Life Mate - A Reliable Match Making using Hunt's algorithm

A. Arjuna Rao[1], K. Sujatha[2], P. Poornima[3], P. Divya[3], B. Harika[3], K. Chaitanya[3]

[1]Professor and Principal, Miracle Educational Society Group of Institutions, Bhogapuram, Vizianagaram.

[2] Associate Professor, Miracle Educational Society Group of Institutions, Bhogapuram, Vizianagaram.

[3]B.Tech-CSE Students, Miracle Educational Society Group of Institutions, Bhogapuram, Vizianagaram.

Abstract: Now-a-days there are many matrimonial websites which are not used properly due to the problems like they are commercial and not reliable. The proposed system, Lifemate, is a matrimonial website developed to enhance reliability with less problems. This helps in searching for genuine brides and grooms as this is only for known group which involved registration with reference. The system enables to decide on to remain honest in efforts of marital and deliver the most effective results while not charging something. The seriousness about the concern is finding the suitable right life partner basing on preferences. Finally, matrimonial matchmaking is not just a business, but also a social cause. This attitude makes Lifemate unique amongst hundreds of other Matrimony and Matrimonial web sites. Reliable matches are selected by drawing decision tree by using Hunt's algorithm. A decision tree may be a structure that has a root node, branches, and leaf nodes. Every internal node denotes a check on associate degree attribute, every branch denotes the end result of a check, and each leaf node holds a category label. The top node within the tree is that the root node. The decision making using Hunt's algorithm is reliable and the preferences are not hindered.

Keywords: Lifemate, matrimonial website, Reliable matches, decision tree, Hunt's algorithm

_____ ***** _____

1. Introduction

Match making forms in lead role in selecting the bride or groom as per the preferences. The middlemen act accordingly in showing the details and photographs of the bride or groom as defined. Their roles are listed as follows.

(1) Collection of profiles.
(2) Reveal profiles to suitable match.
(3) Preferential matching.
(4) Horoscope checking if desired

However many times the area is confined to geographical and they physically fail to show the suitable match. This Online marriage website provides the means to select best match for brides and grooms. It provides decision tree implementation using Hunt's algorithm, algorithm to choose right person. Manually selecting best match take more time and they search only in limited space. Now they are many matrimonial web sites but they are commercial not reliable in nature. It may contain more fake profiles. Proposed system provides best match selection and it can hold huge amount of data and only the reference persons can register in this system and it involves certificate cross validation what the user upload.

2. Literature Review

Esposito(1997) discussed comparative analysis of methods for pruning decision tree. Niuniu(2010) discussed notice of retraction review of decision trees. The decision tree algorithm is a hot point in the field of data mining, which is usually used to form classifiers and prediction models. Quinlan, J.R(1990) discussed Decision trees and decision-making. Sethi, I.K(1990) discussed Entropy nets : From decision trees to neural networks. A multiple-layer artificial network (ANN) structure is capable of implementing arbitrary input-output mappings. Tsang(2009) discussed Decision Tree for Uncertain Data. Traditional decision tree classifiers work with data whose values are known and precise.

Thangaparvathi,B., Anandhavalli,D. and Shalini,S.M.(2011) discussed a high speed decision tree classifier algorithm for huge data. Knowledge discovery is an important tool for the intelligent business to transform data into useful information that will increase the business revenue. Takahashi,F(2002) discussed call tree primarily based multi class support vector machines which are termed as Decision-tree-based multiclass support vector machines. In coaching, at the highest node, we determine the hyper plane that separates a category (or some classes) from the others. Sheng,Y (2004) discussed Decision tree based methodology for high impedance fault detection. Paper presents a high impedance fault (HIF) detection method based on decision trees (DTs). The features of HIF, which are the inputs of DTs, are those well-known ones, including current (in root mean square - rms), magnitudes of the second, third, and fifth harmonics, and the phase of the third harmonics.

Patel S.B (2009) mentioned a completely unique approach victimization transformation techniques and call tree formula on images for acting Digital Water Marking. Digital Watermarking is associated with rising copyright protection technology. The paper presents a replacement sturdy watermarking technique supported combining the ability of remodel domain technique, the separate circular function remodel (DCT) and therefore the data processing technique like call Tree Induction (ID3). We train the image blocks for account the classification. Friedl M.A(1997) discussed Decision tree classification of land cover from remotely sensed data. M.A.Friedl said his views about Decision tree classification algorithms have significant

619

potential for land cover mapping problems and have not been tested in detail by the remote sensing community relative to more conventional pattern recognition techniques such as maximum likelihood classification. Janikow C.Z (1998) discussed fuzzy decision trees: issues and methods. Sun,J. (2010) mentioned Application of Data Mining for call Tree Model of Multi selection separate Production and Manufacture. In this paper, taking the decision attributes, together with order variety, product variety, man hour and comprehensive analysis into consideration, the decision tree model of separate production and manufacture has been presented.

3.   Match making using Hunt's algorithm

Match making is done by using decision trees based on Hunt's algorithm
Advantages
- Less time consuming.
- Covers large area.
- Suitable match suggestions

3.1 Decision Tree Induction

A decision tree is a structure that includes a root node, branches, and leaf nodes. Each internal node denotes a test on an attribute, each branch denotes the outcome of a test, and each leaf node holds a class label. The topmost node in the tree is the root node.

(1)   A root node, that has no incoming edges and 0 or additional outgoing edges
(2)   Internal nodes maintain precisely one incoming edge and 2 or additional outgoing edges
(3)   Leaf nodes maintain precisely one incoming edge and no outgoing edges. Every leaf node also has a category label hooked up to that.

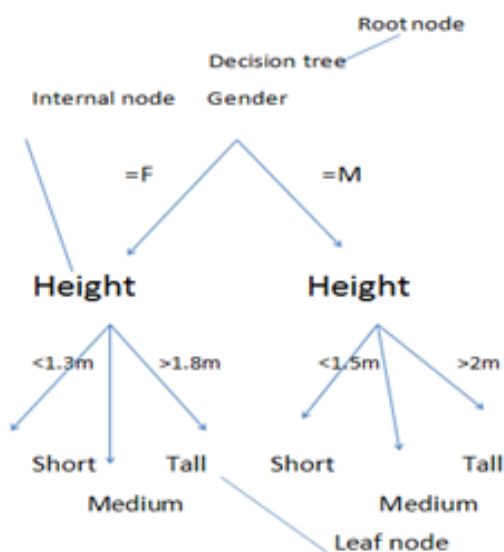A decision tree with preferences is drawn as shown in Figure 1.

Fig. 1: Decision Tree Example

The benefits of getting a choice tree square measure as follows :
- It doesn't need any domain information.
- It's straight forward to grasp.
- The educational and classification steps of a choice tree square measure easy and quick.

3.2 Decision Tree Induction Algorithm

A machine research worker named J. Ross Quinlan in 1980 developed a choice tree rule called ID3 (Iterative Dichotomies). Later, he conferred C4.5, that was the successor of ID3. ID3 and C4.5 adopt a greedy approach. In this rule, there is no back tracking; the trees square measure made in a top-down algorithmic divide-and-conquer manner.

Tree Pruning

Tree pruning is performed so as to get rid of anomalies within the coaching information attributable to noise or outliers. The pruned trees square measure smaller and fewer advanced.

Tree Pruning Approaches
Here is that the Tree Pruning Approaches listed below :

- Pre-pruning − The tree is cropped by halting its construction early.
- Post-pruning - This approach removes a sub-tree from a totally mature tree.
Cost Complexity
The price quality is measured by the subsequent 2 parameters :
- Range of leaves within the tree and
- Error rate of the tree.

3.3. Hunt's algorithm

Most of the choice tree induction algorithms are supported original ideas planned in Hunt's algorithmic rule.
Let D_t be the coaching set and y be the set of sophistication labels.
1.   If D_t contains records that belong to a similar category y_k, then its call tree consists of leaf node labeled as y_k.
2.   If D_t is associate degree empty set, then its call tree could be a leaf node whose category label is set from alternative information such because the majority category of the records.
3.   If D_t contains records that belong to many categories, then a take a look at condition, supported one amongst the attributes of D_t, is applied to separate the info in to a lot of consistent subsets.

3.4 Match making using Hunt's Algorithm
- Consider preferences.
- Generate Decision Tree.
- Apply Hunt's algorithm for selecting best match

_____

4. Results

The proposed methodology is developed and tested using the training and testing sets as input.

4.1 Training set

The training set may consists of Name, Marital status, age, caste, job, income, property, horoscope, family background, class label as attributes.

Table 1: Training Set

Name	Marital Status	Age	Caste	Job	Income	Property	Horoscope	Family back ground	Class label
Ram	Unmarried	24	B	Yes	>3.5	No	matched	Good	No
Praveen	Unmarried	24	B	Yes	<3.5	Yes	Unmatched	Good	No
Ramakrishna	Unmarried	26	F	No	No	Yes	Matched	Good	No
Mena	Divorced	28	F	No	No	No	Unmatched	Good	No
Dolly	Unmarried	23	B	No	No	No	Unmatched	Good	yes
Suharika	Unmarried	24	F	No	No	No	Matched	Bad	No
Swathi	Divorced	23	B	Yes	>3.5	No	Matched	Bad	No
Sangetha	Unmarried	22	F	No	No	No	unmatched	Bad	yes

4.2 Test set

Test set may contain same attributes but we need to find class label by using training set.

Table 2 : Test Set

sai	unmarried	26	b	yes	5lakhs	yes	matched	good	yes

4.3 Decision tree for the above data

The decision tree for data specified above is as shown in figure 2.

Fig. 2: Decision Tree for specified data

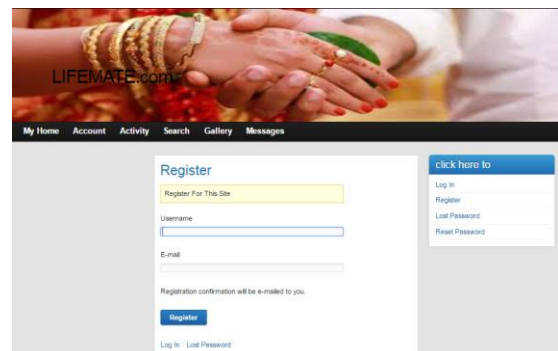### 4.4 Sample screens depicting match making scenarios
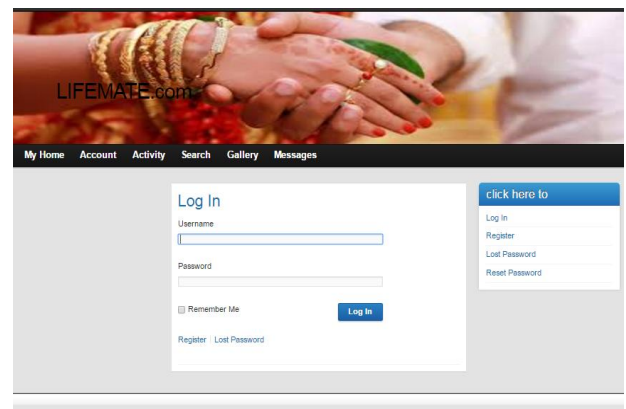

Fig. 3: User Register Page

Fig. 4: User Login Page

_____

Fig. 5: User Profile Page

5. Conclusion

The proposed match making website is Reliable and not commercial and eliminates all the problems in existing system. This will generate 100% genuine profile matching. Finally, matrimonial matchmaking is not just a business, but also a social cause. Decision trees are rapidly used in handling decision making choices and are always preferable. Reliable matches are selected by drawing decision tree by using Hunt's algorithm. This system is developed and tested on sample dataset and is found to be secure and helps in taking better decisions.

References

[1] Esposito, F. (1997). A comparative analysis of methods for pruning decision trees. IEEE, 476 - 491.

[2] j.sun. (2010). Application of knowledge Mining for call Tree Model of Multi-variety distinct Production and Manufacture. 724-728Janikow, C. Z. (1998).

[3] Fuzzy decision trees: issues and methods. IEEE Systems, Man, and Cybernetics Society, 1-14.

[4] M.A. Friedl, C. B. (1997). Decision tree classification of land cover from remotely sensed data. 399-409.

[5] Niuniu, X. (2010). Notice of Retraction Review of decision trees. IEEE, 105-109.

[6] Quinlan, J. R. (1990). Decision trees and decision-making. IEEE, 339 - 346.

[7] S.B.patel. (2009). A novel approach exploitation transformation techniques and call tree formula on pictures for performing Digital Watermarking. IEEE, 1-6.

[8] Sethi, I. K. (1990). Entropy nets: from decision trees to neural networks. IEEE, 1605 - 1613.

[9] Sheng, Y. (2004). Decision tree-based methodology for high impedance fault detection. IEEE,533 - 536.

[10] Takahashi, F. (2002). Decision-tree-based multiclass support vector machines. IEEE, 1418 - 1422 vol.3.

[11] Thangaparvathi, B., Anandhavalli, D., & Shalinie, S. M. (2011). A high speed decision tree classifier algorithm for huge dataset. IEEE, 695-700.

[12] Tsang, S. (March 29 2009-April 2 2009). Decision Trees for Uncertain Data. 441 - 444.