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Hybrid predefined Searching

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***Abstract* - This paper for easy expanding tools for user satisfactions. Some user finds their information retrieval in minimum expanding which save their time and improved the search quality. It maintain the extractions by easy expanding which are mine the users guessing, these suggestions are made in terms of minimum and maximum expanding based on predefined support and confidence. This study has efficient reduction which mine large data set based on rang of expanding which are handle the search response time by these navigations.**
It perform the functions of knowledge extraction which are retrieves based on tools taking this fact into account and after reviewing several knowledge. As part of this proposal, a minimum predefined reduction algorithm. The conclusion part which shows better alternative result through our model.
***Keywords*: Boolean-valued information system;**

Extractions reductions; Parameters

reductions ;Knowledge Management.

I. Introduction

Handling uncertain data solved by using mathematical principles, and one of them is soft set theory [2]. Soft sets are called (binary, basic, elementary) neighborhood systems. As for standard soft set," it may be redefined as the classification of objects in two distinct classes, thus confirming that soft set can deal with a Boolean-valued information system". Molodtsov [2] advantages it is free from the inadequacy of the parameterization tools, unlike in the theories of fuzzy set, probability and interval mathematics. The knowledge management requires effective knowledge organization, searching and sharing strategies. The problem is how to analyze large amount of these data [7] if their domains are not able to extract the relevant result.

In recent years, research on soft set theory has been active using the fundamental soft set theory, soft set theory in abstract algebra and soft set theory for data analysis in decision making [2,9,10]. The objective of this paper it gives the user minimum extractions if not satisfies their guessing then additional relevant information are generated. The minimum expansions save their researcher searching time. This proposal satisfies the researcher guessing because different user needs different extractions or suppose different remote users are formulating their queries by same words but they needed different result while others formulate different queries by different words but they needed same result to this proposal give the user choice for more extraction.

It manage knowledge resource by prober extraction which are more structured, organize and efficient manner to foster easy retrieval, avoid redundancy and proper classification. The solution utilize advance technique to govern knowledge with predefined concept by proper management of research related resources.

The rest of this paper is organized as follows. Section III describes the fundamental concept of soft set theory. Section IV presents analysis of Hybrid reduction then section VI is a proposal techniques which is based on Hybrid reduction techniques. Section V Predefined Object Reduction. followed by section VII which focuses on result and discussions. Finally, the conclusion of this paper is described in section VIII.

II. Related work

Mohammed et al. [14] in the year 2013 define techniques for managing the inferior object which reduce the object storage size depend on predefined support and confidences it has maximum extraction. To this, This paper are introduce minimum Predefined extraction and more suggestions, minimum Predefined object reduction filter the reduction then applies Hybrid reductions for managing the inferior object to remove vague objects from these extraction to this data size are reduce as well as the significant object are retrieves by prober association and reduction. This paper also combine minimum and maximum extraction in one techniques, it provide easy tools for additional information extraction which are selected by users.

III. Soft Set Theory

Throughout this section U refers to an initial universe, E is a set of parameters, $P(U)$ is the power set of U.

Definition . (See [2].) A pair (F,E) is called a soft set over U, where F is a mapping given by

$$F : E \to P(U) \qquad (1)$$

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Definition .. (See [2].) A pair (F,E) is called a soft set over U, where F is a mapping given by

$$F : E \to P(U) \qquad (2)$$

In other words, a soft set is a parameterized family of subsets of the universe U. For $\varepsilon \in E$, $F(\varepsilon)$ may be considered as the set of ε-elements of the soft set (F,E) or as the set of ε-approximate elements of the soft set, instead of a (crisp) set.

Example as mentioned in [13] Let a soft set (F,E) representing studies the communication prowess among selected university student. Let assume that there are eighteen students that has been surveyed in the universe U with $U = \{u_1, u_2, \cdots, u_{18}\}$, and E is a set of parameters representing communication facilities that is been used by the student surveyed, $E = \{p_1, p_2, p_3, p_4, p_5, p_6\}$, where p_1 stands for the parameter for using communication facilities such as "email", p_2 stands for the parameter "facebook", p_3 stands for the parameter "blog", p_4 stands for the parameter "friendsters", p_5 stands for the parameter "yahoo messenger" and lastly p_6 stands for the parameter "sms" .

Consider the mapping $F : E \to P(U)$ given by "student communication prowess $(\cdot)$", where $(\cdot)$ is to be filled in by one of parameters $p \in E$. Suppose that

As for example, $F(p_2)$ means communication by facebook is been used by and being represented functional value of $\{u_2, u_3, u_4, u_5, u_8, u_9, u_{10}, u_{12}, u_{13}, u_{14}, u_{15}, u_{16}, u_{17}\}$, while $F(p_4)$ means communication through friendsters with its functional value represented by $\{u_2, u_3, u_4, u_8, u_9, u_{10}, u_{11}, u_{13}, u_{15}, u_{16}, u_{17}, u_{18}\}$.

Thus, the overall approximation can be represented as the following:

$$(F,E) = \left\{ \begin{array}{c} \text{email} = \{u_1, u_2, u_3, u_4, u_8, u_9, u_{10}, u_{11}, u_{13}, u_{14}, u_{15}, u_{16}, u_{17}\}, \\ \text{facebook} = \{u_2, u_3, u_4, u_5, u_8, u_9, u_{10}, u_{12}, u_{13}, u_{14}, u_{15}, u_{16}, u_{17}\}, \\ \text{blog} = \{u_1, u_2, u_3, u_4, u_6, u_8, u_9, u_{10}, u_{11}, u_{13}, u_{15}, u_{16}, u_{17}, u_{18}\}, \\ \text{friendsters} = \{u_2, u_3, u_4, u_8, u_9, u_{10}, u_{12}, u_{13}, u_{15}, u_{16}, u_{17}, u_{18}\}, \\ \text{ym} = \{u_2, u_3, u_4, u_8, u_9, u_{10}, u_{11}, u_{13}, u_{15}, u_{16}, u_{17}, u_{18}\}, \\ \text{sms} = \{u_2, u_3, u_4, u_8, u_9, u_{10}, u_{13}, u_{15}, u_{16}, u_{17}\} \end{array} \right\}$$

Figure 1. The soft set

The previous example can be represented in the following Boolean-valued information system

Table 1. Tabular representation of a soft set

U/P	p_1	p_2	p_3	p_4	p_5	p_6	$f(.)$
u_1	1	0	1	0	0	0	2
u_2	1	1	1	1	1	1	6
u_3	1	1	1	1	1	1	6
u_4	1	1	1	1	1	1	6
u_5	0	1	0	0	1	0	2
u_6	0	0	1	0	1	0	2
u_7	0	0	0	0	1	0	1
u_8	1	1	1	1	1	1	6
u_9	1	1	1	1	1	1	6
u_{10}	1	1	1	1	1	1	6
u_{11}	1	0	1	0	1	0	3
u_{12}	0	1	0	1	0	0	2
u_{13}	1	1	1	1	1	1	6
u_{14}	1	1	0	0	0	0	2
u_{15}	1	1	1	1	1	1	6
u_{16}	1	1	1	1	1	1	6
u_{17}	1	1	1	1	1	1	6
u_{18}	0	0	1	1	1	0	3

Table 1 continuation

IV. Analysis of Hybrid Reduction in Soft Set Decision Making in Rose et al [5]

A. *The idea of Rose et al. [5] :*

1-Input soft set (F,E) over universe U.

2- Determine co-occurrences of attributes for every object.

2- Calculate the support weight.

3-Determine the order of supports by arranging in decreasing order.
4- Rank the result until the inferior object based on support.
5- Determine the U/E clusters partions.
6- Determine any combinations of attributes are satisfaction the optimal decision partions and $supp_A(u)=supp(v)$ A for every u,v in U.
7- For any group of attributes which satisfies procedure 6 determine the reduction.
8-Determine any row fulfill the definition of ultimate support set.
8- Delete the object partition which in ultimate support.
9-For any ultimate minimum support delete the partions of inferior object.
10-If there is any ultimate minimum support set , mark the mark the object the inferior object.
11- Remove every row or columns which has empty objects(zero significant).

The parameters co-occurrence set is the representation of the value 1 which as Coo u1 ={p1 ,p3} until last object.

The parameters co-occurrence set is the representation based on the value 1 which introduce co occurrences like Coo u1 ={p1 ,p3} then the weight for every supp based on table 1 as follow and the result of Hybrid reductions shown as in table 2.

Supp (u i) =6 i u , i =2,3,4,8,9,10,13,15,16,17
Supp (u j) =3 j u , j =11,18
Supp (u k) =2 k u , k =1,5,6,12,14
Supp(u L) = l , L =7

Table 2

U/P	p_1	p_2	p_3	p_4	p_5	p_6	$f(.)$
u_1	1	0	1	0	0	0	2
u_5	0	1	0	0	1	0	2
u_6	0	0	1	0	1	0	2
u_7	0	0	0	0	1	0	1
u_{11}	1	0	1	0	1	0	3
u_{12}	0	1	0	1	0	0	2
u_{14}	1	1	0	0	0	0	2
u_{18}	0	0	1	1	1	0	3

Table 2 continuation

V. The procedure of predefined object reduction[14]

1- Take the input data from original soft set.
2- Calculate every object co occurrences (support).
3- Determine the maximum partion cluster.
4- Calculate the confidence co occurrences for every object which are not in maximum support partions.
5- If object support < (predefined support and predefined confidence) then the object are deleted .
6- Execute Hybrid reduction techniques.
7- This procedure known as Predefined Hybrid Reduction.

V1. The Proposal techniques

In this section, an alternative concept of object reduction based on predefined support and predefined confidence are introduced. The main idea behind the object reduction is to further reduce the size of database without compromising on the values of objects sub-optimal decisions, or even the next sub-optimal decision of objects. For a Predefined Hybrid Reduction , it is proposed on object reduction which remove false frequent object occurrences that not satisfies Predefined conditions. To this, the notion of Minimum Predefined object reduction is by default then additional informations are extracted from Predefined object reduction which are not in Minimum Predefined object reduction for more suggestions both are based on Hybrid Reduction which increase Hybrid Reduction response time. This techniques has dual reduction, first the object data size are reduce by Predefined Hybrid Reduction, second the inferior object and inconsistency are removed by Hybrid Reduction. This techniques based on rows reductions and it proposed to maintain the object reduction.

A. proposal procedure of Minimum Predefind Hybrid Reduction as follows:

. The procedure of minimum Predefined Hybrid reduction are:

1-Take the input data from original soft set.
2-Calculate every object co occurrences (support).
3-Determine the maximum partion cluster.

4-Calculate the confidence co-occurrences for every object which are not in maximum support partions.

5-If object support < (predefined support or predefined confidence) then the object are deleted .

6-Execute Hybrid reduction techniques.

7-This procedure known as Min Predefined Hybrid Reduction.

8-Apply Predefined Hybrid Reduction for every sub parameters generated by Hybrid reduction.

B .Analysis of Min Predefined Hybrid reduction

The association rule which safeties the certain constrain are min support and min confidence mentioned in [13].

In table 3 Coo(u1)=p1,p3, Coo(u5)=p2,p5, Coo(u6)=p3,p5 , Coo(u7)=p5, Coo(u11)=p1,p3,p5, Coo(u12)=p2,p4 Coo(u14)=p1,p2, Coo(u18)=p3,p4,p5

Now with help of parameter co-occurrences we calculated the support as follow:

Sup(u1)= p1,p3 thus conf p1→ p3=2/3 = 67%

Sup(u5)= p2,p5 thus conf p2 → p5=1/3 = 33%

Sup(u6)= p3,p5 thus conf p3 → p5=3/4 = 75 %

Sup(u7)= p5 thus conf p5 =0.0 %

Sup(u11)= p1,p3,p5 thus conf p1,p3→ p5 1/2 = 50%

Sup(u12)= p2,p4 thus conf p2→ p4 =1/3= 33%

Sup(u14)= p1,p2 thus conf p1→ p2=1/3=33%

Sup(u18)=p3,p4,p5 thus conf → p3,p4 p5=1/1=100%

Table 3

U/P	p_1	p_2	p_3	p_4	p_5	$f(.)$
u_1	1	0	1	0	0	2
u_5	0	1	0	0	1	2
u_6	0	0	1	0	1	2
u_7	0	0	0	0	1	1
u_{11}	1	0	1	0	1	3
u_{12}	0	1	0	1	0	2
u_{14}	1	1	0	0	0	2
u_{18}	0	0	1	1	1	3
supp	3	3	4	2	5	

Table 3 continuation

suppose predefined supp is 2, and predefined confident is 35%. Therefore the object which are not satisfies the predefined confidence 35% and predefined support are deleted thus the object u5,u7,u12,u14 are deleted from data set, the result of Predefined Hybrid Reduction as shown in table4.

Table 4

U/P	p_1	p_2	p_3	p_4	p_5	$f(.)$
u_1	1	0	1	0	0	2
u_6	0	0	1	0	1	2
u_{11}	1	0	1	0	1	3
u_{18}	0	0	1	1	1	3

B. Min max tools for extractions

The easy tools extraction has two steps which are:

Step 1: execute Minimum Predefined Object Reduction techniques for extraction which is default extractions.

Step 2 give choice (more) which has additional result where their result are selected from Predefined Object Reduction and not in Minimum Predefined Object Reduction.

VI.Result and discussions

The Predefiend Hybrid Reduction are requeried predefind confidence and predefined support which are minted the user guessing [14]. The result of Min Predefind Object Reduction has minimum object reduction becuase it reduce the object by two ways, one way it remove the object which are not satesfies the predefind support condtion and the second way it delete the object which are not satesfies the preconfidence conditions these two ways are used for reduce the relevant expansion. If the default expanstion are not satesfies the users requirement then more extractions are generated which is the differences between techniques Predefind Hybrid Rection(this is the default extraction) and Min Predefind Hybrid Reduction(more extraction). These tools are save the researcher searching time because it based on user gussing starting from support, confidence which genearete default extractions if not satesfies

the user guessing then the solutions are reterives from more extraction which are not repeat the extraction that already are mined before.

The Hybrid reduction store table1 which occupies 73% of memmory size, while Predefiend Hybrid Reduction is based on predefined support and confidence, it offer more free memory size compared to Hybrid reduction. The object which not satifies the Predefined Hybrid reduction conditions are deleted directly which enhanced Hybrid reduction response time.

This proposal has easy navigations used faster extraction with meanig full informations

VII..Conclusion

This study determine the object reduction which increse Hybrid reduction response time, the idea of this techniques to find minimum reduction and save the users searching time. It has easy tools for more expanding. The best searching are success if found in minimum extractions, if not found then more expansion are genearated.

In this proposal, a strategic approach of knowledge search, it managing the research activities which are designed to facilitate the management of knowledge resource repositories in more structured, organized and efficient manner to foster easy retrieval, avoid redundancy and proper classification. This solution utilize advance technique to govern knowledge by Hybrid Predefined Searching with significant meaning to facilitate advanced search. The proper management of research related resources help researchers to save their time and help to nurture young researchers.

This approach reduced the number of objects in Boolean databases drastically but still been able to maintain consistency in decision making.

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