Product Assessment Rating Scale and Its Benefits in Various Mixed Domains

Dr.A.Senthilkumar

Associate Professor, Dept of MCA, Sankara College of Science and Commerce

Abstract: *A rating scale is precisely defined format which focuses on the conversation between the respondent and the questionnaire on the relevant areas. All respondents are motivated to communicate with their opinions in the shared language of the specified option choices given in the prescribed format. This paper deals about users choices and expectations in multiple domains and how it varies from user to user and will deals their opinions in various occasions through the CF algorithms and their expectations in various aspects will be evaluated through the proposed algorithm MDURA(Multiple Domain User Rating Algorithm).This algorithm finally evaluate all the products in different aspects associated with different users. Moreover this algorithm will help the users evaluate not only products but also evaluates products concurrently in different aspects.*
Keywords: *Collaborative Filtering, MDURA, Likert, NPRS, MPRS*

I. Introduction

A rating scale is a tool which is used to assess the performance of tasks, skill levels, procedures, processes, qualities, quantities, or end products, such as reports, drawings, and computer programs. This method is a systematic evaluation of an individual with respect to performance on the job and individual's potential for development Rating Scale Method. The rating scale method is a performance appraisal method that rates employees according to using evaluators records their judgments about performance on a scale. Checklists, rating scales and rubrics are tools that state specific criteria and allow teachers and students to gather information and to make judgments about what students know and can do in relation to the outcomes. They offer systematic ways of collecting data about specific behaviors, knowledge and skills.

Rating scale methods are used in the performance management systems to indicate an employee's level of performance or achievement. These scales are commonly used because they provide quantitative assessments, are relatively easy to administer and assist in differentiating between employees. A Rating Scale, commonly known as a Likert Scale, is a variation of the Matrix question where you can assign weights to each answer choice. Rating Scales automatically calculate a weighted average for each answer choice in the Analyze Results section. A rating system can be any kind of rating applied to a certain application domain: Motion picture rating system. Motion Picture Association of America film rating system. The Numeric Pain Rating Scale (NPRS) is a unidimensional measure of pain intensity in adults, including those with chronic pain due to rheumatic diseases. Rating Scales in Performance Appraisal. Cloud-based Performance Appraisal System. The rating scale method offers a high degree of structure for appraisals. Each employee trait or characteristic is rated on a bipolar scale that usually has several points ranging from "poor" to "excellent". A rating scale is a set of categories designed to elicit information about a quantitative attribute in social science. Common examples are the Likert scale and 1-10 rating scales for which a person selects the number which is considered to reflect the perceived quality of a product. Performance Rating can be defined as the procedure in which the time study engineer compares the performance of operator(s) under observation to the Normal Performance and determines a factor called Rating Factor. The fact is, in most corporations a "meets expectations" rating is a GOOD rating and viewed positively. It means you're doing exactly what they told you. If you look at a bell curve, meets expectation is the top of the bell curve and the "exceeds expectations and below expectations" are at the end of the spectrum.

II. Scope Of Research

In this paper deals about the performance analysis of various products concurrently at different perspectives. While analyzing the performance of the product or the users will be differentiated with their ratings in different methods and evaluate the performance and it will be compared with few existing CF algorithms. This MDURA algorithm deals with multiple users as well as multiple products in different perspectives in multiple domains.

III. Objectives

The following objectives are framed based on the users' interest on products at various intervals.
1. To identify the existing features to overcome the limitations based on new techniques.
2. To control the users in different domains with multiple products.
3. To discover the different user evaluation methods to meet the expectations of the users.
4. To differentiate the users with multiple aspects at various scenarios.
5. To control the users behavior while selecting the multidomain products

IV. Methodology

The proposed algorithm will evaluate the users' performance and product performance with various levels at different intervals. The existing algorithms are restricted with only a single domain with single product based on the users attributes or product attributes. But, the proposed algorithm deals with multiple occasions, multiple methods, multiple domains, run time analysis with different people on various places.

The product assessment rating scale problem is dived in to three major phases

Phase I : One-dimensional product attributes with a domain with users' similarity on products

Phase II: Multidimensional Product attributes with multiple domains with users' similarity on different products with different perspectives.

Phase III: Results comparison with existing algorithms , findings, and conclusion.

V. Conceptual Frame Work
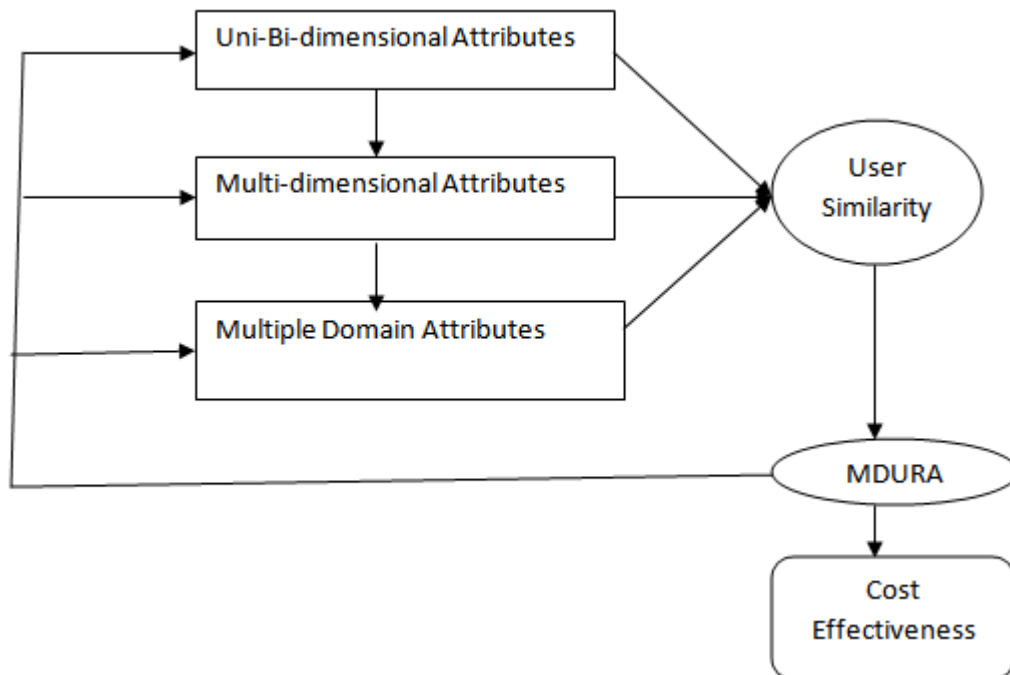
For the above proposed algorithm will be developed with Asp.Net Frame work and for the data storage is to be connected with oracle database.

Algorithm-MDURA
Step1 : Analyzing the existing performance of CF algorithms
Step2 : Find the limitations of existing CF algorithms in unidimensional views.
Step3 : Recovery of Existing limitations and stored into the database for future analysis
Step4 : Design to solve existing limitations based on the product and user requirements associated with multiple domains.
Step5 : user evaluation and control the multidomain products.

VI. Anticipated Outcome

The below shows the details about the comparisons among the existing algorithms based on the running time, cost effectiveness and output relevancy.

Algorithm	Cost Effectiveness	Running Time in Seconds	Output Relevance
Unidirectional	Maximum	>15 seconds	Normal
Bidirectional	Maximum	>10 seconds	Normal
Multidirectional	Minimum	<10 seconds	Good
MDURA(Multiple Domain User Rating Algorithm).	Minimum	<5 Seconds	Good

The above MDURA algorithm is compared with unidirectional,bidirectional,multidirectional algorithms and results will be compared and the anticipated outcome will be good and to get relevance and accurate output.

VII.   Conclusion

The Proposed MDURA algorithm will be cost effective, expected output was very relevant and accurate.
The output is compared with existing algorithm towards with the algorithm running time and cost effectiveness also compared and it will be very effective and useful to the users who are associated with different domains.

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