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RELATION TAGS OF CLIENT BEHAVIOUR THROUGH HMM AND RULE CONFIRMATION

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Abstract

Big data is really opportunity based environment. Big data analytics would definitely lead to valuable knowledge for many organizations. In the Integration of Big Data, Business analytical and RFID like technology is supposed to be recent trends in IT. It is most challenge oriented activity. which is our implementation, we are developing this application for a Banking sector particularly for a Debit / ATM /card section. We can use RFID smart card as ATM Card for transaction. User can create account and get the ATM card from the bank. He can integrate all his accounts in other banks can be integrated in this single card with unique PIN numbers accordingly. User behavior is monitored through HMM Model and he can set up a formula based authentication. He can include all his family members' accounts details also in the same card. He can withdraw cash from their accounts after successful authentication of the PIN numbers.

Index Terms: Hidden markov model,Formula based authentication,security alert message

1. INTRODUCTION

Information technology (IT) not only introduces convenience, but creates many new improvement opportunities which were impossible in the past. For example, advances of business intelligence (BI) methods and data mining techniques have brought huge improvements to modern business operations. Nowadays, in the "big data era," a massive amount of data is available for all kinds of industrial applications. For example, the cloud service can be considered as a data warehouse which provides a useful source of data. Wireless sensor networks [e.g., radio frequency identification (RFID), near field communications] can be used to collect useful data ubiquitously. An evolving topic on the Internet of things (IoTs), which consists of devices capable of communicating via the Internet environment, also provides a platform for gathering an enormous amount of data. In other words, it is now easier to collect data than ever before. That being said, extracting and utilizing useful information from such huge and dynamic databases for "big data" is far from easy. Since these data are linked to real-time events, they can be employed, if properly (e.g., via BI schemes), for rescheduling or replanning activities in business applications which finally reduce the level of risk and improve profitability and efficiency of the operations. This undoubtedly can supplement traditional optimization techniques, which are *a priori* in nature. For instance, Zhang *et al.* considered a dynamic workload scheduling problem with the help of big data stored in distributed cloud services. They developed an evolutionary optimization algorithm and simulated the performance under different scenarios. In another study, Zhang *et al.* analyzed the cost minimization issue of moving data around geographically dispersed data. Such data migration problem is very important yet challenging as the volume of big data is growing quickly. Dou *et al.* Developed a service optimization model for handling big data stored in cloud systems when privacy is a critical concern (e.g., the medical data). Service quality may be

compromised if a cloud server refuses to provide the data due to the privacy issue. Such optimization model can maximize the service quality and is verified by a simulation study. Another application of big data is on smart grids. Simmhan *et al.*predicted the demand of a cloud-based smart grid system and derived the optimal pricing strategy, based on the big data on real-time consumption. The approach is possible due to the data mining algorithm the authors developed. The relationship between cloud systems and big data models will be further discussed in Section II. Owing to the importance of big data analytics for business applications, this paper is developed. With respect to the core topic on big data analytics for business operations and risk management, we organize this paper into three big sections, namely: 1) BI and data mining; 2) industrial systems reliability and security; and 3) business operational risk management (ORM). Each of these sections: 1) examines some carefully selected papers; 2) outlines the related research challenges; and 3) proposes the future research directions. To the best of our knowledge, this is the first paper in the literature which focuses on how big data analytics can be employed for reducing systems risk and enhancing efficiency in business operations.

2. RELATED WORK

Big data is really opportunity based environment. Big data analytics would definitely lead to valuable knowledge for many organizations. We are developing this application mainly involve three main big sections are BI and data mining; 2) industrial systems reliability and security; and 3) business operational risk management (ORM). Each of these sections: 1) examines some carefully selected papers; 2) outlines the related research challenges; and 3) proposes the future research directions. Noise tolerant learning ofclassifiers. We formulate the problem as follows. We assume thatthere is an unobservable training set which is noise-free. The actual training set given to the learning algorithm is obtainedfrom this ideal data set by corrupting the class label of eachexample. The probability that the class label of an example iscorrupted is a function of the feature vector of the example.This would account for most kinds of noisy data one encounters in practice.

This article studies a one-manufacturer and -retailer supply chainfacing uncertain demand. The manufacturer sells a perishable product to theretailer. Different from the traditional supply chain models based on riskneutrality, this article takes the viewpoint of the behavioural theory andassumes that the retailer is loss averse. The objective is to design the supply contract that provides a win–win coordination mechanism between the
manufacturer and the retailer.

The advances in cloud computing and internet of things (IoT) have provided a promising opportunity to resolve the challenges caused by the increasing transportation issues. We present a novel multilayered vehicular data cloud platform by using cloud computing and IoT technologies. Two innovative vehicular data cloud services, an intelligent parking cloud service and a vehicular data mining cloud service, for vehicle warranty analysis in the IoT environment are also presented. Two modified data mining models for the vehicular data mining cloud service, a Naïve Bayes model and a Logistic Regression model, are presented in detail. Challenges and directions for future work are also provided.

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Internet of Things (IoT) is the concept of connecting multiple objects together in an Internet-based architecture. Applications built around this concept are constantly growing in variety and quantity. The Internet of Things (IoT) has provided a promising opportunity to build powerful applications by leveraging the growing ubiquity of Radio Frequency Identification (RFID) and wireless sensors devices. In IoT enabled systems data from all connected devices can be generated quite rapidly the volume may be huge and types of data can be various. Processing & Analysis provides proper management of data. There are various email systems available worldwide.

Cloud computing introduces flexibility in the way an organization conducts its business. On the other hand, it is advisable for organizations to select cloud service partners based on how prepared they are owing to the uncertainties present in the cloud. This study is a conceptual research which investigates the impact of some of these uncertainties and flexibilities embellished in the cloud. First, we look at the assessment of security and how it can
impact the supply chain operations using entropy as an assessment tool. Based on queuing theory, we look at how scalability can moderate the relationship between cloud service and the purported benefits.

3. SECURE TRANSACTION

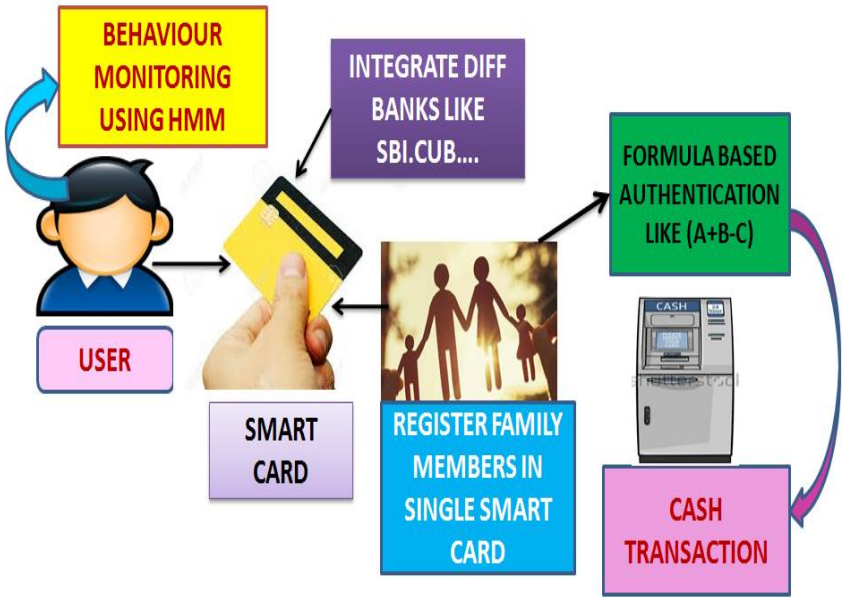

Fig1: Secure transaction

4. TECHNICAL RIDE

USER REGISTRATION

Here first the User wants to create an account and then only they are allowed to access the Network. Once the User creates an account, they are to login into their account and request the Job from the Service Provider. Based on the User's request, the Service Provider will process the User requested Job and respond to them. All the User details will be stored in the Database of the Service Provider. In

this Project, we will design the User Interface Frame to Communicate with the Server through Network Coding using the programming Languages like Java. By sending the request to Server Provider, the User can access the requested data if they authenticated by the Service Provider.

BANK SERVER

Bank Service Provider will contain information about the user in their Data Storage. Also the Bank Service provider will maintain the all the User information to authenticate when they want to login into their account. The User information will be stored in the Database of the Bank Service Provider. To communicate with the Client and the with the other modules of the Company server, the Bank Server will establish connection between them. For this Purpose we are going to create a User Interface Frame.

INTEGRATION OF MULTI BANK AND MULTI USER

In this module, we can design and implementation of family member registration. Using single card like credit and debit for entire family members. But maintain unique PIN numbers for different banks. We will provide a button add "Family card" in our user card. Now user can add his family members bank atm details also along with pin number details. User can include like further bank account no, bank name, pin number same way for other family members also.

HMM MODEL

Hidden markov model used for user behaviour analysis of cash withdrawal. Hidden markov model is applied to understand users money withdrawal sequence which means first condition is total amount withdrawal in every month. Second one is Frequency of withdrawal of money using credit card. User can withdraw the cash as per money requirement and time frequency is also monitored & recorded. During registration of the card user has to give a formula for secured authentication system user can also add multiple bank accounts in single card.

FORMULA BASED AUTHENTICATION

In this module, We provide security by using formula like (A+B-C) while registration. In this formula using alphabets and two operators like (+ and -). The formula is constant, but numbers will randomly change for every transaction. User is not required to provide the formula at any time, user is only required to submit the answer after substitution of the corresponding values in their formula. This formula based authentication is required only when user tries to withdraw money beyond the permitted 10% extra and increases the withdrawal frequency. Once user is registered by specifying his master bank account details & formula for authentication. Now user can add his family card details also.

5. FUNCTIONAL RIDE

The HMM is a sequence model. A sequence model or sequence classifier is a model whose job is to assign a label or class to each unit in a sequence, thus mapping a sequence of observations to a sequence of labels. An HMM is a probabilistic sequence model: given a sequence of units (words, letters, morphemes, sentences,whatever), they compute a probability distribution over possible sequences of labels and choose the best label sequence.Sequence labeling tasks come up throughout

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speech and language processing,a fact that isn't too surprising if we consider that language consists of sequences at many representational levels.Finite, or Discrete, Markov ModelsHidden Markov Models Forward – Backward (Baum Welch) dynamic programming algorithm. Computing the most probable sequence, given an observation. Viterbi's dynamic programming Algorithm Learn best model, given an observation, Expectation Maximization (EM): A Heuristic.User register the bank and add the beneficiary details(User name, psw , Ac no, card no, pin no, mail id etc.Hidden markov model is used to analysed the beneficiary user details and behaviours.This algorithm specify the term of M = { A, B, p} the probability of the state sequence by beneficiary user like,Q_1 Q_2 Q_3 … Q_L is (the initial probability of Q_1 is taken to be pQ_1)

$$P(Q|M) = pQ_1\, aQ_1Q_2\, aQ_2Q_3\, aQ_3Q_4 \cdots aQ_{L-1}Q_L$$

HMM will be monitored user behavior and maintained all the sequence.Incase of cross of limitation by the beneficiary user formula alert will be generated.when the user give the correct formula value, after that beneficiary user can be withdraw a amount.

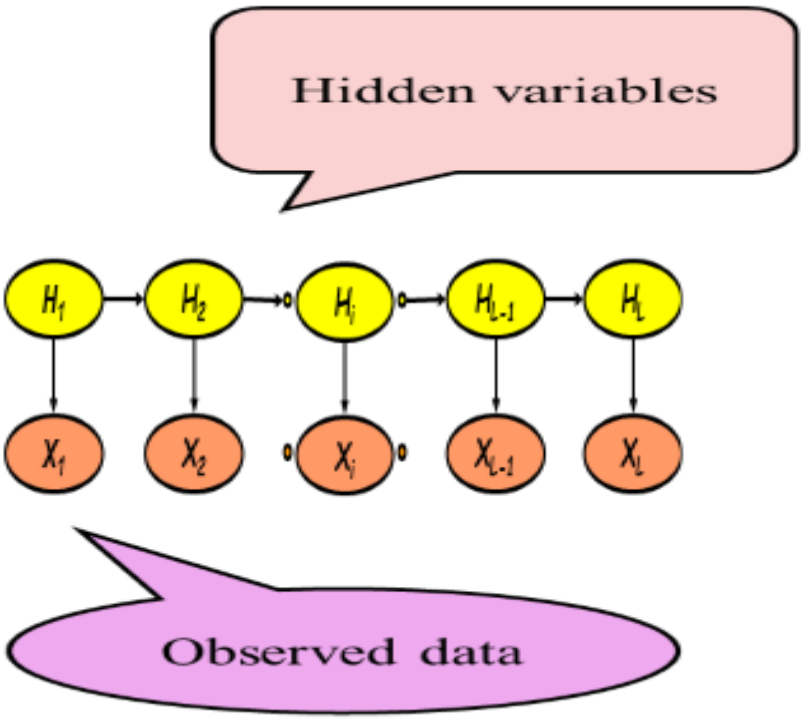

Fig 2:HMM Model

CONCLUSION

There is sufficient supporting evidence to conclude that data-driven approaches would be a growing research methodology/ philosophy in business operations. Countless application domains can be influenced by this big data fad. BI systems are definitely on the list as such systems highly rely on the

input data to generate valuable outputs. That being said, the scope of BI systems is so wide and related research involved the multidisciplinary knowledge. Hence it is not surprising that the research focal points have been scattered around different disciplines. Consequently, it is not easy to generalize the results from previous studies. In this connection, emerging big-data-oriented research may need some adjustments. Synergizing multiple research methodologies could be one direction. Data mining is still the core engine of BI systems but previous data mining algorithms are very application-oriented. This is not a criticism but an observation. The main reason is due to the nature of the data involved. So, soft computing techniques may be more applicable in this regard. In addition, coupling with the big data era, it may be the right time to think about mining ontology's, rather than just algorithms**.**

FUTURE ENHANCEMENT

Formula values will be generated in mobile OTP.User can easily change the formula frequently.Beneficiary user can also deposit the original user account.Beneficiary user can also check the original user account, so easily can withdraw amount. Mobile banking sector used for withdraw and deposit. Online transaction sector can be integrated and withdraw amount.

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