

## **INTERNET BANKING SYSTEM (IBS) AND ADOPTION OF VOICE BANKING SYSTEM (VBS) IN MOBILE APPLICATION: A REVIEW**

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### **ABSTRACT**

The proposed review paper is on "Internet Banking System (IBS)", which enables the customers in bank to access their account and details or information on bank services and products. The "voice Banking System (VBS)" is a voice application that considers about providing a feasible solution to the users. In this paper we review the aim of both; internet banking system which is to compare which one is more usable to the users and how the user can login from anywhere, voice banking system which enables the user to get services like transfer their money and balance enquiry. The methodologies of IBS are about project requirements, system and user technologies, the VBS is used VoiceXML technology allows a user to interact with the internet.

Keywords: Internet banking system, voice banking system, J2EE applications and VoiceXML.

## INTRODUCTION

In this research paper the Internet Banking System (IBS) actually began with some functions such as real time to access the information all about checking account balances and funds transfer. However, these services came out with online bill payment and how to transfer the funds between each account and cash management services in any organization and individuals. Internet banking services can include a lot of details about account information for corporate customers and every summary about transfer money in details. From this research paper will discuss about how to online internet banking system benefits and how the technology for software and users work (VishNu KuNtal, Apr 05, 2014).

Today Voice Banking System became great services that can serve the people and give the customers choices, a full range of channels that let the users to bank way they want with ease. Plus, mobile banking system and online banking system. The solution for voice banking system is kind of serve-self, and that supposed to be understandable and easy to use by the customers.

In this research there are features for voice bank system is when the customers would look for a type of service as possible which enable them to check their balances and pay a bill. The customer can check their account management to ensure about the balances and check orders. Transfers funds may needed to set-up future-dated and scheduled transfer. Finally, the pending payments can be done by the customers to enable them to review it on time (Jal Pari, Mar 17, 2014).

## LITERATURE REVIEW

In this research paper there are some strategies may help customers and also we found some comparisons between these two systems.

**Table 1: Comparison between IBS vs VBS**

INTERNET BANKING SYSTEM	VOICE BANKING SYSTEM
Understand how to deal with it	Understand the changing in your breathing, voice and speech
Can be done face by face between the customers and bank's staff	Conversations are important
Waste of time going and wait for a turn	Speak for shorter periods of time
Crowded place with all customer in the waiting area	Speak in quit, well lit areas
Face the person face to face (Personally)	Face your communication partner (device)
The customer takes his/her time in speaking	Speak fewer words per breath and use shorter sentences.
No need to repeat while talking	Need to repeat when the spell word out load when the listener can't understand a specific word

In the early stages, the voice change because of being weak and speech of the person. These changes become more clearly after talking for a period of time. The person just needs a time to fix that by use his/her natural speech as much as possible (Assistive Technology Clinic (ATC)).

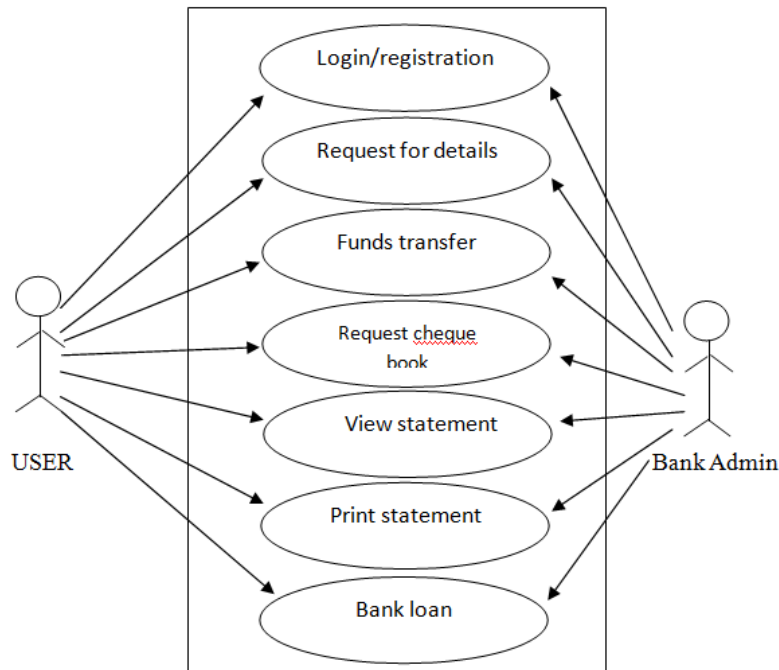
**Table 2: Comparison between J2EE vs VoiceXML**

	J2EE applications	VoiceXML technology
Scalability	✓	
Security	✓	✓
Administration Services	✓	
Run-time Services	✓	
Connection Services	✓	✓
Messaging Services	✓	✓
Web Services	✓	
User interface management		✓
Specification		✓

J2EE is one of the specifications which used to define the developing enterprise applications with Java. Scalability and security can play the important part of the system application, the administration services and run-time services also. J2EE is platform consist a set of services that provide some functionality for developing web-based applications (Gunjan Samtani and Dimple Sadhwan).

**METHODOLOGY**

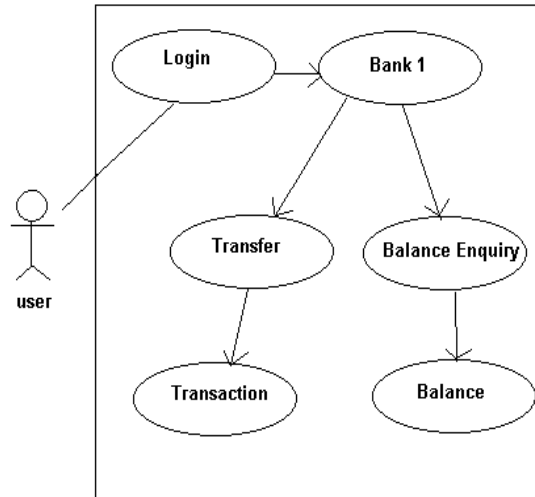
- **Internet Banking System**



**Figure 1: Use case diagram (IBS)**

User case diagram provide description of the interaction between system and its user. A use case diagram displays the relationship among actors and use cases. The two main components of a use case diagram are use cases and actors. In this figure 1; user needs to register first and then login as user of the system normally, the user can view statement of payment and make loan or transfer money into other account.

- **Voice Banking System:**



**Figure 2: use case diagram on login (VBS)**

In this figure, the user needs to login to his/her valid account registered in the bank. The voice application user requires a voice to transfer money or make balance enquiry from bank account. Transaction can be done in transfer and balance also.

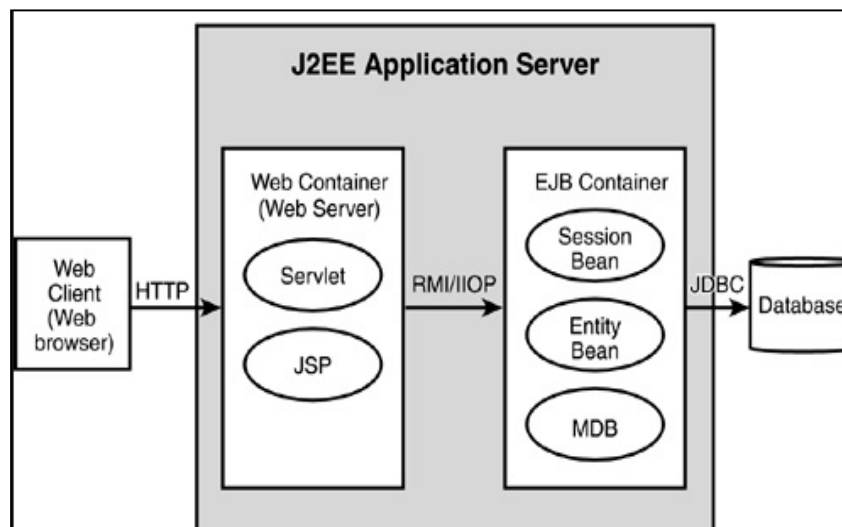
- **System requirement for IBS and VBS:**

**Table 3: Software/hardware requirement for IBS**

Software Requirements	Hardware Requirements
Operating system; window, Linux or MAC	Any processor
Programming language: Java	RAM: 256MB
Database: Oracle Interface: HTML	Hard Disk: 10GB minimum

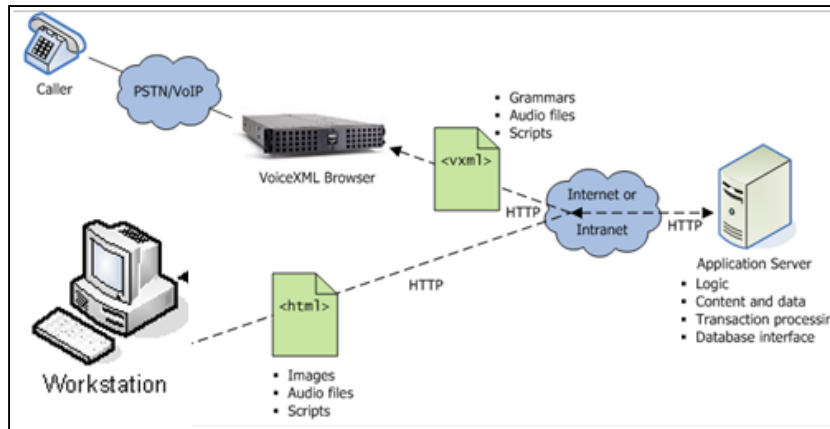
**Table 4: Software/hardware requirement for VBS**

System Requirements	Hardware Requirements
Operating system; window, Linux or MAC	Processor: Intel ® CoreTM2 Duo CPU
Programming language: JDBC, Exlipse, Galileo	Server: VOXEO server  RAM: 1GB
Database: Oracle	Hard Disk: 40GB



**Figure 3: J2EE architecture of (IBS)**

Technology used: J2EE is platform consist a set of services that provide some functionality for developing web-based applications.



**Figure 4: VXML architecture**

Technology used: J2EE, J2SE, VXML and how it works in both side between the application and the server. In this figure; the user makes call at first, then the VoiceXML Browser will receive the call and check the grammars from the audio files which saved already in the database. The messages will be sent to the application server which includes database interface and transaction processing through the Internet or Intranet. Again, HTML will hold the images, audio files to the workstation.

## DISCUSSION

A study made in one of the Indian's association (IAMAI) and it analyzed such effects of Internet Banking System as below:

**Table 5: Result by Indian's association**

Study	Rates
Made on the online users who prefer Internet Banking	23%
Made on who prefers ATM	53%

In this study, we realized that most of the users prefer to use ATM rather than Online Internet Banking System and a significant number of online users don't actually use the Internet Banking System. Security is important to secure the online internet banking system to avoid the attacks by hacker or malware and people can do financial transaction on the internet bank system safely (Jayshree Chavan, June 2013).

Therefore, the voice banking system can play its role and find its interests in term of technology in the world wide by using it and keep our dialogue easier.

The benefit of this review is in less than two next years, mobile banking is expected to reach "more productivity" so, in this review it might be required to add the features of voice banking system in mobile banking system which can be run on any of the operating systems.

As new technologies continue to emerge, banks seek ways to take advantage of these technologies to offer their end-users more appealing services that would enhance engagement and increase the use of these services (Eran Kinsbruner, 7/3/2013).

## CONCLUSION

The internet banking system may look to provide users with sufficient support and allowable for accessing the bank account online with no waste of time and transactions at anywhere and time. In this research paper we discuss the requirement of the internet banking system and its framework J2EE.

The voice banking system can play a part of identify the users when failure or damage occurs. By using the voice banking system it can hardly identify sometime the age of someone and his/her sex and that can cause embarrassment and a lack of motivation to interact socially. The future enhancement of VBS is limited to balance enquiry and transaction of money.

## REFERENCES

VishNu KuNtal, (Apr 05, 2014) "*Java Project report online banking system*".

Jal Pari, (Mar 17, 2014) "*Voice based banking system*".

Assistive Technology Clinic (ATC) "*Guidelines for Speech and Voice Banking*".

Gunjan Samtani and Dimple Sadhwani, Published by Tect, 29 South LaSalle St., Suite 520, "*Web Services and Application Frameworks, J2EE*", Chicago, Illinois, 60603, USA

Jayshree Chavan, (June 2013), HOD & Assitant a institute of Computer studies, Maharashtra, India. "*Internet Banking- Benefits and Challenges in an emerging economy*" International Journal of Research in Business.

Eran Kinsbruner, (7/3/2013) "*The Benefits of Voice Recognition in Mobile Banking*".