

**A synopsis**

**On**

**Exploring Probability of Developing a standard program to classify books/documents according to colon scheme of classification Ed. 6.**

**Using PHP environment**

**By**

**Under the supervision of**



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## OUTLINE OF PROPOSED RESEARCH WORK

1. **Name of scholar** (In English) :  
(in Hindi ) :
  
2. **Title of the research** (in English) : Exploring Probability of Developing  
a Standard program to classify  
books/documents according to colon  
scheme of classification Ed. 6. Using  
PHP environment.  
(in Hindi) :  
ih+,p+ihxokrkoj.kxdkxÁ;ksxxdjrsx  
gq,xf}fcUnq  
oxhZdj.kxlaLdj.kx6xdsx  
vuqlkxjqLrd"a@çys[k"a  
d"xoxhZd`r  
djusxdsxfy,x,dxI^HHkkfor ekud  
dk;Zfof/kxdksxfodflrxdjusxdkx  
vUos"k.kxdjukx
  
3. **Location** :
  - a) **Organization /Department** :  
where work is to be done
  - b) **Geographical area of Investigation**

**Introduction:**

Classification is the simplest method of discovering order in the overwhelming multiplicity of nature. It is a process of sorting, which brings together like things or objects and separates unlike ones.

During the 20<sup>th</sup> century an Indian librarian and Indian classificianist Dr. Shiyali Ramamrita Ranganathan was a renowned thinker and innovator in the world of library and information science. He introduced many concepts, postulates, cannons, principals for the development of library science among them an important contribution is, the colon classification scheme in 1933.

According to Ranganathan, Library Classification is the translation of the name of the subject of a book into preferred artificial language of ordinal numbers. The need for the classification system is much more in today's electronic environment than ever before.

He felt there was a need to create a scheme that would be able to reflect forthcoming titles with different subject matter than had been seen in the libraries & to expand to new areas of knowledge over time. His colon classification scheme was developed to fill this need.

Ranganathan based the Colon classification scheme on the concept of facet analysis, an idea that was not new to library science. He believed that any concept could be built by using a term from a basic class to start the concept at a very broad level and then adding terms that corresponded to facets of that basic class in order to arrive at the very specific topic.

Classification originally began to help arrangement of books in a library. CC is analytico synthetic classification. It is the process of first analyzing the specific subject and at the last stage synthesizing the class no. which makes the CC an analytico-synthetic classification.

In the CC readymade class numbers are assigned to topics. The schedule in the colon classification may be said to consist of certain standard unit schedules. The standard unit schedules correspond to the standard pieces in a meccano apparatus. Even a child know that by combining these standard pieces in different ways many different objects can be

constructed so also by combining the number in the different unit schedules in assigned permutations & combinations the class no. of all possible topics can be constructed.

In this scheme the function of the colon (:) is like that of the bolts & nuts in a meccano set. Colon scheme of classification with mixed notation. It has made use of five fundamental categories (PMEST), Personality, Matter, Energy, Space (geographical division) and Time are five such categories. The scheme has used different connecting symbols for each category. It has not only sharpened the concept of common isolates but also phase relations with devices such as Subject device. It has recognized two types of common isolates, the anteriorising common isolates (ACI) & posteriorising common isolates (PCI).

Colon classification scheme in first looks very difficult that's why it is not widely used in libraries. It gained a foot hold in India during Ranganathan's life, but it never was the most commonly used scheme in India.

CC notation & code numbers are simply too complex to gain acceptance from average library patrons.

Today the information explosion through wide area of research, and inventions and dissemination by internet is reaching saturation. Information retrieval from billions of web documents using conventional search engines are seems inadequate.

The existing cataloguing & classification rules do not provide intelligent mechanism to store & retrieve ever expanding information resources.

#### **4. Importance of proposed investigation –**

With the increase usage of internet libraries has to provide the services with all modern technologies. Libraries need to use the new exciting technology for changing the total environment of information dissemination, information accessibility and information preservation.

Most of the libraries are built on a cataloging scheme of their choice like AACR2, an international cataloging standard. Classification is done using DDC, LC, CC or any other scheme. These cataloging and classification rules provide a static structure for organization of the resources. They are not flexible to adopt and expand the services of growing digital resources in a library. This leads to a chasm between the traditional & Hi-tech systems.

The libraries are in a two tier system for traditional and Hi-tech library services with different approaches for cataloging and classification and lacking intelligent dissemination services.

Looking to the need for standardization in classification in electronic era, uniform form divisions (common isolates) and time isolates is adopted by existing schemes of library classification. At this juncture of cross road for library profession, where world is developing international information, it is highly essential to adopt a common code of common, space and time isolates. It is also essential that there should be an international classification expert committee to continuously revise and amend common formats.

Faceted classifications are increasing common on the worldwide web, especially on commercial websites (Adkinsson 2003).

## **5. Significance of study –**

A common standard programme for libraries will design and develop using PHP Environment.

Ranganathan's methodology may help libraries to expose digital repository content on a larger scale within a very flexible and forward looking frame work. This will allow libraries to anticipate the development of the semantic web and become key players in the environment.

Two ways to store the faceted classification system on a computer are to use XFML or a relational database.

When designing a system to store a classification on a computer, make it as easy as possible to handle changes, but do everything to prevent that from ever being necessary. The hospitality and flexibility that *Kwasnick* (1999,40) listed as good features of facets can be found in the web interface, but are not often matched by similar qualities in software.

XFML is a markup language written in XML and hence looks similar to HTML. It is used to put faceted classification into a standard machine and human readable form that is easy to store, transmit and manipulate.

### **Purpose of system**

Most of the libraries are using DDC as classification scheme. After so many years Colon classification is not very much in use .Many Indian libraries are also using DDC instead of CC.

Most of the libraries are built on a cataloguing scheme of their choice like AACR2, an international cataloguing standard. Classification is done using DDC,CC or LCC. These cataloguing and classification rules provide a static structure for organization of the resources. They are not flexible to adapt and expand the services of growing digital resources in a library. This leads to chasm between the digital and classical systems as a single fold. The libraries are in a two tier system for classical and digital library services with differing approach for cataloguing and classification and lacking intelligent dissemination services. However at organizational level, the content and services of a library can be grouped together and addressed via a single interface.

CC has retained a position of prominence in library education and research within and outside of India. In depth coverage of the scheme is an integral part of all the levels of education in library science in India. In the UK, Canada and the US CC is often taught as a model of faceted classification along with Bliss classification.

Within Russia CC is a subject of research among information professionals and the classification system itself has been translated into Russian.

In China, it has had an impact on the development of the Chinese library classification and Chinese document classification. It has also been used as the basis for subject thesauri in several disciplines.

Estimates range between 8.5% & 27.5% of Libraries in India use CC, with some evidence that it is more commonly used in academic libraries.

Abroad only two libraries have been identified that apply CC to their collections : Christ college , University of Cambridge and College of Agriculture Khartoum, Sudan.

## **6. Review of work already done on the subject –**

*Neelameghan, A.(1997)* summarizes some of the use of these normative principles in the design, development & retrieval of information from machine readable databases, specially object oriented specialized databases , including the design of user interfaces & hypertext links.

Enumerates some of the earlier instances of the facet method in machine based systems beginning with Hollerith's punched card system for the US census data processing. Elaborates on Ranganathan's holistic approach to information systems and services provided by his normative principles.

At the Cleveland conference in 1959, Ranganathan indicated that the analytic-synthetic methodology & faceted classification model based on postulates & principles, which have formed the basis of his CC scheme could give more helpful results in machine based information storage and retrieval.

*ARD Prasad (2005)* demonstrates the methods of identify facets and synthesizing them in a helpful sequence according to canons, postulates and principles.

It seems a certainty that the 'Age of Ranganathan' will continue to be with the library world for years to come & continue to provide a base for the realization of the concept of total library service.

*Michael Gorman* has very appropriately called Ranganathan a 'Renaissance Man'

Though colon classification scheme was never widely adopted, its influence can be seen throughout the practice of information retrieval in the modern revisions of the DDC scheme and in such pioneering attempts as the PRECIS subject heading system. If for nothing else, he deserves to be long remembered for his 'Five laws of Library science'

In an article, *Aimee Glassel* has shown how Ranganathan's idea of analysis and synthesis of facets are used for information retrieval from the internet.

*Steven Pollitt* studied possibilities of interactive information retrieval with the help of faceted classification concept of Ranganathan.

*Robert Fox* explores the impact of S.R.Ranganathan's faceted classification, the colon classification on potential information architecture designs. The author draws a comparison between the ideas that shaped the colon classification system and Tim Berner-Lee's idea of the Semantic web.

*Kuronen & Pekkarinen* have observed that the CC had not become as popular as it might have deserved. It is also observed that the theory of faceted analysis implies ideas which are still to be explored to be fully utilized in the electronic environment. Perhaps Ranganathan had developed his CC faceted classification too early. It is expected that wider benefit would be gained from CC as a structured domain language as used in artificial intelligence. It is however appropriate to acknowledge the increased application of Ranganathan's principles of CC in indexing in the creation of electronic databases, and in the development of integrated systems. He has given us the instrument for the accurate analysis of knowledge and its re-synthesis in a linear sequence, while the computer has now become the means for displaying the resultant sequence.

*Jesse H. Shera* realized the potential of CC & drew the attention of American Librarians to the flexibility of the colon scheme.

*Garfield* notes from a study of science citation index & social science citation index, that Ranganathan's works were cited more than 400 times over a period of 20 years.

## **7. Research gaps identified in the proposed field of investigation**

*Pannigrahi P. & Prasad ARD* suggests some modifications in colon classification so that the concept of Analytico-Synthetic classification is used elaborately for information retrieval in the age of ontology. They discussed their helpfulness in the automatic classification system, the vishwamitra, designed using artificial intelligence techniques with the help of PROLOG language. Viswamitra, an attempt to design and develops an automatic classification system using artificial intelligence (AI) techniques, proves that Ranganathan's thinking was more computer compatible. Developing an automatic classification system stands as one of the major interesting research areas in library and information science.

Experiments at DRTC Bangalore confirmed that CC with its notational system of 71 digits was compatible with computer aided document finding system and also offered certain special advantage.

Ranganathan's analytico-synthetic methodology is also helpful in the analysis and structuring of data, in grouping them into fields and subfields describing for e.g. various attributes of resources roads, landforms, soil, rock type, vegetation etc. of a given spatial area as may be needed in designing a geocoded or geographical information system. These can be converted & represented in the form of tables, graphic patterns, maps and text using appropriate software.

Due to inherent static nature, the subject oriented traditional classification schemes are unable to represent the dynamic relationships that exist among digital resources. Thus, necessitating develops an alternative classification system which is capable of displaying the dynamic nature of the digital resources. However the fundamental concepts postulated by S.R. Ranganathan such as basic facets, canons for idea plane etc. are very

relevant and will be useful in designing a new classification system for the digital environment.

## **8. Objectives of the proposed study –**

- To know the purpose and utilization of colon scheme of classification in web environment
- To explore the potential impact of S R Ranganathan's classification theories on the accessibility and exposure of digital repository content.
- To develop a standard programme for classification of documents using PHP environment.
- To popularize the Indian scheme of classification throughout the world.
- To facilitate classifier towards making uniform class number throughout the globe.
- To make reader familiar with their unique class number.

## **9. Research Methodology**

- **Hypotheses to be tested:**

**Using PHP environment an efficient programme can be developed to automate colon scheme of classification**

- **Materials, tools and techniques**

A standard programme develop using PHP environment will be useful for classification of documents automatically in online environment.

PHP, which stands for "*PHP: Hypertext Preprocessor*" is a widely-used Open Source general-purpose scripting language that is especially suited for Web development and can be embedded into HTML. Its syntax draws upon C, Java, and Perl, and is easy to learn. The main goal of the language is to allow web developers to write dynamically generated web pages quickly.

A software application written in PHP language will run perfectly on any computer on any platform.

The emphasis will be more on designing self help user friendly online web based programme for the users.

PHP programming language derives much of its syntax from C & C++. One characteristics of PHP is portability, which means that computer programs written in the PHP language must run similarly on any supported hardware/operating system platform.

## **10. Tentative chapter wise details of proposed research**

A. Prologue

B. Main body of the thesis

1. Introduction
  - a. Statement of the problem
  - b. Significance of the problem
  - c. Objectives of the study
  - d. Hypothesis to be tested
  - e. Assumptions, limitations and delimitations
  - f. Definition of important terms
2. Review of Literature already done

3. Design of the study
  - a. Procedure used
  - b. Sources used
  - c. Methods of gathering data
  - d. Testing of data
4. Presentation and analysis of data
  - a. Text
  - b. Tables
5. Summary and Conclusions
  - a. Restatement of the problem
  - b. Description of procedure used
  - c. Principle findings and conclusions
  - d. Recommendation for the further research
6. Epilogue

#### C. Reference section

1. Bibliography
2. Appendix

#### **Conclusion-**

This research using PHP platform has not been undertaken yet. Therefore this area has taken for research using PHP platform. Readymade class numbers will be generated that helps the classifier exact no. and wide publicity may get the Indian scheme of classification.

This will be a boon to existing libraries using cc and want to change the collection in digital environment.

Classification is a reduction of information. Ranganathan's concept of PMEST in the context of postulates of basic subject provided a model of parametric structures for reduction. The newer structure of PRECIS & POPSI provided an excellent base for categorization and synthesis of conceptual constructs information activities. In more generalized level the important information in scientific documents embodied in formulas, tables and diagrams a kind of reduced representations of information. Classification thus acts an encoder for external and internal memory of human beings. Thus it is understand that classification is a neural necessity. Semantic factoring of information into components in parametric structure and its resemblance in a contextual structure is the function of all information processing and retrieval situation. The productivity in this intellectual process can be further enhanced by using symbols and codes. They reduce the systematic recurrence of ideas to mechanics of coded symbols. This has been well demonstrated by mathematical expression. Such notational representation moves an arbitrary structure through system to non arbitrary structure. The information gets processed through a classification structure, thus depicting Ranganathan's postulates of three planes of work ideas, verbal and notational planes.

The hierarchical arrangement of ideas based on taxonomic and paralytic relatives has been an excellent of organization of important of information classification provides an excellent framework for information activities from the point of generation to the point of utilization of information. Knowledge and use of classification enhances the productivity in information work, decision making and other human activities.

Computer may make classification more flexible tool for retrieval by making provision to opt for any pattern of classification and find out these scattered aspects of an object/subject in a more productional way.

New information technologies may help us in providing user oriented classification, as against computerized catalogue, such as MARC, which is a descendant of traditional bibliographic and cataloging methods. It may be more helpful and adaptable to user to his

needs. It may be more flexible , up to date and dynamic with better browsing facilities indicating interrelationships maps, networks, graphs trees etc. to depict universe of subjects in multidimensional form.

### **Future Implications:**

There are also new opportunities to learn from research in various aspects of information retrieval, some of which are highly judgmental. All this may give us insight into these problems. Identification and analysis of these problems will help designers of classification schemes, in future to make them better tools in the service of community in the changed communication environment.

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Signature of the candidate with date

Outline approved

Name & Signature of supervisor with date

