Multi Banking System using Web Services

Purnima Ahirao[1], Yogita Borse[2], Deepti Patole[3]

[1, 2, 3] *Assistant Professor, Information Technology, K. J. Somaiya College of Engineering, Mumbai, India*

Abstract—**Nowadays the use of bank applications have increased and many banking operations are done online .In this paper we proposed a multi banking system using web services(for transactions). It is developed for those customers who are having multiple accounts in various banks .Multi-banking interface is a web based application through which customer can access his/her multiple accounts with single user id and password .The customer does not have to remember all the user id and password for each account he/she has in a banking website. The objective of this application is to allow the Customers of various Banks access their accounts and make transactions using this solution. They need not interact with various bank applications or web sites.The customer can login with single id and password .In addition to this ,the customer has certain privileges such as he/she can view his/her transaction and account details and also make fund transfers from one bank account to other.**

Keywords-**Integrated banking, Multi banking, web services**.

1.INTRODUCTION

The Multi-banking system acts as an interface between the clients and all the banks accounts. By using this application any client who maintain accounts in various banks can directly log in to Multi Banking System Interface and make transactions. In the backend, system will take care of all the operations required in order to carry the transactions smoothly. The objective of this application to allow the customers to access various bank accounts and make transactions accordingly using this solution.There are three major modules in this application.The modules are the admin of the application which has control over the banks and branches,the branch manager has control over the customers and has various other functions and the customer who actually uses this banking application. The structure of the paper is organized in the following manner.The chapter 2 contains a detailed description of web services and its components. Chapter 3 contains the existing banking system and its issues. Chapter 4 with the proposed system and its details and chapter 5 contains the implementation and the result and chapter 6 contains the major modules of the system.

II. WEB SERVICES

A web service is accessed using the protocols of the web to be used by the web based applications. It has a class which contains the methods which is accessed by the web application. The client can request a specific service from a provider but not the service itself. Therefore a request for the service can be made over the internet using agreed standards.

2.1 Use of Web Services in the proposed system

Databases multiple banks will be integrated, which will then be accessed online.Whenever a customer wants to transfer fund from one account to other, a request is sent to the web service.The role of web service is to make the transactions requested by the user and update the database accordingly.

III. ESIXTING SYSTEM AND IT'S ISSUES

The existing banking system has multiple servers of different banks and numerous databases. Every bank has its own database which maintains all the records of its customers and branch managers. For accessing different bank accounts the user has to visit multiple bank websites which requires the user to remember multiple login credentials. It may not be easy for all the users to remember all the login id's and passwords. Also the current banking system has certain limitations such as the transactions can be made only between certain timings and sometimes the user is not provided the access to many functions in the application.

IV. PROPOSED SYSTEM

Nowadays a lot of research is going on in the online banking system and many banks provide online services. But it has certain drawbacks, if for eg. there are many members in a family , to know their transaction and account details requires visiting multiple websites which is time consuming and it also requires remembering the login credentials of many accounts .In this proposed system the user is provided an interface in which the user has to remember single login id and password and can access the integrated system. Using this credential the user can avail the banking facilities. This proposed system also has two other users i.e the admin of the system and the branch managers .The admin has certain privileges such as adding new banks and corresponding branches, viewing the details of the branch managers and approving/rejecting new manager registrations. The branch managers can register themselves and if approved by the admin they can view their respective approved branch customers.

Fig.1 Proposed System

4.1 Process involved in proposed system

Step 1: The user needs to register with the system to use the banking facilities. He/she has to provide the required details such as email id, password, account number, address etc. User has to select the bank and its respective branch.

Step2: The request is sent to the Branch Manager for approval. The Branch Manager can approve or disapprove the request.

Step 3: The Branch Manager can the request by sending the confirmation message on the customer's email id.

Step 4: For the login process the verification code (OTP) is automatically sent to the respective user via email.

Step 5: Now using that email id, password and verification code (OTP) the user can enter into integrated system.The password is first decrypted from the database and then verified.

Step 6: After entering into the System user can perform the following operation:

1. Account Summary: Here the customer can see his account details such as the balance of a particular bank and its respective branch.
2. Transaction History: Here the customer can see all the transactions made by him by entering his email id.
3. View Profile: Here the customer can view his profile details entered by him during registration.

Step 7: The customer can also update his account profile and make transaction from one account to other.

V. IMPLEMENTATION AND RESULTS

Implementation part is divided into two phases

1. Registration phase
2. Integrated system

5.1 Registration Phase

The registration phase consist of two processes i.e Registration process and the administrator process. In registration process the client registers and selects the required banks. The aim of the registration process is to add the client to the integrated banking solution. The new users, who is having account in various banks has to register . In the registration process users have to give their personal details like full name, date of birth, e-mail address, password , phone number etc. Also, the users have to select the banks in which they have an account. These details will be saved in the database temporarily and then the approval request is sent to the respective branch manager.The password entered by the customer will be encrypted using base64 string and stored in database.

In the administration phase the details are verified by the branch manager and the account request is accepted by sending confirmation mail on the customers email id and all

the details are stored in the database. The same process is used for new branch manager registration in which the admin can approve/disapprove manager's registration.

5.2 Integrated System

In this phase after approving the details the user is integrated with the system and can perform various functions based on his needs. User can view the balance, Transaction history on a single page. The user can use single id and password to use the integrated system. The user can use the web service to carry out transaction. The functions provided by the integrated system are:

1. Account details: The account details function gives the detail about the email id, bank, branch, account number and the balance. The user can view all the details on a single page.

Emailid	Bank	Branch	Accountno	Amount
ramr9091@gmail.	SBI	Mulund	0012569632589...	6200
ramr9091@gm...	HDFC	Bhandup	0012596325874...	6800

Fig 2. Account details

2. Transactions: Transaction function uses the parameter like the account number of the sender, receiver, and amount to be transferred and the email id of the sender.it is basically a web service which is over the internet to transfer the funds between two banks.

3. Transaction History: This function is used by the user to see his transaction history.it gives the information like bank names between which the amount is transferred, account number, email id and the amount of fund transferred between two banks.

Emailid	FromBank	ToBank	Amount	Date
ramr9091@gmail.	SBI	HDFC	200	30/1/2016
ramr9091@gm...	SBI	HDFC	100	12/1/2016

Fig 3.Transaction History

4. View profile: Here customer can view his profile. The profile includes the details which is given by him/her at the time of registration such as name, address, email id, password ,bank ,branch etc.

5. Update Profile: Here the customer can update his/her profile such as email id, password, bank name its respective branch and the balance after logging into the system for the first time after his/her request has been approved by the branch manager.

VI. MAJOR MODULES

1. Admin:

After logging into the system the admin can add banks and branches into the integrated system. The admin can also do the mapping of branches and banks. He/she can view new branch manager registration requests and accept/reject the same. The acceptance confirmation mail will be sent to the branch manager on his/her email. The admin can also view the details of the branch managers registered with the system.
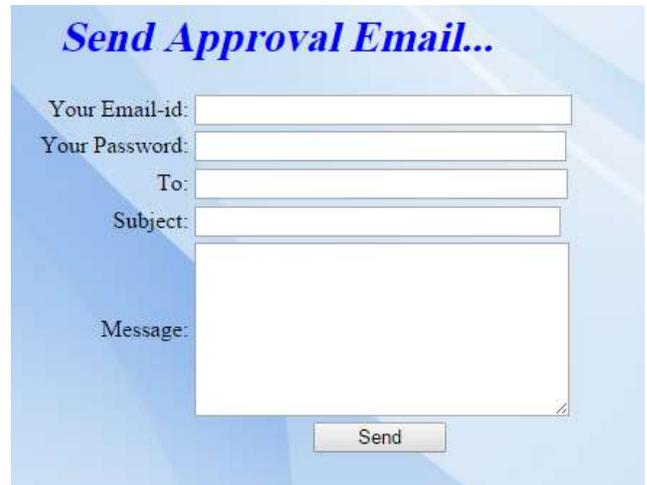

Fig 4.Admin Login

Fig 5.Mapping Page

Fig 6.New Manager Registrations

Fig 7.Send Approval Mail

2. Branch Manager:

The branch manager can register himself with the system by filling the registration form. The request will be sent to the admin for approval. If approved he/she can view his/her profile after logging into the system where the email id and password are verified with the entries from the database. The manager can also view new customer registrations and accept/reject the same. He/she can also view his profile.

Fig 8.Branch Manager Registration And Login

Fig 9.New Customer Registrations and Branch Manager Profle

Fig 10.Send Approval Mail

3. Customer:

The customer also has to register himself .The customer is supposed to enter all his bank details along with his personal information ,email id and password. On acceptance of his request by the branch manager a confirmation mail is sent to the customer. The customer can now login into the system using his email id and password and verification code .After the email id and password is entered it is verified in the database. If the credentials exist in the database it means the customer is a registered customer. Now after validating the credentials the option to generate the OTP is enabled. The generated OTP is sent to customer on his/her mail id which is registered in system and at same time OTP is stored in the database. Only after entering the correct OTP the customers is given access to the system.After successful login the customer can perform the operations mentioned earlier.

Fig 11. Customer Registration and Login

Fig 12. Profile Details

Fig 13.Account Details

Fig 14.Update Profile

Fig 15.Fund Transfer and Transaction Details

VII. CONCLUSION AND FUTURE WORK

Our integrated system provides a solution to the user to withdraw the amount from multiple banks when the required amount is insufficient in single bank. If the client needs to add one more bank he/she can add the bank details and make our system to composite with the existing bank services dynamically. Nowadays various sectors like Internet banking, electronic-billing in various sectors etc., are facing the security problem regarding in several perspectives like in transaction and database related query and responsiveness. We introduced an enhanced composite Multi-Banking System for the user to access more than one bank accounts at a same time with a single user name and password. In Future By doing this dynamic service composition, security and interoperability are two main features to focus on when combining more number of business applications.

REFERENCES

[1] P.Iyappan, Dr.V.Prasanna, R.Amarnath, L. Noor Mouhammed , A.Selvamani "An Enhanced Smart Multi-Banking Integrated System - Service Oriented Approach," 26th _28th July 2012, Coimbatore, India.

[2] JOHN B. OLADOSU, FUNMILOLA A. AJALA, AND OLUKUNLE O. POPOOLA," JOHN B. OLADOSU, FUNMILOLA A. AJALA, AND OLUKUNLE O. POPOOLA",Computer Science and Engineering Department, Ladoke Akintola University of Technology, Ogbomoso, Nigeria.

[3] Tony Baer, Ron Schmelzer: "The Elements of Web Services" (Application Development Trends, 2 December 2002), available at http://adtmag.com/articles/2002/11/30/the-elements-of-web services.aspx

[4] G. Sree Rekha, and V. K. Agrawal, "An Architecture for Integrated Multi-banking Solution", World Academy of Science, Engineering and Technology, 2011.

[5] Andriancs,"Send Email from Yahoo,Gmail,Hotmail (C#),27 September 2013,Malaysia.

[6] PhiBui'sBlog,"Simple way to encrypt or decrypt password or data in ASP.NetC#",March242013.

[7] Lakshmi Ananthamurthy (2008): "Introduction to Web Service." Available at http://www.developer.com/services/article.php/1485821.

[8] Suresh Dasari,"Display data in HTML table from database using Asp.Net C#",Dec212014.

[9] Mudassar Khan,"Bind/Fill/Populate dropdown list control from database inAsp.Net C#, 27 Feb 2015 available at http://www.aspsnippets.com/Articles/Bind-Fill-Populate-DropDownList-control-from-database-in-ASPNet-using-C-and-VBNet.aspx

[10] Vithal Wadje,"Consuming Web Service in an Asp.Net Application",June 02 2013 available at http://www.c-sharpcorner.com/UploadFile/0c1bb2/consuming-web-service-in-Asp-Net-web-application/