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SUMMARY

A “wiki”-based Intranet- and Internet Search Assistant and bookmark sharing tool is disclosed which uses auto-type detection methods and/or approximate pattern matching and/or regular expression pattern matching and/or exact pattern matching for mixed alpha-numeric user inputs. The inputs can either be in one-part-form consisting of one word, an abbreviation (shortcut) or even a misspelling (typo) thereof for a wanted service *or* of two-part form consisting of a word, an abbreviation (shortcut) or a misspelling thereof for a *wanted* service followed by one or several search items to be sent to that wanted service. The Search Assistant uses a sequence of decisions to find a first match and transfers the users’ input to the service corresponding to the first match. **The decision where to forward the users’ query depends on results of queries against tables, decision trees, hashes or databases, regular expressions or against page names of one or many “wikis”, the contents of the tables, decision trees, hashes, databases, regular expressions or wikis being dynamically changeable by a user community using the “wiki-principle”** wherein any user can create or change any table, decision tree, hash or database entry and pages on the wikis from anywhere and at any time, and all changes are logged to prevent vandalism. The benevolent attitude of the majority of users is foreseen to draw correspondences between shortcuts and wanted services to a stable equilibrium, so that *wanted* services will become the *most wanted* services for a shortcut after a while. An administrator can clean and prune the tables by using special secret commands.

DESCRIPTION

The disclosure describes a method software or apparatus hardware for guiding requests (one item or word) and search queries (two or more items or words) of human or artificial systems such as computers or robots - herein collectively called USER - by forwarding their requests or search queries comprising characters, digits, binary digits

- herein called QUERYSTRING, which comprises either a single word SHORTCUT or a word SHORTCUT followed by one or several pairs of character SEPARATOR and one or several words SEARCHITEM(S)

QUERYSTRING := <http://wibisa/SHORTCUT>

:= [http://wibisa/SHORTCUT:SEARCHITEM\(S\)](http://wibisa/SHORTCUT:SEARCHITEM(S))

as quickly as possible to the most suited target service realised by means or methods of a so-called service SERVER, addressable and identified by a so-called UNIFORM RESOURCE IDENTIFIER URI according to RFC2396 [1] using the Internet Protocol or another method for transmitting information and is characterised by performing the method steps or by means performing the method steps in the sequence or in a different sequence of the steps of

- a) **WIBISA-DIRECT:**

if the QUERYSTRING has the format of an Internet address pattern URIPATTERN in conformity with RFC2396, it immediately forwards the action to the service denoted by QUERYSTRING determined to be a URIPATTERN, and optionally stores the so-determined correspondence QUERYSTRING, USER, URIPATTERN, TIME/DATE in a first protocol log file or database and counts the access, and then stops executing by not performing the following steps,

b) **WIBISA-PREFIX-AP/RE (approximate/regular expression):**

if the condition of a) is not fulfilled, then performing a first search in a first table, tree, hash or database PREFIXTABLE with an approximate [2] or exact matching or “regular expression” RE [3] algorithm for the said SHORTCUT, the table realising a correspondence between a first subset PREFIXES of possible SHORTCUTS and a first plurality of service addresses called PREFIXURI, which addresses might also be present in one or more of the other tables of the disclosed method or apparatus, wherein each of the SHORTCUTS has a corresponding PREFIXURI matching in approximate or exact bounds, and immediately forwarding the request QUERYSTRING of the USER to the said service denoted by PREFIXURI if a match between the SHORTCUT and one of the PREFIXES is found and optionally storing the so-determined correspondence between QUERYSTRING, USER, PREFIXURI, TIME/DATE in the first log file or database and counting the access to the first table, and then stops executing by not performing the following steps,

c) **WIBISA-SHORTCUT-AP/RE/SC**

(approximate/regular expression/shortcut detection):

if no matches were found while performing the search steps of a) and b), then performing a second search in a second table, tree, hash or database ALIASTABLE with an approximate or exact matching or regular expression algorithm for the said SHORTCUT, the table realising a correspondence between a second subset ALIASES of possible SHORTCUTS and a second plurality of service addresses called ALIASURI, which addresses might also be present in one or more of the other tables of the disclosed method or apparatus, wherein each of the second SHORTCUTS has a corresponding ALIASURI matching in approximate or exact bounds, and as soon as a match is found then immediately forwarding the request QUERYSTRING of the USER to the said service ALIASURI and optionally storing the correspondence between QUERYSTRING, USER, ALIASURI, TIME/DATE in the first log file or database and counting the access to the second table, and then stops executing by not performing the following steps;

d) **WIBISA-ATD/RE (auto-type detection/regular expression):**

if no matches were found while performing the search steps of a) to c), then performing a third search in a third table, tree, hash or database AUTO-TYPE-DETECTION RULES [4] realised by evaluating a set of stored “regular expressions” which define a plurality of regular expression rules RE for the character properties PATTERN of the characters which the QUERYSTRING composes of, the said plurality of rules corresponding and matching to a third plurality of service addresses called ATDSEVERURI, which addresses might also be present in one or more of the other tables of the disclosed method or apparatus, and as soon as one of the regular expression rules RE matches the PATTERN then immediately forwarding the QUERYSTRING of the USER to the said service ATDSEVERURI and optionally storing the so-determined correspondence between QUERYSTRING, USER, ATDSEVERURI, PATTERN, RE, TIME/DATE in the first log file or database and counting the access to the third table, and then stops executing by not performing the following steps;

- e) **WIBISA-AUTOWIKI-AP/RE/SC (approximate/regular expression/shortcut):**
if no matches were found while performing the search steps of a) to d), then performing a fourth search with an approximate or exact matching or regular expression algorithm for the said QUERYSTRING or SHORTCUT in a fourth table WIKIPAGENAMES comprising of Internet or Intranet page names and addresses WIKIURI which are page names and addresses of one or many so-called “wikis”, a “wiki” [5] being a dynamic or static set of Internet or Intranet pages which can quickly be created and modified by every USER being member of a limited or unlimited group of USER, which said addresses WIKIURI might also be present in one or more of the other tables of the disclosed method or apparatus, wherein said wiki page creations or modifications are logged in a second log file usually belonging to the wiki, and if a matching PAGENAME is found in the fourth table WIKIPAGENAMES, then accessing the wiki page approximately or exactly matching the QUERYSTRING or SHORTCUT and optionally storing the so-determined correspondence between QUERYSTRING, USER, PAGENAME, WIKIURI, TIME/DATE in the first protocol log file or database and counting the accesses to the fourth table, and then stops executing by not performing the next steps;
- f) **WIBISA-USERDEFAULT:**
if no matches were found while performing the search steps of a) to e), then forwarding the QUERYSTRING of the USER to a default service USERDEFAULTURI, this service being permanently determined by the USER but changeable at his/her discretion, wherein the definition and storage of the USERDEFAULTURI is accomplished by means and methods of storing information at the USER premises or at another arbitrary place such as in form of a data file and/or in form of a so-called COOKIE and/or in form of an entry in a database and/or by means and in form of a wiki-page, which every USER being member of a limited or unlimited group of USER can quickly create or modify, the changes being logged, and optionally storing the so-determined correspondence between QUERYSTRING, USER, USERDEFAULTURI, TIME/DATE in the first protocol log file or database and counting this event, and then stops executing by not performing the next step;
- g) **WIBISA-DEFAULT:**
if no matches were found while performing the search steps of a) to f), then forwarding the QUERYSTRING to a default service DEFAULTURI which can be any arbitrary target service such as a search or translation engine, but preferably is an Intra- or Internetserver which looks up a telephone book or a similar address repository for the one SEARCHITEM and optionally storing the so-determined correspondence between QUERYSTRING, USER, DEFAULTURI, TIME/DATE in the first protocol log file or database and counting this event, and then stops executing,

wherein the most suited service is determined by the first match while performing the steps a) to g) in sequence, the algorithm being dynamically controlled by the dynamic contents of the first table PREFIXTABLE, the second table AUTO-TYPE-DETECTION RULES, and the third table ALIASTABLE, these tables being realised as one, two or three wiki pages on an Intranet or on the Internet, so that every USER being member of a limited or unlimited group of USER can quickly create or modify one or any of the tables, and can therefore determine for all USERS the way the disclosed method or apparatus assists or guides the requests to the most suited target service, all changes to the tables being logged, and

the fourth table being regularly updated, for example daily, or automatically generated

by a scheduler, or non-automatically by demand, by accessing and indexing all “wiki” or “wikis” pages and their page names, and wherein

the optional SEARCHITEM(S) comprised in the QUERYSTRING might be transformed, modified, or translated by the disclosed method or apparatus in order fit exactly the input format or the interface required by the said determined most suited target service, the input format might differ from the format a USER is used to.

It is expressly and unambiguously disclosed, that the steps a), b), c), d), e), f), g) can also be performed in any other order, differing from the order mentioned above, which could lead to a different prioritisation between the stored shortcuts and the corresponding services.

The table entries PREFIXURI and ALIASURI, which are formatted as UNIFIED RESOURCE IDENTIFIERS URI, can also recursively refer back to the disclosed method or apparatus in that a QUERYSTRING is searched in a first run and matches in one of the steps b) to g) to an entry QUERYSTRING' corresponding to a PREFIXURI or ALIASURI which in sequence executes the steps a) to f) again with that modified QUERYSTRING'. The recursion can be realised internally without the QUERYSTRING' leaving the method or apparatus in a recursive call or recursive calls. The numbers of recursions need to be counted and limited internally to a reasonable small number to avoid infinite loops. This is the only event, that the disclosed method or apparatus cannot assist the USER and needs to issue an error message to the USER. As an alternative to the error message, the processing could continue with step f).

It is also disclosed to implement an optional detection of the USER computer name or another USER identifier which allows the method or apparatus to work only with a subset of all stored table entries. This advantageously realises a user-dependent search assistant in that it hides certain entries for certain users and enables or disables visibility and action of the one or other entry for them.

The PREFIXTABLE is preferably an intrinsic part of the method or apparatus and contains at least partially unchangeable correspondences between PREFIXES and PREFIX-URIs to assure a basic functionality even in the case of destroyed or unavailable other tables. Optional entries in this PREFIXTABLE, which are not visible to certain USERS, can be used for remote control, debugging, administration and maintenance, such as to start a listing of all entries of all tables in the order they are processed, or to trace what table entries would match an QUERYSTRING X, or to change the visibility and action mode of certain table entries for the certain users as explained above.

References and prior art:

- [1] Uniform Resource Identifiers (URI) RFC2396. <http://www.faqs.org/rfcs/rfc2396.html>
- [2] Approximate GREP. <http://webglimpse.org>; <http://en.wikipedia.org/wiki/AGREP>
- [3] Regular Expression (RE). http://en.wikipedia.org/wiki/Regular_expression
- [4] Auto-Type Detection. Published in “Definitive Wunschliste 14.02.1997” European Patent Office, Munich/The Hague/Berlin/Vienna, 1997;
- [5] Wiki. <http://en.wikipedia.org/wiki/Wiki>

Examples for cases:

- a) <http://www.wibisa.org/www.google.org/searchthis>
detecting a URIPATTERN, transforming the searchitem and going there

- b) <http://www.wibisa.org/phone:123456789>
detecting PREFIX phone and transferring SEARCHITEM to PREFIXURI
<http://www.phonebook.org/query=123456789>
- c) <http://www.wibisa.org/dutytravelrequestform>
<http://www.wibisa.org/google:searchitem> detecting ALIASES and transferring control to ALIASURI (without a further string) or transferring SEARCHITEM to ALIASURI
- d) <http://www.wibisa.org/ABC2396>
matches regular expression $[A-Z]\{3\}[0-9]\{1,4\}$ and transfers control to ATD SERVERURI with or without a further string
- e) http://www.wibisa.org/Main_Page
matches a Wiki Page with that name; transfer is controlled to that page
- f), g) <http://www.wibisa.org/donald>
if no previous matches are found, a default action USERDEFAULTSERVERURI is called if it is defined, or a DEFAULTSERVERURI, which is preferably a company's phonebook or Internet search engine, but can be any other one of the foregoing cases.

Figure 1 of 1

