INTEGRATION OF MULTI BANK & USER SMART CARD WITH MULTI CLOUD DEPLOYMENT

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Abstract: This paper aims to present the challenges and opportunities of big data analytics in this unique application domain. Nowadays an integrated application for banking, hospital, passport and ration. Big data is using the multi bank and multi cloud. Technological development and advances for user registration, bank server, Multi user / multi bank, formula based authentication, Multi cloud server. And more than that everyone have to carry their individual id to get about their and also those details will be maintained by that particular department. User can withdraw the money using for formula authentication to verified the OTP password. User entity authentication comprises user name, password and radio frequency identification (RFID) Card are all stored in mongo data base.

Index terms—Big data analytics, cloud services, RFID (Radio frequency identification), debit / credit card.

1. INTRODUCTION

Cloud computing is a fast-growing technology that has recognized itself in the next production of IT industry and trade. Cloud computing promises dependable software, hardware, and IAAS delivered over the Internet and remote data centers. The need to store, process, and examine large amounts of datasets has driven many organizations and individuals to accept cloud computing. A large number of systematic applications for extensive experiments are presently deployed in the cloud and may keep on to increase because of the need of available computing facilities in local servers, reduced capital costs, and rising volume of data created and consumed by the experiments.
Big data is the term for a Grouping of data sets so large and complex that it becomes difficult to process using on-hand database management tools or traditional data processing applications. Hadoop is an open-source Apache Software base development written in Java that enables the distributed processing of large datasets across clusters of commodities. Hadoop has two primary mechanisms namely, HDFS and Map Reduce programming structure. The Hadoop Distributed File System (HDFS) is designed to store very large data sets reliably, and to stream those data sets at high bandwidth to user applications. In a large cluster, thousands of servers both host directly attached storage and execute user application tasks. By distributing storage and computation across many servers, the resource can grow with demand while remaining economical at every size.

Map Reduce programming is not a good match for all problems. It’s good for simple information requests and problems that can be divided into independent units, but it's not efficient for iterative and interactive analytic tasks. Map Reduce is file-intensive. Because the nodes don’t intercommunicate except through sorts and shuffles, iterative algorithms require multiple map-shuffle/sort-reduce phases to complete. This creates multiple files between Map Reduce phases and is inefficient for advanced analytic computing. The figure 1 shows the working of Map Reduce

![Map Reduce Diagram](image)

**Fig.1. Map Reduce**

**RFID Technology:** RFID Technology can be used for identification, authentication, and data storage. They also provide a means of efficient trade transactions in a stretchy, secure, standard way with minimal human intrusion. RFID smart card readers use radio waves to be in
touch with, and both read and write data on a smart card. When used for electronic expense, they are commonly located next to PIN pads, cash registers and other places of payment.

They investigate the problem of sharing the costs of RFID, from both the perspective of tag costs and fixed costs. The presence of substitution at the shelf plays a major role in determining the expected benefits of an RFID implementation, as well as in determining the optimal allocation of these benefits among retailer and manufacturer. It is therefore critically important that decision makers make strong efforts to correctly account for substitution effects when evaluating potential item-level RFID implementations in the retail sector.

Internet of Things (IoT) has provided a promising opportunity to build powerful industrial systems and applications by leveraging the growing ubiquity of RFID, wireless, mobile and sensor devices. A wide range of industrial IoT applications have been developed and deployed in recent years. In an effort to understand the development of IoT in industries, this paper reviews the current research of IoT, key enabling technologies, major IoT applications in industries and identifies research trends and challenges.

2. RELATED WORK

According to The probability that the class label of an example is corrupted is a function of the feature vector of the example. This would account for most kinds of noisy data one encounters in practice. Sastry et al., [1] says that a learning method is noise tolerant if the classifiers learnt with noise-free data and with noisy data, both have the same classification accuracy on the noise-free data.

In the big data era, systems reliability is critical to effective systems risk management. Kannan et al., [2] proposed a novel multi objective approach, with hybridization of a known algorithm called NSGA-II and an adaptive population-based simulated annealing (APBSA) method is developed to solve the systems reliability optimization problems. In the first step, to create a good algorithm, they used a co-evolutionary strategy.

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. Chan et al., [3] investigates the impact of some of these uncertainties and flexibilities embellished in the cloud. First, they look at the assessment of security and how it can impact the supply chain operations using entropy as an assessment tool.
In this paper, Gary M. Gaukler [4] presents a model to help evaluate the impact of an introduction of item-level radio-frequency identification (RFID) in a retail environment where stock-out-based substitution is common. There are two main thrust areas in this work. First, they examine the impact of RFID in a centralized setting where retailer and manufacturer are one entity. This thrust area is concerned with evaluating the profitability of RFID and exploring which product properties favor an RFID implementation. Second, they examine the impact of RFID in a decentralized setting, where retailer and manufacturer independently maximize their profits.

Motivated by the popular markdown money policy (MMP) in the textiles and clothing (TC) industry, in this paper, Z. Hong [5] explores how this policy performs in a two-stage TC/fashion supply chain with an upstream risk-averse manufacturer (supplier) and a downstream risk-neutral retailer. Specifically, they investigate both the optimal decisions of the risk-averse supplier with respect to the MMP contract parameters and the optimal ordering decision of the risk-neutral retailer so that the whole supply chain can be coordinated (i.e., optimized).

3. EXISTING WORK

Big data is really opportunity based environment. Big data analytics would definitely lead to valuable knowledge for many organizations. People are having ATM card with their account. If they have multiple accounts in multiple bank. Whenever they need money every time they use their different ATM card to withdraw. And more than that everyone have to carry their individual id to get about their and also those details will be maintained by that particular department. Their can locate up a formula based authentication. He can include all his family members’ accounts details also in the same card. He can extract cash from their accounts after triumphant authentication of the corresponding PIN numbers. They can use RFID smart card as ATM Card for transaction. This provides the individual, the comfort of accessing users multiple account of different banks using a single card. Usually, ATM machines are related to their respective bank servers and all bank servers are connected to a single interface i.e. National Finance Switch (NFS).

4. PROPOSED WORK

User can developing this application for a Banking sector particularly for a Debit / ATM card section. This system is implemented by common number that is RFID number. Instead of using card we are giving that card number into system it will verify the number user name and
password and get user into further process. User can integrate all his accounts in other banks can be integrated in this single card with unique PIN numbers accordingly. User 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 corresponding PIN numbers. , we are proposing an integrated application for Banking, Hospital, Passport and Ration. In banking application, User can add his / her multiple Bank accounts in a single card. User can also add Multi user accounts also. On multi user accounts transaction, parent user can set the withdrawal Limit. On every transaction OTP will be verified. Formula authentication is verified for withdrawal of money above the limit. User can use that multi card in hospital to get their report. Multi card can also be used in passport to register the travel details. Multi cloud integration is applied for security. To extract the data we are using big data. All the data are stored in multiple Cloud Servers.

5. HIDDEN MARKOV MODEL (HMM)

The Hidden Markov Model - A Markov chain is useful when we need to compute a probability for a sequence of events that we can observe in the world. In many cases, however, the events we are interested in may not be directly observable in the world. For example, in the task of part-of-speech tagging, assigning tags like Noun and Verb to words. 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.

6. SYSTEM IMPLEMENTATION
Figure 2 shows the architecture diagram of the proposed system. This system really awards multiple ATM card on rotation. User can withdrawal cash from one single ATM card from their family members account. Hidden Markov model is used for user behavior analysis of cash withdrawal. Security is ensured by the implementation of formula based authentication. Security is increased by store the data in different cloud. Multi card can also be used in passport to register the travel details. Multi cloud integration is applied for security. To extract the data we are using big data. All the data are stored in multiple Cloud Servers.

6.1 FORMULA BASED AUTHENTICATION

In this module, User can 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 anytime, 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 and formula for authentication. Now user can add his family card details also. Finally, after the formula is given by the person he can withdraw the money. In formula, only plus and minus symbol should be used for simple calculation.
7. EXPERIMENT RESULT

7.1 USER REGISTRATION

Figure 4 shows the User Registration, in this module, the user can register using his personal details. After register the person can sign in other applications are available for enter the particulars.
7.2 MULTI USER / MULTI BANK

Multi user / multi bank is unify multiple person bank accounts in single card. Usually, for Eg., Every people are having ATM card and they get money from ATM whenever they need. But here what is the issue is if a person having account in multiple bank they should have to carry all types of bank ATM card. So, we implement a new idea.

Figure 5 Shows a single card will contain all bank details and they can merge their family members account also. All members of family can use this card.

8. CONCLUSION

Finally, thus our project illustrates that instead using number of card we integrate all the details into a single one. 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. 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 algorithm.

REFERENCES


