

IICS

International Internet Categorization System

with the

Protection of Minors Option and IICS Copyright Solution

by

L.H. Grant and Susan Capizzi

IconFind, Inc.

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4849 El Cemente Ave., #169
Davis, CA 95616

Email: lhgrant@iconfind.com
scapizzi@iconfind.com
[iicsinscvi02](#)

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FOREWORD

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I have worked on and studied the most complex and standardized systems of information retrieval in the world—library cataloguing—for more than 30 years at the national and international level. In particular, I have been involved in the development of international standards for library cataloguing and for the exchange and dissemination of computer bibliographic records. In recent years, I have been particularly interested in the seemingly intractable problem of bringing the same level of standardization and retrieval to worthwhile electronic resources located on the Internet and the Web. There are two problems in dealing with this question. One is the manifest shortcomings of free-text keyword searching and retrieval. The other is the fact that a lot of resources on the Net and the Web are of very local and/or transient interest. Keyword searching is inexpensive but ineffective (the “14,354 hits” problem), whereas traditional library cataloguing and retrieval is highly effective but extremely expensive. The latter is due to the fact that it requires highly trained professional intervention. Thus, those interested in a high level of retrieval effectiveness are caught in a seemingly unresolvable dilemma. Lee Grant and Susan Capizzi’s International Internet Categorization System (IICS) offers a very promising third way that will be inexpensive to apply but effective in retrieving the 90%+ of the Internet and the Web that is of immediate interest, while being an umbrella system that allows articulation between the IICS and fuller cataloguing of the small minority of electronic resources that are of enduring value and need to be archived.

One of the most innovative aspects of the IICS approach is the way in which it transcends linguistic barriers. The failures of automatic translation and the difficulties of multi-language thesauri have bedeviled international subject retrieval. The IICS offers a way out of this maze by prescribing globally recognizable icons with internationally standard meanings.

One of the major problems confronting content providers and libraries in an electronic world is that of blocking access by minors to pornography. “Filtering” systems are ineffective for the same reason that search engines are ineffective—they depend on the vagaries of natural language. The IICS categorization “X” (for sexually explicit sites) combined with its first tier categorization of commercial sites would ensure effective blocking of such sites in appropriate cases. Moreover, such a categorization would be welcomed by the creators/publishers of such sites as a selling point—the same categorization that makes effective blocking possible would make speedy access by willing adult purchasers possible.

I believe that, if the IICS is implemented, we have the real possibility, for the very first time, of a sophisticated and effective search and retrieval system for Internet and Web resources that will have major implications for the identification and archiving of valuable human records that happen to be available in electronic form.

Michael Gorman
Dean of Library Services
California State University, Fresno
&
President, Library and Information Technology Association, 1999-2000
&
Editor, *Anglo-American Cataloguing Rules, Second edition*

INTRODUCTION

In these early years of the information age it has become readily apparent that the key to social and economic prosperity is the quick, efficient access to knowledge. Nowhere is this better demonstrated than with the Internet which is rapidly becoming the greatest storehouse of data ever accumulated. However, from its inception, there have been difficulties which have kept it from realizing its true potential as a reservoir of useful material. IconFind has met these challenges by creating the world's first fully functional and practical categorization system that is designed to fit the unique nature of the Internet and its contents. This includes the means for vastly improved search engine methodology, the use of symbols/icons for categorization, the creation of a sliding hierarchy to enable people of varying capabilities to categorize and retrieve digital material, and a new approach to solving the problem of minors accessing pornography on the Internet in a nonintrusive way with a precision not seen in filtering software. This system and its accompanying technology is known as the International Internet Categorization System (IICS).

In addition, the IICS will be immediately useful from the moment each page of digital material is categorized by providing clear and precise instructions regarding its use as determined by the copyright owner. Furthermore, material that is IICS categorized will be easily retrievable once archived.

In contrast to existing approaches, such as those by the Dublin Core and the ICRA, IconFind does not try to force the Internet into existing set disciplines such as computer science and library science. Instead, these existing disciplines have been adapted so that they are suitable to the particular demands of the Internet which include a wide variety of skills among its users and a volume of content that grows at an immense rate.

Also, by isolating the issue of minors accessing pornography on the Internet from other important but secondary controversies such as hate speech and depiction of violence, it has become possible to more effectively deal with this central issue of pornography and minors in a way that is very exact while still allowing unfettered access to sexual information of a sociological or medical nature.

The IICS is also language neutral. While search engines such as AltaVista and Google must create a variant of their search engine for different countries and languages, the IICS use of icons and standardized codes creates a system that is universal.

Fortunately, the ability to categorize using the IICS is presently available. However, to make categorization even easier a set of software tools that are platform independent will be offered to the public. This application will be distributed over the Internet and will ensure that the ability to categorize digital material will be available to all users across the globe.

CURRENT METHODS FOR INDEXING NEW AND EXISTING SITES

There are over 2 billion web pages currently on the Internet with more than 2 million being added daily. At present, there is no standardized retrieval system and the different methods of categorization that are being used are haphazard and insufficient. There are directories such as Yahoo and LookSmart where sites are categorized individually by editors into many categories and subcategories. These directories, by their very nature, contain only a very small portion of the material available on the Internet and they are also a very expensive and inefficient way to organize information. Volunteer driven directories, e.g. Open Directory, have a multitude of problems with competence and efficiency. They are poorly organized and the editors are often lacking in familiarity with the pages they review. In addition, they too only cover a small percentage of the Internet. Search engines operate differently from directories. They automatically search web sites and index them according to keywords. Some search engines have become more sophisticated and can rate sites by the frequency of use, number of links, etc. However, these search engines, while covering a greater percentage of the Internet, also lack in efficiency, economy and relevancy.

CURRENT ATTEMPTS TO CLASSIFY THE INTERNET











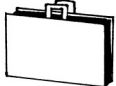






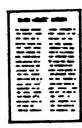

For over six years a group of librarians, archivists and scholars have been working on a cataloging system for the Internet. This work-in-progress has been referred to as the Dublin Core Metadata Element Set. Unfortunately, this effort has shown itself to be problematic and insufficient in addressing the needs of the Internet. To try to resolve some of these failings it has been suggested by a number of the participants that the Dublin Core Metadata Element Set be combined with MARC records. However, this has only created further difficulties. It would require librarians/catalogers or others with a high degree of cataloging knowledge to manually enter the data (with some exceptions). It would also be time consuming and very expensive. In addition, because of the size of the Internet, it is a cataloging system that is simply unworkable.

IICS METHODS FOR CATEGORIZING NEW AND EXISTING SITES

The main method of categorization will allow individual web site creators to select and display the category symbols and/or the IICS categorization label that best describes their site. These individuals can then send the IICS categorization label for their site to the search engines or simply wait for the search engines to scan their site at which time the search engines would recognize the IICS categorization label or symbols and automatically enter the categories for the site into the search engine index of categories and subcategories. This method empowers the individual and removes the arbitrary capriciousness of present methodologies.

In addition, manufacturers of software used for the creation of web sites will find it in their interest to include the IICS in their applications so that categorization becomes part of the process of creating a web site. This will provide another tool to the web site creator as they build their web site page by page. Also, a default process can be included in the software that uses a certain set of criteria for automatically making the selection. For instance, audio, visual, and multimedia files can be recognized by the software with the appropriate categories selected.

AN EXAMPLE OF THE IICS USER INTERFACE

 COMMERCE			 INFORMATION		
 GOVERNMENT	 MEDICAL	 EDUCATION & SOCIAL SCIENCE	 NEWS	 SPORTS & RECREATION	 HISTORY
 SCIENCE & TECHNOLOGY	 ARTS & HUMANITY	 FINANCE & BUSINESS	 REFERENCE	 EXPLICIT	 OTHER
 VISUAL	 AUDIO	 MULTIMEDIA	 TEXT-ONLY	 COMMUNICATION	
<input type="text"/> Keyword(s)					

To find copyright status select one of the following options

- 01 Public Domain
- 02 Fair Use Only

- 03 Use with Attribution
- 04 Permission of Copyright Owner Needed

THE IICS USER INTERFACE AND METHODOLOGY

The first tier divides virtually all of the Internet into two broad but distinct categories and one major subcategory for the purpose of organization, search and retrieval. A careful analysis has led to the conclusion that the most effective initial division is COMMERCE (all web pages involved in buying and/or selling of a product or service) and INFORMATION (all web pages that are not involved in buying and/or selling of a product or service). The subcategory created from the combination of INFORMATION and COMMERCE will be pages that contain noncommercial as well as commercial material. It is recognized that this subcategory will be quite large and in fact will contain more pages than the category of COMMERCE.



This first tier of the hierarchy is used as the first step in the process of categorizing a web site and all of the pages therein. It is also the first step in the selection process of the searcher.

The assigner (categorizer) will decide which category/icon in this first tier best represents each web site and web page using the criterion stated above. If the purpose of any individual web page is commerce it will be assigned the \$ symbol. If the purpose of any individual web page is informational it will be assigned the i symbol. If the web page contains material that is both commerce and information it will be assigned both the \$ symbol and i symbol.

The searcher, with the three tiers of categorization neatly presented on the monitor, will be able to select from this first tier either the COMMERCE symbol (\$), the INFORMATION symbol (i) or both the COMMERCE (\$) and INFORMATION (i) symbols.

By selecting i the searcher will be restricting the search to only those web pages that are categorized as INFORMATION and assigned the i symbol. This includes the entire Information category as well as the subcategory that is both INFORMATION and COMMERCE. All pages within the COMMERCE category that are not contained in the INFORMATION/COMMERCE subcategory will automatically be eliminated from the search which will increase the speed & quality of the results. Search results will list pages from the i category as well as pages from the \$ and i subcategory (see Figure 1).

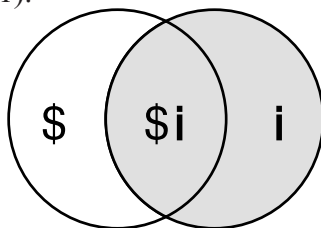


Figure 1

The gray area represents the entire INFORMATION category as well as the subcategory created by the combination of the INFORMATION and COMMERCE categories.

If the searcher selects \$ the search will be restricted to only those web pages that are categorized as COMMERCE and assigned the \$ symbol. This will include the entire COMMERCE category as well as the subcategory that is both COMMERCE and INFORMATION. All pages within the Information category that are not contained in the INFORMATION/COMMERCE subcategory will automatically be eliminated from the search. Search results will list pages from the \$ category as well as pages from the combined \$ and i subcategory (see Figure 2 below).

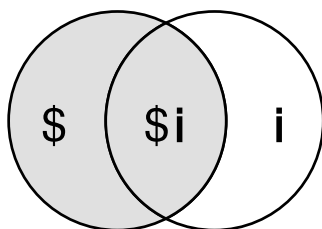


Figure 2

The gray represents the entire COMMERCE category as well as the subcategory created by the combination of the COMMERCE and INFORMATION categories.

If the searcher selects both \$ and i the search will be restricted to only those web pages that are categorized as both COMMERCE and INFORMATION and assigned the \$ and i symbols. Only this subcategory will be searched. All pages that fall outside of this subcategory will be eliminated from the search and subsequent search results (see Figure 3 below).

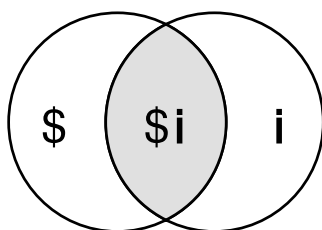
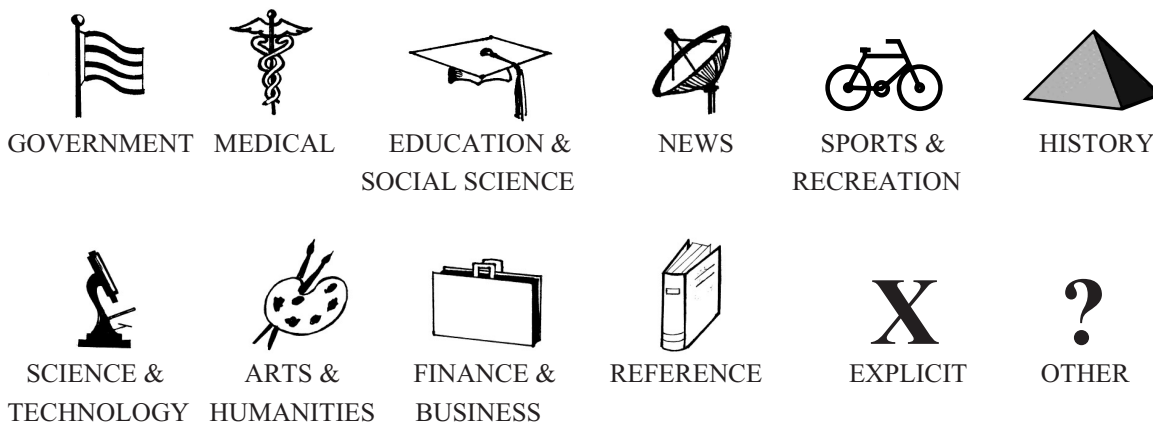


Figure 3

The gray area represents the entire INFORMATION/COMMERCE subcategory which contains pages categorized as both INFORMATION and COMMERCE.

The second tier of the hierarchy contains twelve categories any of which (with the exception of the explicit category) may be combined to further refine the search and retrieval.



Once the assigner/categorizer has selected from the first tier (either COMMERCE and/or INFORMATION) they will next select one or more relevant categories from the second tier to further refine the categorization of their web site and web pages. For instance, if the web site has information about treating sports injuries, INFORMATION would have been selected from the first tier along with SPORTS & RECREATION and MEDICAL from the second tier. The combination of these three categories would become a subcategory that would contain only those web pages with the combination of these assigned symbols/code as represented by the gray area in Figure 4.

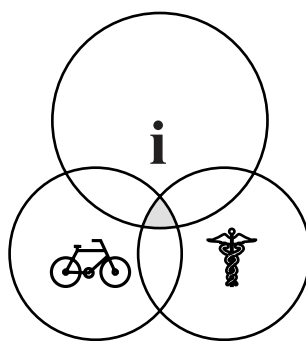


Figure 4

The searcher by selecting all three symbols that represent these categories and entering the keyword “injury” would have a greatly restricted search that would provide the most relevant results in the least amount of time. Only the subcategory represented by the combination of symbols selected will be searched, all other categories will be excluded from the search. In addition, a more general search using the primary categories and/or a lesser combination of symbols may be conducted if desired.

For purposes of searching and retrieval, any number of symbols may be selected from the second tier by both the assigner of symbols and searcher, always bearing in mind that the more symbols that are combined the more focused the search is for relevant items.

The third tier of the hierarchy contains five categories:



VISUAL



AUDIO



MULTIMEDIA



TEXT-ONLY



COMMUNICATION

This is the third level of categorization and search refinement. Categorizers may pick one, several or none depending on whether or not individual web pages contain visual, audio and/or multimedia material. Likewise, searchers will further refine their selection by choosing the desired symbols from this tier. All search results will include pages that contain text. However, if text-only pages are desired (i.e., literature without visual, audio and multimedia material) the TEXT-ONLY icon should be selected. For chat groups, messaging and telephonic communication the COMMUNICATION category/icon should be selected.

If no selection is made from any of the categories on this tier the results from any searches will still include all web sites and pages that contain audio, visual and multimedia elements. If one or more of these categories in the third tier are chosen then the search will be restricted to those categories in conjunction with those selected from the first two tiers. For example, if a searcher wishes to find a picture of the discoverer of penicillin, Alexander Fleming, they would select categorization symbols for INFORMATION from the first tier, HISTORY and MEDICAL from the second tier, and VISUAL from the third tier. They would then type in “Fleming” as a keyword. This combination of categories would then have its own subcategory which would be searched while all other categories and subcategories would be eliminated as shown by the second gray area in Figure 5. The result would be swift and highly accurate providing only those web sites and pages that contain pictures of Alexander Fleming.

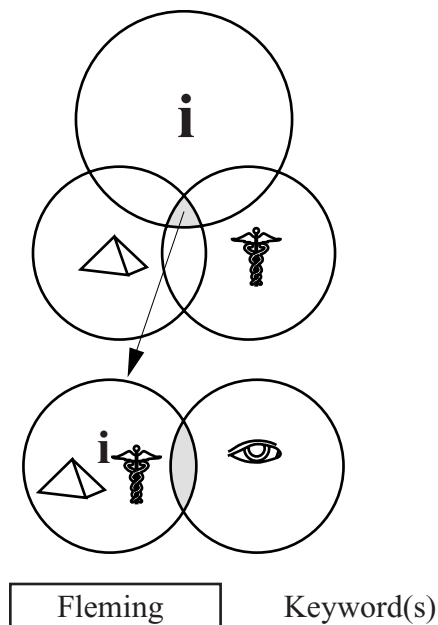


Figure 5

Keyword(s) selection is a further refinement to the categorization process and when used in combination with the symbols will provide highly specific search results.

Symbols that have been selected will appear directly to the left of the keyword text box as an additional reminder to the searcher.

Note: Search results will be listed with symbols. This will be especially helpful with visual, audio and multimedia material.

PATENT PENDING TECHNOLOGY

The technology and methodologies of the IICS is patent pending and/or copyrighted. This protects the IICS from the outside corruption and dilution that could occur if several different “flavors” of the IICS were to be developed.

IICS CODING ARCHITECTURE

In order to bring the International Internet Categorization System to the public in the most efficient manner possible two factors have been given careful consideration. They are: simplicity and thoroughness. With simplicity of implementation, web pages and sites can be categorized quickly and easily by virtually any web site creator. With thoroughness in code design and ease of use, the IICS will provide an extremely valuable tool for the organization and retrieval of information.

IICS codes have been devised to work with any Internet language (html, xml, vrm, etc.) and can be effected without any programming skills from the person categorizing the site. In addition, to avoid needless complexity, the codes for each page and/or site have been created in the form of a single character string which will contain all relevant IICS categorization information for that page and/or site. This character string is referred to as the IICS categorization label.

The creation of the IICS categorization label starts with the IICS user interface. Each IICS category has been assigned a two letter code as shown in Figure 6.

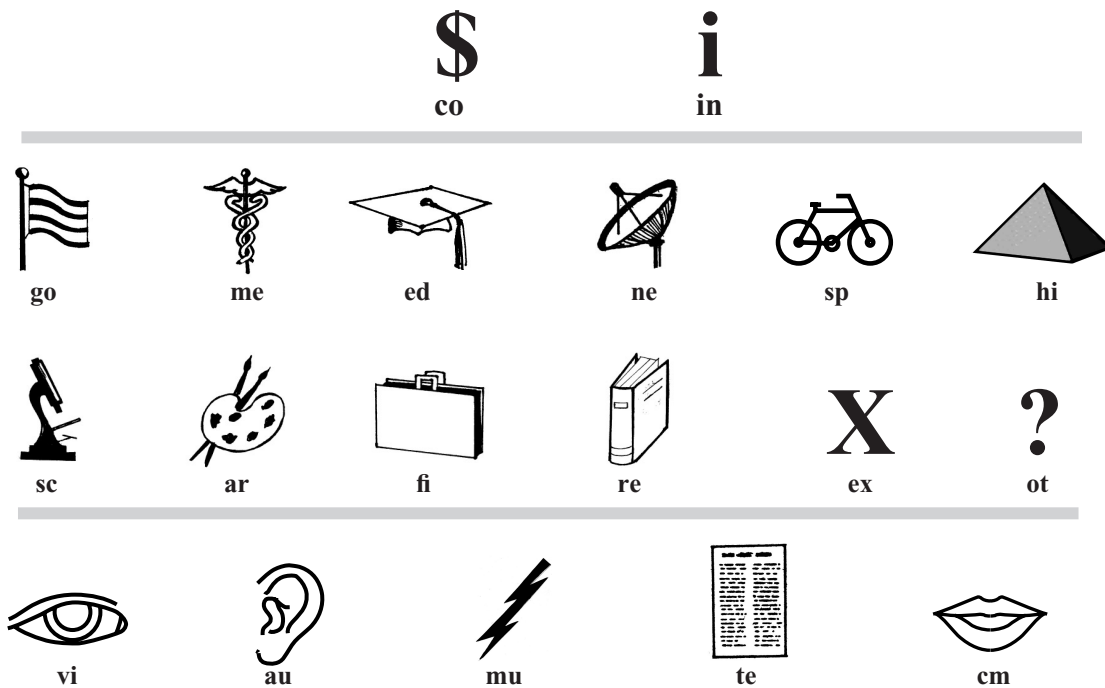


FIGURE 6

CATEGORIZING A SITE USING THE IICS CODE

Categorizing a page or site is an easy and straightforward process that will only take a few seconds. It can be done at the time the page or site is created or at any time thereafter. The categorization label for each page begins with **iics** to signify that the page has been categorized to the International Internet Categorization System. Then, using the IICS interface, the categorizer (webmaster, content provider, etc.) selects the category codes from all three tiers that are relevant to the content of the page/site being categorized and places those two letter codes after the **iics**. This will create a very simple unbroken string of code that fully categorizes the site according to the International Internet Categorization System. This categorization label can either be typed directly onto the page or created by clicking on the icons of the interface which will then provide the IICS categorization label for copying and pasting onto the page/site. For example, a page containing information and images about sports injuries would have the categorization label **iicsinmespvi** which breaks down as follows:

iics	= page is IICS categorized
in	= INFORMATION
me	= MEDICAL
sp	= SPORTS & RECREATION
vi	= VISUAL

A page that is set up for commercial transactions involving the sale of computer equipment and also contains images would have a categorization label of **iicscosevi** which breaks down as follows:

iics	= page is IICS categorized
co	= COMMERCE
sc	= SCIENCE & TECHNOLOGY
vi	= VISUAL

Categorization Label for the Entire Site or Portion Thereof

The categorization label for a single page can be made to apply to the entire site or a portion thereof with the addition of an exclamation point (!) at the end of the categorization label. This exclamation point (!) when added to the categorization label makes the categorization label the default code for the remainder of the site that contains the same root URL from where the categorization label containing the exclamation point is placed.

If the exclamation point (!) is placed on the categorization label for the index, home or default page (.com, .net, .org., etc.) the entire site will be categorized with those same values. For instance, if a hypothetical site with the fictional name **www.abcde.com** has as its purpose the teaching of the alphabet and includes pictures as well as audio on its pages, the categorization label for that **www.abcde.com** page would be **iicsinedviau** which breaks down as follows:

iics = page is IICS categorized
in = INFORMATION
ed = EDUCATION & SOCIAL SCIENCE
vi = VISUAL
au = AUDIO

To make the categorization label **iicsinedviau** for this page (www.abcde.com) applicable for the entire site, all that is needed is the addition of an exclamation point to the categorization label **iicsinedviau!** which would then break down as follows for the entire site:

iics = page is IICS categorized
in = INFORMATION
ed = EDUCATION & SOCIAL SCIENCE
vi = VISUAL
au = AUDIO
! = This categorization code applies to all pages that contain the root URL
 www.abcde.com/

If the categorization label with exclamation point (!) is placed on a secondary branch of the root URL, the categorization will apply for all pages that start with that URL. For instance, if a government institution involving medical research has a large number of web pages containing research papers that are text-only it could have a root URL such as www.institution.gov/medical/docs. This root URL could have hundreds of web pages that contain research papers (i.e. www.institution.gov/medical/docs/sept or www.institution.gov/medical/docs/heart).

If the web page www.institution.gov/medical/docs is given the categorization label **iicsingomete** only that single page would be categorized. If an exclamation point (!) is added to the categorization label **iicsingomete!** all of the web pages that contain www.institution.gov/medical/docs as part of their URL would be categorized with those values. Therefore, hundreds of web pages containing research papers would not have to be individually categorized. This also means that as new web pages are added they would automatically be categorized.

Level of Importance Given to Each Category

The chronological order of the categories placed in the categorization label will denote their level of importance. For instance, in the earlier example of a site that contains information about treating sports injuries in which it was given the categorization label **iicsinmespvi**, the MEDICAL category by virtue of its chronological placement is given a higher level of importance than the SPORTS & RECREATION category which means that the page emphasizes the medical more than the sports aspect of this content. If the placement of these two-letter category codes were reversed resulting in the categorization label of **iicsinspmevi** then the page would be more sports orientated than medical. This will be reflected in how the search results are displayed. For example, if a searcher selects categories which reflect the IICS categorization label **iicsinmespvi** by clicking on the MEDICAL icon before the SPORTS & RECREATION icon, search results will list pages categorized as **iicsinmespvi** first followed by **iicsinspmevi**.

Placement of Categorization Label on Web Page

The categorization label should be placed, typed or pasted on the bottom of the page being categorized so that it is the very last item on the page. This will provide a uniform location for crawlers, spiders, and others to search and process.

If the user wishes to make the label transparent or less visible on the page being categorized, the text color of the categorization label can be selected to be the same as the background which will make it virtually invisible but still readable by the search engines. The categorization label can also be reduced in size to where it is hard to recognize by the searcher.

In addition, the categorizer can place the label in an html or xml tag if so desired.

Automated Reading of the IICS Categorization Label

Search engines, Web crawlers and other automated devices will be able to make the simple programming adjustments needed to read the IICS categorization label on Web pages/sites as dictated by each of their individual hardware and software configurations.

For example, for search engines that use the IICS interface and search methodology, the search engines will simply instruct their crawlers to look for the IICS categorization label in pages that they automatically scan. The IICS categorization label will then be read and each category assigned to the page recognized by its two letter code. The URL (or another identifier) will then be placed in a database under each IICS category and subcategory for which it is categorized. This will allow the searcher to fully utilize the IICS search methodology.

For search engines that do not use the IICS interface and search methodology but who still want to provide the Protection of Minors option to their searchers, they will be able to read the IICS categorization label for pages classified as pornographic or sexually explicit and place those pages/sites in a database that can be used in tandem with the *Protection of Minors Compliance and Backdoor Check* that is detailed later in this document.

Providing Categorization Codes in a Multilingual Context

The category descriptions (COMMERCE, INFORMATION, GOVERNMENT, etc.) under the icons in the IICS user interface can be provided in any language for the categorizing and searching processes. However, the two-letter codes for each category will remain the same and are not language specific. Therefore, access and use of the categorization codes will be readily available for virtually all languages.

PORNOGRAPHY AND THE PROTECTION OF MINORS OPTION

The controversy involving the access by minors to pornography on the Internet is continuing to grow wasting valuable time and energy in libraries, schools and political institutions. With this comes the threat of legislative intervention and censorship. As the COPA report (created through an act of the United States Congress and released on October 20, 2000) and recent work by the Bertelsmann Foundation has shown, there is no present solution to this problem. In addition, the approach used by filtering software is blunt, largely ineffective and widely discredited. Because of the value to society the resolution of this problem offers, this aspect of the IICS can not be underestimated in its impact as the entire system is implemented.

As the Protection of Minors Option is presented it is important to acknowledge some facts that are relevant to this issue and its resolution. First, the vast majority of pornographic sites on the Internet are treated as revenue generating businesses by the people involved. They want individuals with credit cards visiting their sites not minors who provide no income. Also, free pornographic sites are primarily used to lead people into purchasing access to pornography with the promise of better pictures, longer movies and larger collections. Second, most pornography sites are linked together and many are organized as gateways which makes their categorization more efficient. Third, the overwhelming majority of these sites freely admit that they are providing pornography so there is little confusion over definition. Fourth, if these pornographic sites are “ghettoized” they will not cooperate. However, if they are included as part of a categorization system that encompasses all manner of content this will be avoided. Fifth, where there are gray areas concerning whether or not a page or site is pornographic or sexually explicit, proprietors of these sites will be encouraged by market forces to voluntarily categorize them in the X category. This helps to remove a possible point of confrontation.

On a very practical level, the Protection of Minors Option provides a tool for parents, librarians and educators that will effectively resolve the problem of minors accessing pornography on the Internet in a way which does not filter out important scientific, social, cultural and educational information. Also, as part of this solution, adults who wish to frequent these sites will find them easier to locate and better organized. For their part, owners of pornographic sites will find that their voluntary compliance is rewarded with more cash paying customers. In addition, the threat of legislative intervention and censorship will be greatly diminished.

This element of the IICS will initially be made available to search engines, directories and browsers through the Protection of Minors free-use license. Guidelines to ensure consistency and compliance will be provided to all relevant parties.

SEARCHING AND PORNOGRAPHIC SITES

Searches for pornographic sites will be handled in the same manner as other searches with two exceptions. First, the X category is not combinable with any other 2nd tier category. Second, if the Protection of Minors option is activated, no pornographic sites will show up in the search results and access will be denied.

PROTECTION OF MINORS & THE IICS USER INTERFACE

When the Protection of Minors Option is selected, the icon X on the IICS user interface will disappear. This will serve two purposes. It will eliminate this category from use and it will also remove any indication alluding to the access of pornographic or sexually explicit material.

PROTECTION OF MINORS WITHOUT THE IICS USER INTERFACE

The best method for using the Protection of Minors option is with the IICS user interface. However, IconFind, Inc. is offering two alternate methods for search engines and directories that choose not to license the IICS user interface and search methodology. In the first case, there would be no IICS user interface and the search would be executed using whatever interface is provided by the search engine or directory being used. If the Protection of Minors option is on then access to those sites will not appear in the search results. If the Protection of Minors option is turned off, then searchers who wish to find and access pornographic sites can do so using the keyword or natural language method provided by the search engine or directory.

In the second instance, search engines and directories that do not use the IICS user interface can simply designate that all pages that are IICS categorized as pornographic can be identified and searched with the letter x. This is a broader designation and means that the third tier elements (visual, audio, multimedia, text-only and communication) would have to be added as keyword search elements. Also, both 1st tier categories would be included in these results. For example, a searcher could enter:

x AND brunette AND pictures

to find sexually explicit or pornographic pictures of brunettes.

If the Protection of Minors option is turned on, no pornographic sites will show up in the search results and access can be denied.

NOTE: To some, the very suggestion of making sexually explicit or pornographic material easier to find for adults could be problematic. However, it must be recognized that this is necessary to ensure voluntary compliance which will serve to protect minors from access to this material.

PROTECTION OF MINORS COMPLIANCE AND BACKDOOR CHECK

In all situations when the Protection of Minors Option is activated there will be a thorough check to make sure that no pornographic page or site that is IICS categorized is returned in the results of any other categorization or keyword search. This will be accomplished by doing a quick cross-check of all search results against the URLs that are IICS categorized in the **X** category. Any redundancy will be eliminated from the search results ensuring that no pornographic site will find its way into the results through another route or deceptive listing.

IICS COPYRIGHT SOLUTION

Knowing the copyright status and definition of use for digital material on the Internet has been a source of difficulty that has significantly hampered the flow of information leaving both the owners of the copyrighted material and those who wish to use it confused and in potential legal jeopardy. As a solution to this problem, IconFind, Inc. has developed a clearly defined list of options governing the use of this material which can be selected by the owner of the copyright before, during or after the material is posted. Once the selection is made by the copyright owner it is put into effect through the IICS copyright code which is placed on the relevant pages/sites. The IICS copyright code can be used with or without the IICS categorization label. In addition, pages/sites with the IICS copyright code will be searchable according to the option selected by the copyright owner. This search can also be done in conjunction with an IICS search or may be done separately.

The options regarding copyright use, definitions and coding architecture have all been developed for simplicity of use and practicality of application.

Owner Selected Options & Definitions

1. **Public Domain** - material that is in the public domain and can be used freely without any restrictions.
2. **Fair Use Only** - material meant to be used in accordance with accepted Fair Use guidelines.
3. **Use with Attribution** - Copyright owner directs that the material designated by this option can be used as long as its use is accompanied by an attribution to the author and/or copyright owner.
4. **Permission of Copyright Owner Needed** - Before material with this designation can be used, the copyright owner must be contacted for permission which may or may not include fees and/or additional terms.

IICS COPYRIGHT CODE FOR USER SELECTED OPTIONS

The following codes will be used as part of a code string with iics as the prefix (i.e., iics01):

- 01** for Public Domain
- 02** for Fair Use Only
- 03** for Use with Attribution
- 04** for Permission of Copyright Owner Needed

USING THE IICS COPYRIGHT CODE

IICS copyright codes, like the IICS categorization codes, have been devised to work with any Internet language (html, xml, vrm, etc.) and can be effected without any programming skills. In addition, the copyright codes for each page and/or site may or may not be part of the IICS categorization label.

USE OF IICS COPYRIGHT CODE WITH IICS CATEGORIZATION

Copyright owners can easily add the IICS copyright code to the end of the IICS categorization label for placement on web pages/sites. The IICS copyright code as part of the IICS categorization label, will be readable by crawlers as well as visually by users. For example, a page that contains scientific information with pictures would be categorized as **iicsinscvi** which breaks down as follows:

iics = page is IICS categorized
in = INFORMATION
sc = SCIENCE & TECHNOLOGY
vi = VISUAL

By selecting one of the four IICS copyright codes and placing it on the end of the IICS categorization label, the owner adds the information governing the use of their copyrighted material to the categorization information. For instance, if the copyright owner of this page wants to inform viewers that the page was available for use as long as an attribution was included, he or she would add **03** to the end of the IICS categorization label making it **iicsinscvi03** which breaks down as follows:

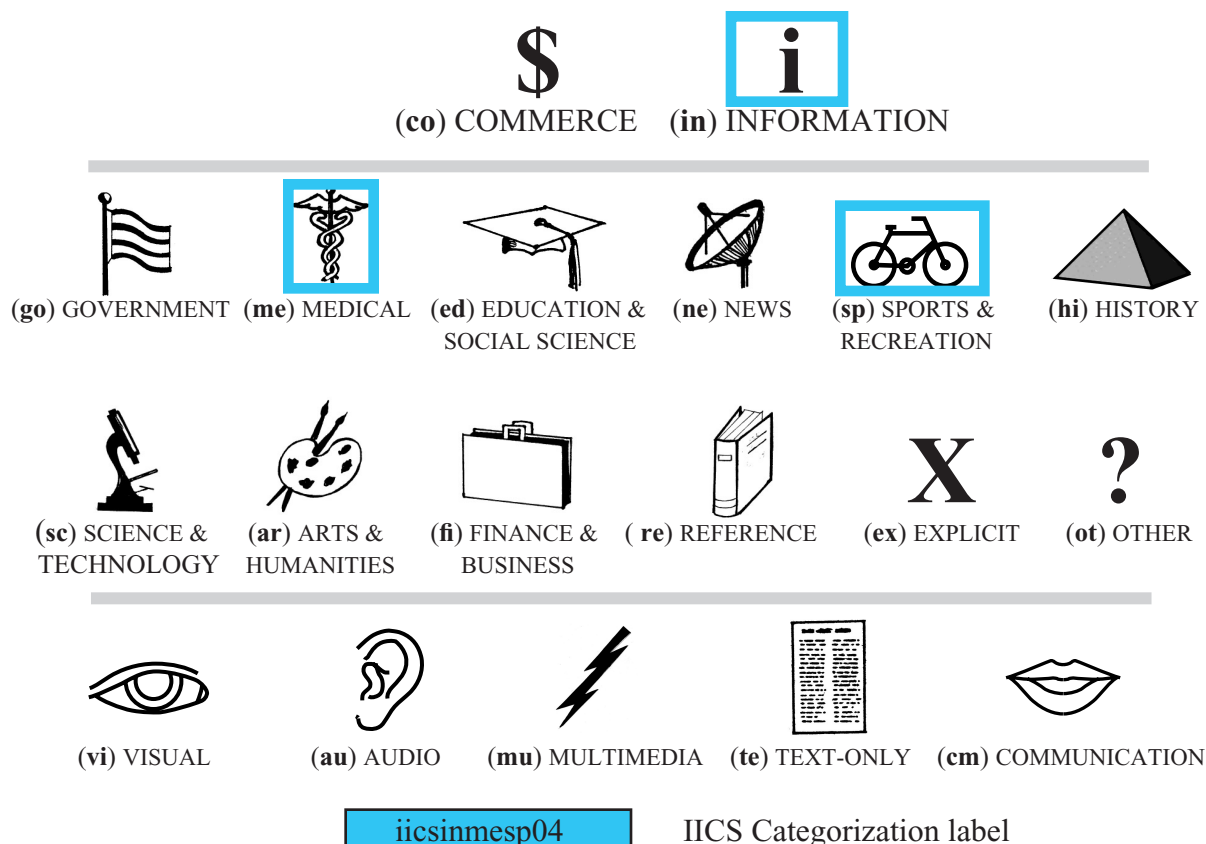
iics = page is IICS categorized
in = INFORMATION
sc = SCIENCE & TECHNOLOGY
vi = VISUAL
03 = Copyright information; use with attribution

If a page contains information about treating sports injuries and the copyright owner wants to inform viewers that permission from the copyright owner is needed, then the IICS categorization label would be **iicsinmesp04** which breaks down as follows:

iics = page is IICS categorized
in = INFORMATION
me = MEDICAL
sp = SPORTS & RECREATION
04 = Copyright information; permission of copyright owner needed

USE OF IICS COPYRIGHT CODE WITH THE IICS INTERFACE

The IICS copyright code can simply be typed in at the end of the categorization label or an interactive adjunct to the IICS interface could be used which, using the previous example, would appear as seen below in Figure 7:



To include copyright status select one of the following options

- 01 Public Domain
- 02 Fair Use Only
- 03 Use with Attribution
- 04** Permission of Copyright Owner Needed

Figure 7

As previously explained, the category designations and copyright information may be used individually or together. Therefore, the categorizer may or may not choose to include the copyright information. Likewise, if the primary interest is in placing the copyright information on the page or site, then the category designations may or may not be included.

If no categories are chosen from the IICS interface then the categorization label would only include the copyright information as shown below:

iics04 IICS Categorization label

To include copyright status select one of the following options

01 Public Domain

03 Use with Attribution

02 Fair Use Only

04 Permission of Copyright Owner Needed

NOTE: In order to maintain the simplicity of the IICS user interface, the adjunct copyright code interface shown above may be selected to appear as part of the interface or may remain transparent. This will be especially useful for those who wish to categorize their sites without including IICS copyright information.

USE OF IICS COPYRIGHT CODE WITHOUT THE IICS INTERFACE

IICS copyright codes can be typed directly onto the relevant pages without the use of the interactive interface and categories. However, the iics prefix must be included as part of the code in order to make it effective and readable by crawlers and viewers. So, the four options would appear on selected pages as:

iics01 for Public Domain

iics02 for Fair Use Only

iics03 for Use with Attribution

iics04 for Permission of Copyright Owner Needed

LINKING THE IICS COPYRIGHT CODE

IICS copyright codes can be linked to additional information or definitions regarding the copyright status as demonstrated below:

[01](#) for a definition of public domain

[02](#) for a definition of fair use











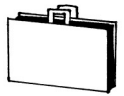








[03](#) for instructions on how to show the attribution

[04](#) for instructions on contact and terms

USING THE IICS COPYRIGHT CODE IN SEARCHES

Searchers may use the IICS copyright code and adjunct IICS copyright interface for searches by selecting one of the copyright options in addition to their chosen search categories. They may also choose to only use the IICS copyright code and interface. This would result in a broader search limited to only those pages and sites that match the selected option. If the searcher did not want to conduct a copyright search, the adjunct IICS copyright interface is optional and need not appear on their computer screen.

For example, a searcher who wanted to find information on sports related knee injuries that could be used with attribution would make selections as seen below in Figure 8:

					
COMMERCE		INFORMATION			
<hr/>					
					
GOVERNMENT	MEDICAL	EDUCATION & SOCIAL SCIENCE	NEWS	SPORTS & RECREATION	HISTORY
					
SCIENCE & TECHNOLOGY	ARTS & HUMANITY	FINANCE & BUSINESS	REFERENCE	EXPLICIT	OTHER
<hr/>					
					
VISUAL	AUDIO	MULTIMEDIA	TEXT-ONLY	COMMUNICATION	
<hr/>					
<div style="border: 1px solid black; padding: 2px; display: inline-block;">"knee injury"</div>			Keyword(s)		

To find copyright status select one of the following options

- 01 Public Domain
- 02 Fair Use Only

- 03

 Use with Attribution
- 04 Permission of Copyright Owner Needed

Figure 8

Selecting one of the copyright options, in addition to any number of IICS categories, will serve to further refine the results by utilizing a more specific subcategory for search and retrieval (see Figure 9 on the following page). Use of the IICS copyright options, absent the IICS categories, will still provide relevant information concerning copyright use though at a lesser level of search refinement. Also, searches using the IICS copyright code can be accomplished without the IICS interfaces and methodologies although they are highly recommended as being the most efficient and practical.

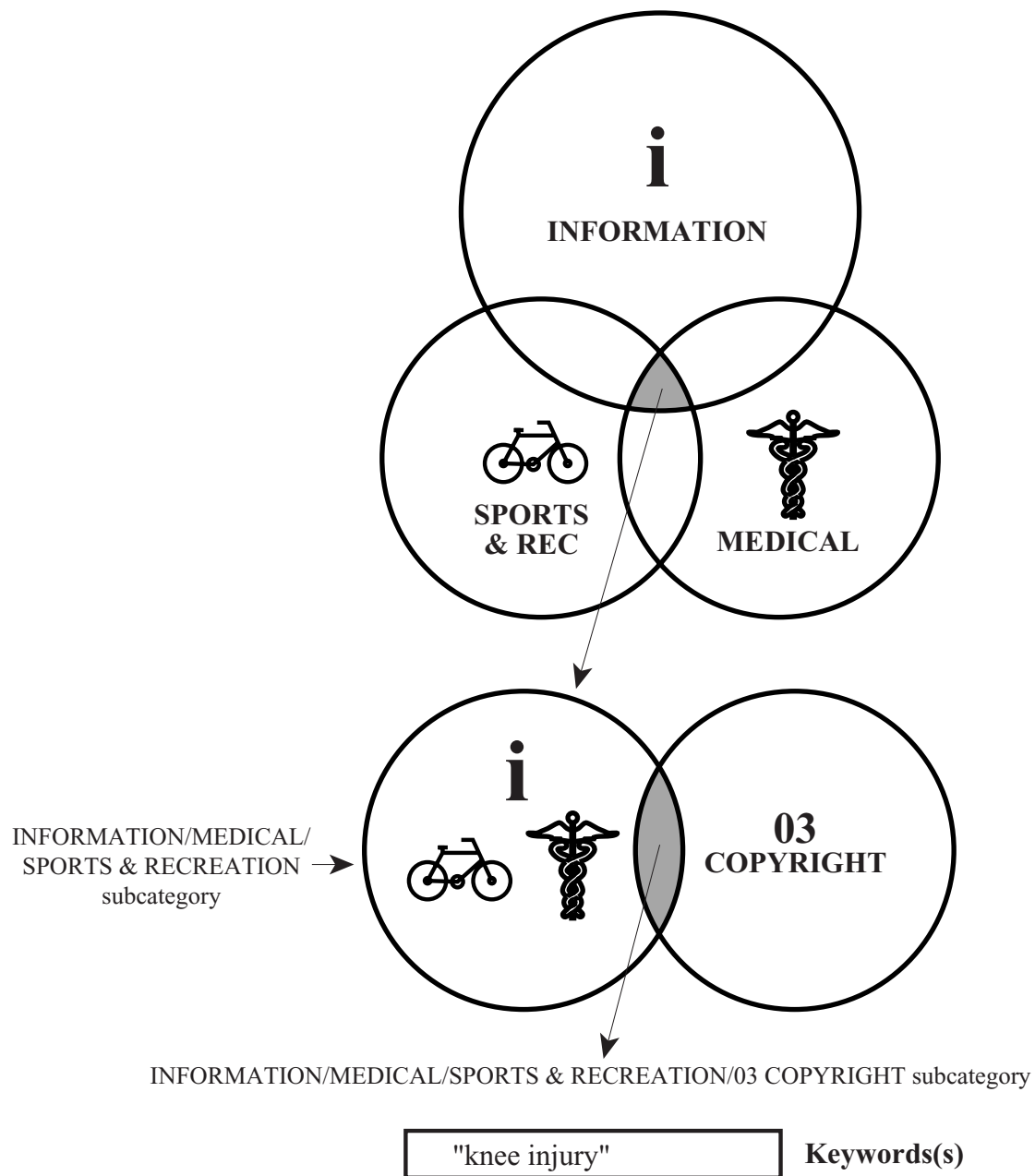


Figure 9

By selecting the combination of the INFORMATION, MEDICAL, and SPORTS & RECREATION categories as well as the category that contains the 03 COPYRIGHT OPTION, the search and subsequent search results will be limited to the subcategory shown above and will not include pages/sites from the larger INFORMATION, MEDICAL, SPORTS & RECREATION, and 03 COPYRIGHT OPTION categories that are not contained within the much smaller subcategory.