Proposal of Decision Support System for Selling and Buying used Products

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***Abstract*- An online web application called Student-Trade has been created. It is a best in class stage for direct purchaser to-buyer exchanging the Internet. The stage is focused for direct consumer to consumer exchanging among college understudies. The things for exchanging incorporate books, family unit things, gadgets, lodging rental, sports hardware and mentoring administrations. This paper is on the plan knowledge of the Student-Trade web application. One goal is to help the client to settle on the offering cost of his thing when the thing is being posted in the web application. The framework incorporates a half and half neighborhood scan calculation for deciding the cost of offer thing when it is set for exchanging the Internet. Information digging procedures are investigated for productive preparing of an immeasurable measure of data in the database tables. What's more, the exchanging framework would likewise have the insight of prescribing things or items to a potential purchaser given the past buy designs. The point is to give a wonderful exchanging background to the client.**

I. INTRODUCTION

The fast improvement of data innovation has encouraged a rich exchanging condition in the Internet. There are many exchanging stages these days yet there is no great stage intended for direct purchaser to-buyer (C2C) exchanging essentially for college understudies, to purchase and offer their products and ventures straightforwardly to different understudies inside their college or city. Such a need emerges in an informal organization where things ought to be exchanged or traded effectively with a little group. The renowned sites, for example, Amazon or eBay are excessively worldwide in nature and does not bolster the immediate exchanging of merchandise and ventures among the understudies in a little interpersonal organization, for example, a grounds domain. The web application configuration should be current, quick, and extremely easy to utilize. It is created utilizing ASP.NET, the .NET structure, HTML, CSS and SQL Server. The fundamental commitment of this paper is on the plan insight of the Student-Trade web application. The goal is to help the client to settle on the offering cost of the deal thing. Moreover, the web application can likewise have components of a recommended framework. That is, the exchanging framework would likewise have the insight of prescribing things or items to a potential purchaser given his past buy designs. The choice emotionally supportive network is inserted with a half and half neighborhood look calculation, with accentuation on taking care of a value suggestion issue in a certifiable web exchanging stage. The answer for the value proposal issue would require strategies from choice emotionally supportive networks and additionally information mining on a database of utilized things as of now exchanged or as of now accessible

II. PROBLEM STATEMENT

Buying and selling products to the desired Customers/students is an challenging task in the current Trading business

III. LITERATURE SURVEY

A .Features of existing system

There are second hand shops at market which offers utilized items. In any school, there is a manual approach of offering or purchasing study materials from senior understudies. The senior understudies wishing to give away any materials ought to discover any youngsters and offer the items, or the youngsters will scan for seniors to gather the items. Retail advertisers are always searching for approaches to enhance the adequacy of their Battles. One approach to do this is to target clients with the specific offers well on the way to draw in them back to the store and to invest more energy and cash on their following visit. In existing internet business applications, for example, "flipkart.com", "myntra.com", "amazon.in", "ebay.com", "snapdeal.com" and so on we have many administrations which helps client shopping. Every one of these applications are not training focused. They offer new items, old items for a wide range of clients.

Drawbacks of existing system

- Manual Approach
- Cost is decided by the seller
- No proper recommendations
- Generic application
- Lack of user satisfaction
- Less Efficient

IV. PROPOSED SYSTEM

Proposed framework is an Online based application where understudies assumes purchaser and merchant parts. Vender transfers the thing details[used training related

items, for example, books, gadgets, lodging rental, sports gear and mentoring administrations, lab materials etc], for example, thing name, depiction, components, cost and photographs into the server. Proposed framework predicts the offering cost for the transferred thing and now the intrigued junior students[buyers] can buy that thing and framework will prescribes the items for the understudies in light of their exchanges history.

V. CONCEPTS UNDER STUDY

A. Methodology for cost prediction

Proposed framework makes utilization of "hybrid neighborhood search algorithm" for deciding the cost of offer thing when it is set for exchanging.

Step 1: Scan the dataset (stockpiling servers)

Recovery of required information for mining from the servers, for example, database, cloud, exceed expectations sheet and so on.

Step 2: Calculate the likelihood of each property estimation. [n, n_c, m, p]

Here for each property we figure the likelihood of event utilizing the accompanying recipe. (said in the following stride). For every class(price) we ought to apply the formula.

Step 3: Apply the formula

P(attributevalue(ai)/subjectvaluevj)=(n_c + mp)/(n+m)

Where:

n = the quantity of preparing cases for which v = vj

nc = number of cases for which v = vj and a = ai

p = from the earlier gauge for P(aijvj)

m = the equal specimen measure

Step 4: Multiply the probabilities by p for each class, here we numerous the aftereffects of each quality with p and last outcomes are utilized for characterization.

Step 5: Compare the qualities and characterize the credit qualities to one of the predefined set of class

Test Example

Classification – Book (sort subject)

Attributes(Constraints) – C1,C2,C3 [m=3]

Subject (Price) – 100,150 [p=1/2=0.5]

Preparing Dataset

Product C1 (X,Y,Z)C2 (A,B,C)C3 (P,Q,R)(Price)

Book1	X	A	P	100
Book2	X	B	Q	100
Book3	Y	B	P	150
Book4	Z	A	R	100
Book5	Z	C	R	150

New Book6 Constraints – X,A,R Price – 100/150 ?

P=[n_c + (m*p)]/(n+m)

100 – 0.7 * 0.7 * 0.5 * 0.5 (p) = 0.1225

150 – 0.3 * 0.3 * 0.5 * 0.5 (p) = 0.0225

Since 0.1225>0.0225

So this new book6 is arranged to 100rs

This is one little case, this calculation works fine for a wide range of items and a wide range of limitations.

B. Recommendation comprises taking after strides

i. Proposal Process

On the premise of cooperative separating guideline, the suggestion procedure of understudy's attractions can be isolated into three stages.

1) The portrayal of client (understudy) data. The acquiring history of attractions by understudy should be broke down and demonstrated.

2) The era of neighbor clients (understudies). The likeness of understudies can be figured by the purchasing history information and the cooperative sifting calculation. A neighbor understudy rundown can be ascertained on the premise of known similitudes.

3) The era of fascination suggestions. Beat N attractions will prescribed to the understudy as indicated by the purchasing history of his neighbors.

As per above strides, client's fundamental data and past obtaining history can be utilized to ascertain the client rundown of neighbors

ii. Generation of Neighbors

Neighbor users generated mainly based on the similarity between each user.

Suppose that the set of all students S={S1, S2... Sn}, for each student Si (i=1, 2... n), the system can calculate the neighbors list including the top N students which similarity is higher than the given threshold.

There are mainly three ways to measure the similarity between customers, including Cosine

100	150
X P=[n_c + (m*p)]/(n+m) n=2, n_c=2,m=3,p=0.5 p=[2+(3*0.5)]/(2+3) p=0.7	X P=[n_c + (m*p)]/(n+m) n=2, n_c=0,m=3,p=0.5 p=[0+(3*0.5)]/(2+3) p=0.3
A P=[n_c + (m*p)]/(n+m) n=2, n_c=2,m=3,p=0.5 p=[2+(3*0.5)]/(2+3) p=0.7	A P=[n_c + (m*p)]/(n+m) n=2, n_c=2,m=3,p=0.5 p=[2+(3*0.5)]/(2+3) p=0.3
R P=[n_c + (m*p)]/(n+m) n=2, n_c=1,m=3,p=0.5 p=[1+(3*0.5)]/(2+3) p=0.5	R P=[n_c + (m*p)]/(n+m) n=2, n_c=1,m=3,p=0.5 p=[1+(3*0.5)]/(2+3) p=0.5

method, Correlation similarity method and Adjusted Cosine method.

TABLE I. Purchasing History of the customer

Customers	Attractions				
	A_1	A_2	A_3	A_4	A_5
T_1	1	0	1	1	1
T_2	0	1	1	1	1
T_3	1	0	1	1	0
T_4	0	1	1	0	1
T_5	0	1	0	1	0

$$sim(T_i, T_j) = \frac{|S_i| \cup |S_j|}{|S_i| \cap |S_j|} \quad (2)$$

Based on (2) and Table 1, we can calculate the similarity between T_1 and T_2, T_1 and T_3, T_1 and T_4, T_1 and T_5 as follows

$$sim(T_1, T_2) = \frac{|S_1| \cup |S_2|}{|S_1| \cap |S_2|} = \frac{3}{5} = 0.6 \quad (3)$$

$$sim(T_1, T_3) = \frac{|S_1| \cup |S_3|}{|S_1| \cap |S_3|} = \frac{3}{5} = 0.6 \quad (4)$$

$$sim(T_1, T_4) = \frac{|S_1| \cup |S_4|}{|S_1| \cap |S_4|} = \frac{2}{5} = 0.4 \quad (5)$$

$$sim(T_1, T_5) = \frac{|S_1| \cup |S_5|}{|S_1| \cap |S_5|} = \frac{1}{5} = 0.2 \quad (6)$$

If the value of threshold θ is set to be 0.5, then the neighbors of T_1 are T_2 and T_3.

iii. GENERATION OF RECOMMENDATIONS

Recommendations of attractions are computed by the purchasing times of neighbors. According to the calculation above, we know that the neighbors of customer/students T1 are T2 and T3, so we can list all the purchasing history of all the attractions so as to summary the most popular ones. As listed in Table 2, we can find that the maximal purchasing times of neighbors are attraction A3 and attraction A4.

TABLE II. Purchasing history of neighbor customers

Customers	Attractions				
	A_1	A_2	A_3	A_4	A_5
T_1	1	0	1	1	1
T_2	0	1	1	1	1
T_3	1	0	1	1	0
Total	**2**	1	3	3	2

When new customers enter the system, there is usually insufficient information to produce recommendation for them, because there is no purchasing history of the new students. We call this as cold start problem. The usual solution of the cold start problem is similarity calculation between each user by profile information, such as user area of interest, Course and Sem.

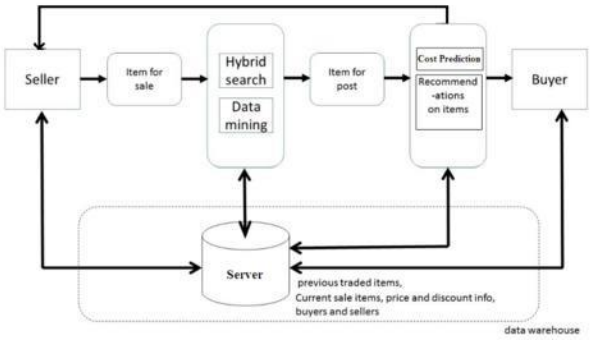

Figure: Block Diagram

The decision support system (DSS) aim is to give an adaptable and intuitive device to help tackle the price recommendation issue. Figure demonstrates the design of the DSS.

Utilizing the strategies for the data innovation, the DSS is outlined as a dispersed keen framework with an easy to understand interface. It is a graphical interface that offices the merchant's basic leadership handle on deciding a cost available to be purchased in the Internet commercial center. The data of related things in the database would be required in the choice bolster handle. Information mining on the unlimited measure of data is required so as to give continuous reaction to the dealer. In this paper, a half breed neighborhood look calculation has been utilized.

VI. CONCLUSION

There are presently numerous web based exchanging stages in the Internet. Notwithstanding, they have different disadvantages and are not welcome by college understudies who simply need a straightforward but then canny and easy to use stage for exchanging on grounds (or inside a little group). For individuals exchanging inside a little group, they would evade any inconveniences to setup installment record or mailing of things to the purchaser. This paper is centered around the improvement of web application to encourage such a need with a mean to giving a keen UI to both the merchants and the purchasers. For a vender, the clever exchanging stage has given continuous hunt on related things in the commercial center and would propose a cost for the deal thing. This help a vender to post deal things in accordance with the market. Methods from information mining, choice emotionally supportive network and neural system have added to the procedure of programming advancement. For a purchaser, the clever exchanging stage can assemble data on his past obtained things from the databases. Likewise, purchaser can express his interests or post asks for certain alluring things. The recommender framework would then prescribe deal things to the potential purchaser. In general, the stage focused for direct purchaser to-buyer exchanging would be more shrewd, less difficult to-utilize and all the more user friendly.

VII. FUTURE ENHANSMENT

- Online Payment- In future the installment will be through web based, enabling the understudies to pay cash just through internet.

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