combining computers with several other devices such as networking terminal, communication layer/link, modem, disk driver, and software packages.

Defining Online IR Systems

Some important definitions of OIRS are given below;

“OIRS is the techniques of storing and recovering and often disseminating recorded data especially through the use of a computerized system”

(Merriam Webster Dictionary)

“OIRS is a method by which a user search information machine-readable database and retrieve their desired information very rapidly and easily”

(ALA Glossary)

“OIRS is a software that provides access to books, journals, and other documents stores them and manages the document”

(Wikipedia)

Characteristics of Online IR System



Merits of Online IR Systems (1)

1. **Time saving:** OIRS save the time of the reader when search for new information.
2. **Easy to understand:** Searching process of OIRS is very easy to understand.
3. **Current information:** Information stored in a database is more current than the printed publication.
4. **Database:** All the information is stored on a database, so we can search information more effectively.
5. **Multi database search:** Users can search their desired information from multi-database at a same time.
6. **Multiple concepts:** At a same time they can use multiple keyword / concept for search.
7. **Multi user:** It has the ability to serve multi user at a same time.
8. **Geographical Barrier:** Geographical factors are not an obstacle for searching information from storage. Users may able to search information from anywhere of the world.

Merits of Online IR Systems (2)

9. **Preservation system:** We can easily store all of our search results on our computer.
10. **Various Formats:** We can retrieve information from our search as various formats, such as book, journal, PDF, document format, etc.
11. **Cost:** Searching cost is less than manual searching.
12. **Multi access point:** At a same time many users can able to access its storage.
13. **Up-to-date information:** Most of the result retrieved by this system is up-to-date.
14. **Rapid access:** Users can able to access very rapidly to the search result.
15. **Resource sharing:** It has the capability of resource sharing.
16. **Search logic:** Its search logic is user friendly.

Demerits of Online IR Systems

1. **Primary cost:** The primary establishment cost so high to bear for a small and medium library.
2. **Lack of Budget:** This is always a problem with lack of library budget, so it is not always possible to maintain such a costly system by a library.
3. **Lack of training facility:** Bangladesh as a developing country, here is lack of proper IT training facility to create well trained manpower to run this system.
4. **IT knowledge:** Most of the library user and staff do not have enough IT knowledge to run this system. **Multi database search:** Users can search their desired information from multi-database at a same time.
5. **Electric problem:** Load shedding is a common problem here. Frequency of power supply creates huge problem.
6. **Lack of Networking and internet facility:** Lack of network and internet facility creates many problems here.
7. **Internet speed:** Slow speeds of Internet delay the retrieval system.
8. **Mental dissatisfaction:** Online Information Retrieval system use computer technology for retrieving information which creates many physical and mental problems.
9. **Irrelevant information:** Sometime this system retrieve many irrelevant information, this may dissatisfy user.

Thank You