Advanced Intelligent Technique for Personalization and Customization of Marital Website

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Abstract - The online matrimonial market is growing rapidly, thousands of matched with matrimonial portal. The major benefits of online matrimonial markets are the ability to reach a large number of matrimonial website at low costs, to provide detailed information online, to take applications and profile matching. Also using intelligent program current information can be checked matches made more quickly. This research make the Indian online website for personalized and customization one-to-one interaction and transactions. The core component used to generate this personalized web page is the item based collaborative filtering recommendation replica. The benefits enabled by the research will be for the organization in Indian how to put together the mechanism to renovate itself to the digital market and gain competitive advantage by using electronic trade technology especially about the matrimonial market.

Keywords - *Collaborative Flittering, Personalization, Customization, Intelligent System, Web-mining.*

I. INTRODUCTION

Web personalization means to compose or modify something so it is suitable for a particular person. personalization is defined as the ability to provide content and services adapted to individuals based on knowledge about their preferences and behavior web personalization is about personalizing aspects of web resources - the content itself, links, web page structure and navigation. and customization. takes place when users are able to modify a web site's look and feel many sites provide For example, after registering with the Excite and Yahoo! sites, users can create their own customized start pages by choosing their preferred layout, content, and color scheme. Customer information obtained through the registration process, such as customer names, is also used to create personalized greetings within the customized start pages. Thus, these sites combine customization and personalization features to provide users with the information they need, quickly and easily.

Customization and personalization features. Both personalization and customization can be powerful tools in the battle for customer loyalty. Marriages, it is said, are made in heaven. For many Indians, they are now increasingly being made on the Internet through matrimonial portals. Although still a fledgling industry, online matrimonial matchmaking, a uniquely indian phenomenon, is seen by many to be brimming with potential. The reason the sheer reach and convenience that the Internet provides as more and more people go online, they find that the medium lends itself very well to matchmaking because it takes away geographical limitations and is more efficient and more effective than the traditional avenues.

One of the most promising such technologies is collaborative flittering [1,2].collaborative filtering works by building a database of preferences for items by users. A new user is matched against the database to discover neighbors, which are other users who have historically had similar taste to. Items that the neighbors like are then recommended to new user as he will probably also like them. Collaborative filtering has been very successful in both research and practice and in both information filtering applications and e-commerce applications. For the online consumer decision-making process the goal of marketing research efforts is to understand the consumers online decision making and formulate an appropriate strategy to influence their behavior. E-commerce offers companies the opportunity to build one-to-one relationships with customers that are not possible in other marketing systems product, Customization, personalized service, and getting the customer involved interactively (e.g., in shaadi.com, order tracking, and so on) are all practical in cyberspace.

In this paper, we address the profile matching and the matrimonial market, the collaborative filtering which is a personalization method that uses customer data to predict, based on formulas derived from behavioral sciences. The method and formulas item-based collaborative filtering used to execute collaborative filtering the two stages are prediction and recommendation [3]. The researchers develop a web and design it to be two-side personal online web pages which marriage portal can interact with a company and a company can do so. Each can learn about the other side about the products or services cast of the Bride and groom or profile matching and the couple or companies in real time and get customized products or services. The program of personalization can be done by matching the profile with the written with php.

II. ONLINE MATRIMONIAL MARKET

The industry's growth and the optimism of the players are fuelled by multiple factors. Take India's

demographics. It is estimated that there are around 450 million people in India currently below the age of 21. On the socio-cultural front, the dominant tradition is that of arranged marriages, where the parents or family elders find a suitable match for the young adults. Traditionally this has been done through contacts via family and friends, individual marriage brokers, marriage bureaus and classified advertisements in newspapers. Matrimonial portals are a fairly recent channel. match the demographics and the tradition of arranged marriages and there is clearly a huge market for match-making whatever the medium. With its reach, convenience and relative privacy, the Internet provides a superior alternative to any other medium. Website personalization and customization offer internet users a sense of familiarity being an interactive network. Advantages of the online matrimonial market over the traditional one are listed in table.1.

Online Matrimonial market Character

Cost	Life cycle	Place	Context updating	Space for details	Ease of search by partner	Reliability	Communication speed	Ability of profile matching
Can be very inexpensive	Long	Global	Fast, simple, inexpensive	Large	Quick and easy	High	Fast	Easy, fast

The Internet spawns a diversity of personalities in the online community. These personalities show uniqueness by the way they use the Internet, and also by the various features and applications on websites that are continuously being added and modified. Examples of evolving Internet features are personalization and customization, which are website applications that make each users visit personalized to information known about him from his online identity. Users need to simply log on to a matrimonial portal and upload their profiles, sharing as much or as little information as they choose. they can then search for partners according to their individual preferences. They also have the option of exploring the medium by registering without any charge and then becoming paid users only if they see value in the portal by way of ease of use and suitable responses all this at the click of a mouse. organizational behavior and human resource management at the IIM, Bangalore, points out that the increasing mobility of younger professionals and the breaking down of traditional family networks are also responsible for driving the traffic on matrimonial portals. "Today's young adults see this as the cool, new-generation medium, one that puts

them in control of choosing their life partners and at the pace that they want," he says. The bulk of the players' revenues come from subscription fees. On offer are various membership plans that differ according to the length of time a profile is posted, and features like level of personalization, special highlighting of the profile, access to verified phone numbers etc.

III. WEB PERSONALIZATION TECHNIQUES

According to [1] and [4], web personalization techniques are classified in seven classes. The handicraft decision technique, Hyperlink-based technique, content based filtering, and traditional collaborative filtering, model based techniques, hybrid techniques and semantic techniques. The handicraft decision technique means that website managers establish decision rules according to the statistics of users or session history. To take advantage of these rules, the Journal of Theoretical and Applied Information Technology ,recommendation system provides particular contents and web structures to particular sorts of users. This kind of system functions easily, but its efficiency is low and it is difficult to renew in a timely fashion. The hyperlink-based technique generally uses an algorithm related to

diagram theory to discover the most representative elements provided by the user input or information request. Search engines mostly use this technique. The famous goggle search engine is one notable example. Content based filtering uses an individual approach which relies on user's ratings and item descriptions. Items having similar properties as items positively rated by user are being recommended to the user. The most common problem of content based filtering is the new user problem. This problem occurs when a new user is added to the system, hence has an empty profile (without ratings) and cannot receive recommendations. Traditional collaborative filtering uses ratings from user's neighborhood. Neighbors are users who provided similar ratings for same items. Item is being recommended to the user according to the overall rating of the neighborhood for that item. Problems in collaborative filtering occur when new content item is added to the system, because the item cannot take place in personalization without being rated before. Model based techniques represent an improvement in scalability issues, because part of data is pre-processed and stored as model, which is used in the personalization process. Hybrid personalization techniques combine two or more personalization techniques to improve the personalization process. In most cases, content based filtering is combined with traditional collaborative filtering. Collaboration via content is an example of a hybrid personalization technique, where user profiles contain item descriptions based on similarity of user's. Traditional personalization techniques can provide very suitable solution for couture web pages according to user's preferences. On the other hand, traditional web personalization has limitations in accuracy of modeling user's behavior in this paper

IV. CUSTOMIZE ONLINE MATRIMONIAL PORTAL TECHNIQUE

We proposed below are the tips you can do it yourself immediately to personalize the matrimonial website. all these stuff are basic five steps. we had derived this list so that new business planning to launch a online matrimonial website business, could estimate the work involved. Start with your logo, Take the smart domain name, personalize it with your concept, get a new home page banner, implement the banner code in the site, Start with your logo you can very easily customize the website from admin by changing the logo. This would give you whole new look to the website. take the smart domain name A good domain is the most important step to personalization of the matrimonial website. It enhances the search engine rankings as well, but do not be excessive dependent on the same. find a small, keyword rich, easy to remember domain name as this also increases the recall value of the website.

Personalize it with your concept personalize the site with text on home page, logo in the email design, packages that suits your market , few pages like "about us", "contact us", & "terms". This gives a site a more credibility in front of users. Mentioning a phone number, address also adds more to the website. also customize the matrimonial directory section & article section with some viewable stuff. Also customize the home page meta tags this instantly helps in search engine & keyword enhancements on the site or any third party web stats service code so that you can get insight of the service. Further from the admin section of the website you can enable or disable or change defaults as per you're requirement of your matrimonial place Get a new home page banner home page thing picture occupies significant space and this can make a turnaround the whole look of the website. the benefits a user will get on the registration. Implement the banner code in the site next thing to do is implement the third party banner code, this starts propagating the fresh, audience targeted content on the website & gives whole new look& immediately starts generating revenue with the traffic coming.

V. COLLABORATIVE FILTERING

Recommender systems apply data analysis techniques to the problem of helping users find the items they would like to purchase at e-commerce sites by producing a predicted likeliness score or a list of top-N recommended items for a given user. Item recommendations can be made using different methods. Recommendations can be based on demographics of the uses, overall top selling items, or past buying habit of users as a predictor of future items. Collaborative Filtering (CF) [3,7] is the most successful recommendation technique to data. The basic idea of CF-based algorithms is to provide item recommendations or predictions based on the opinions of other like-minded users. The opinions of users can be obtained explicitly from the users or by using some implicit measures. CF algorithms represent the entire m x n user-item data as a ratings matrix, A. Each entry $a_{i,j}$ in A represents the preference score (ratings) of the ith user on the jth item. Each individual ratings is within a numerical scale and it can as well be 0 indicating that the user has not yet rated that item.CF approaches assume that those who agreed in the past tend to agree again in the future. For example, a collaborative filtering or recommendation system for music tastes could make predictions about which music a user should like given a partial list of that user's tastes (likes or dislikes) [5]. CF methods have two important steps, (1) CF collects taste information from many users, and this is collaborating phase. (2) Using information gleaned from many users predictions and recommendation of users interest were

automatically generated, and this is filtering phase. Researchers have devised a number of collaborative filtering algorithms that can be divided into two main categories, User-based and Item-based algorithms [6]

Item-based Collaborative Filtering Algorithms the item-based approach looks into the set of items the target user has rated and computes how similar they are to the target item i and then selects k most similar items $\{i_1, i_2…, i_k\}$. At the same time their corresponding similarities $\{si1, si2…, sik\}$are also computed. Once the most similar items are found, the prediction is then computed by taking a weighted average of the target user's ratings on these similar items. We describe these two aspects, namely, the similarity computation and the prediction generation in details here. One critical step in the item-based collaborative filtering algorithm is to compute the similarity between items and then to select the most similar items. The basic idea in similarity computation between two items i and j is to first isolate the users who have rated both of these items and then to apply a similarity computation technique to determine the similarity s_{ij} here the matrix rows represent users and the columns represent items. There are a number of different ways to compute the similarity between items. Here, we present three such methods. These are cosine-based similarity, correlation based similarity and adjusted-cosine similarity.

Cosine-based Similarity**:** In this case, two items are thought of as two vectors in the *m* dimensional userspace.The similarity between them is measured by computing the cosine of the angle between these two vectors. Formally, in the m×n ratings matrix, similarity between items *i* and *j*, denoted by

Sim (i,j)is given by

$$sim(i,j) = \cos(\vec{i}, \vec{j}) = \frac{\vec{i} \cdot \vec{j}}{\| \vec{i} \|_2 * \| \vec{j} \|_2}$$

Where "." denotes the dot-product of the two vectors.

Correlation-based Similarity**:** In this case, similarity between two items *i* and *j* is measured by computing the Pearson-r correlation. To make the correlation computation accurate we must first isolate the co-rated cases (i.e., cases where the users rated both *i* and *j*). Let the set of users who both rated *i* and *j* are denoted by *U* then the correlation similarity is given by

$$sim(i,j) = \frac{\sum_{u \in U}(R_{u,i} - \bar{R}_i)(R_{u,j} - \bar{R}_j)}{\sqrt{\sum_{u \in U}(R_{u,i} - \bar{R}_i)^2} \sqrt{\sum_{u \in U}(R_{u,j} - \bar{R}_j)^2}}$$

Here $R_{u,i}$ denotes the rating of user *u* on item *i*, R_i is the average rating of the *i*-th item.

Adjusted Cosine Similarity: one fundamental difference between the similarity computation in user-based CF and item-based CF is that in case of user-based CF the similarity is computed along the rows of the matrix but in case of the item-based CF the similarity is computed along the columns, i.e., each pair in the co-rated set corresponds to a different user. Computing similarity using basic cosine measure in item-based case has one important drawback the differences in rating scale between different users are not taken into account. The adjusted cosine similarity offsets this drawback by subtracting the corresponding user average from each co-rated pair. Formally, the similarity between items *i* and *j* using this scheme is given by

$$sim(i,j) = \frac{\sum_{u \in U}(R_{u,i} - \bar{R}_u)(R_{u,j} - \bar{R}_u)}{\sqrt{\sum_{u \in U}(R_{u,i} - \bar{R}_u)^2} \sqrt{\sum_{u \in U}(R_{u,j} - \bar{R}_u)^2}}$$

Here R_u is the average of the u-th user's ratings. The most important step in a collaborative filtering system is to generate the output interface in terms of prediction. Once we isolate the set of most similar items based on the similarity measures, the next step is to look into the target user's ratings and use a technique to obtain predictions. Here we consider two such techniques.

VI. OUTCOME AND CONSIDERATION

The Indian matrimonial market website: shown the first home page in Figure 1. The matrimonial system gives the profile matcher a chance to find a partner that would best suit their cast age qualification etc. The web page: the user submits the information is shown in Figure 2. The attributes (or the key words) of the users that some of these, which must fill in are the field of the match (the cast categories), the location of the partner in India or other provinces of country (the geographic regions) etc.
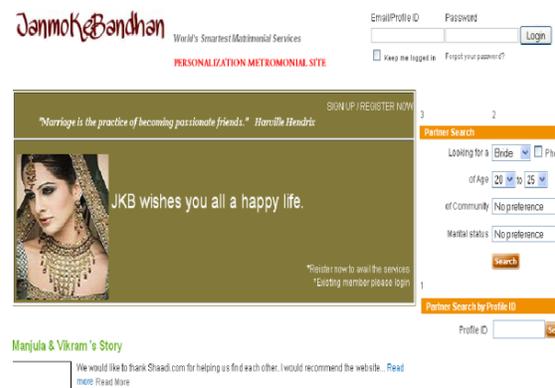

Fig. 1 : The home page of the web site

PERSONALIZATION

Fig. 2 : The page that the users must fill in

Fig. 3 : Search profile

The proposed system can help users find data that match specific profile. The system creates the part that the company must search the detail of the profile, the web page shown in Figure 3. The database about the matching profile then is offered for the correct partner match. The company must fills in some of these, education, age, and job, height, dob, sex, cast, sub cast, religion, mother tongue by the user. The intelligent program receives the information then solicits information from the user and then builds the profile from previous purchase pattern from the databases. In this stage the collaborative filtering based recommender systems using item based recommendation model was used to find out the suitable outputs proposing to the user. Besides of these, the system also provides many channels for both users and matrimonial company, such as the sudden listed of profile for match making and of people for people hunter when they are the registered users. This system also provides many features such as the users can post available profile descriptions and advertise their services in e-mails and others on website.

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VII. CONCLUSION

The differences and similarities between personalization and customization work together toward the same goal making the Internet experience more pleasant for each user. These technologies are justified in that they benefit the Internet user and the company or organization managing the matrimonial website, as the user wills more than likely return after sensing the advantages of personalization and customization technologies.

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