

# Resilient Identity for Blind Users

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**Abstract** -- Automated Teller Machine (ATM), which provides the audible interactions to the blind users, can access their transactions using audio jack and Biometric scanner. The audio jack is the right way to convey the instruction through speaker system to the blind users with a high confidential security.

The Biometric is the fundamental mechanism to scan proper person. In this paper, that we are mainly focusing on the audio jack with Biometric scanner ATM for blind users.

That will overcome the problem of fraud in hacking. In the future, the blind people can make the transaction of ATM in a secure manner.

**Keyword:**

ATM, Blind users, Headphone jack, Biometric, Pre-recorded sound files

## 1. INTRODUCTION

The automated retail banking for visually impaired has been developed in many countries around the world like UK, USA, and Japan etc. Now a day's blind peoples are Endeavour to use the ATM transaction and also hackers can easily access their transaction The ATM is a friendly influence user for cash withdrawal and balance inquiry, etc. The services that can be emphasize with the help of authorized bank Credit card and Debit card.

In the Audio jack and biometric scanner ATM will provide the audio ruling through the speaker system and biometric scanner use to scan the blind user are the correct person to access and in the intimate manner. The Audio jack will provide the audible information through speaker system, 3.5mm headphone jack help the blind user through while automated pre-sounded instruction to the blind user.

Jack files information delivers in pre-recorded sound at speakers.

Visually impaired are not able to approach the ATM services in a facile way, they need a help from alternative. In developed countries only they are having the aural opportunity for blind people. In that voice emulate can be prospective and it not guarded one. So that in this case hacking is possible.

In audio jack only having the audible information alone. In that ATM has no features for prevention to blind users and it will create a abnormal situation for both users and banking system.

ATM with Audio jack is not a fully secured.

### 1.1. Audio-Jack for blind:

The usage of Audio jack, the blind people can access their transaction process properly in the ATM and do the work in the extract manner. The instructions will give as the most built manner as pre-recording files. The instructions automated through Audio-jack using Headsets.

The Audio-jack only provides for authorized blind account holders in the particular bank. The bank will provide well standard Head-sets to their blind Account holders

### 1.2. Bio-metric Scanner

A biometric system is essentially a pattern recognition system that operates by acquiring biometric data from an individual, extracting a feature set from the acquired data, and comparing this feature set against the template set in the database. [2]

The Bio-metric scanner is used to find such the user is valid or invalid.

The thumb impression of user will stored in database it must need to match with the user

In that biometric signal can be achieved by finger prints. Already finger print data can be stored in database for the particular blind users.

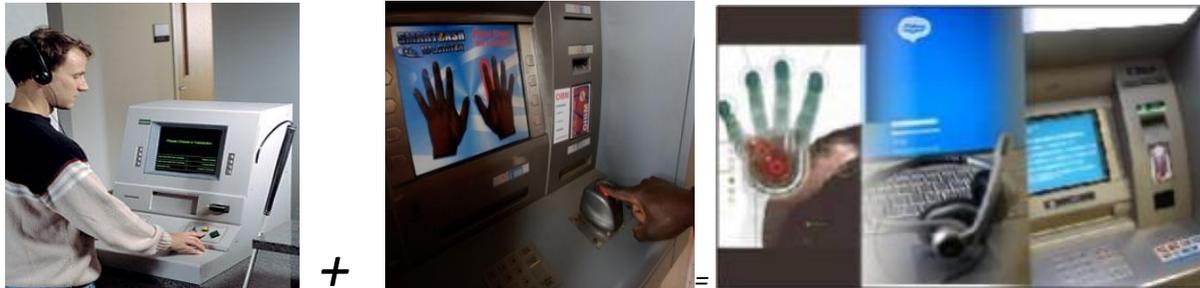
When a finger print capture can be arrived that should check with database .If it is match the user is

valid user the further can be start, or the user is not valid end it reach out of the process.

**2. RESEARCH METHOD:**

**2.1 METHODOLOGY**

**Recognizable instruction + scrutinize = Merge mode**



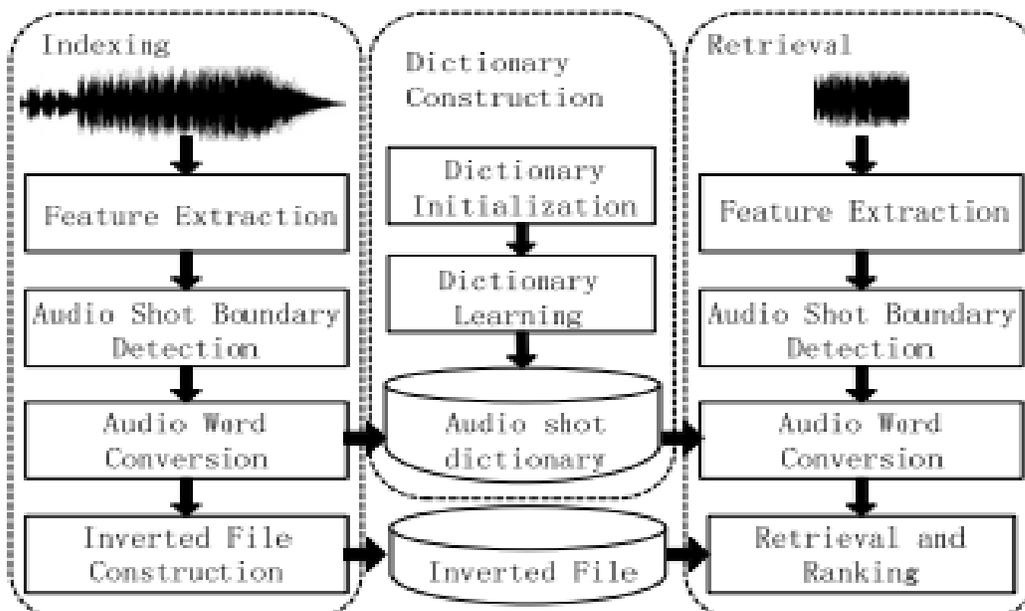
The merge mode shows the combination of both the recognizable instruction and scrutinize

*Figure 1: Methodology for blind user*

The Headphone-concert will provide the narrow guidance through speaker system, and biometric scanner use to scan the low visually person’s are the correct identity to gale and in the intimate manner.

Recognizable instruction and scrutinize that can be act as a merge mode.

**2.2 AUDIO JACK FRAMEWORK**



*Figure 2: Audio jack frameworks*

In order to convert Audio into its content representation a dictionary is precisely constructed in a semi supervised way, which comprises of two steps: 1. Supervised initializing 2. Self learning updating [4].

**2.2.1 INDEXING:**

Audio information that should be stored in a order way ,and it take some address to store the audio data,it provides standard data storage structures of an searching process.

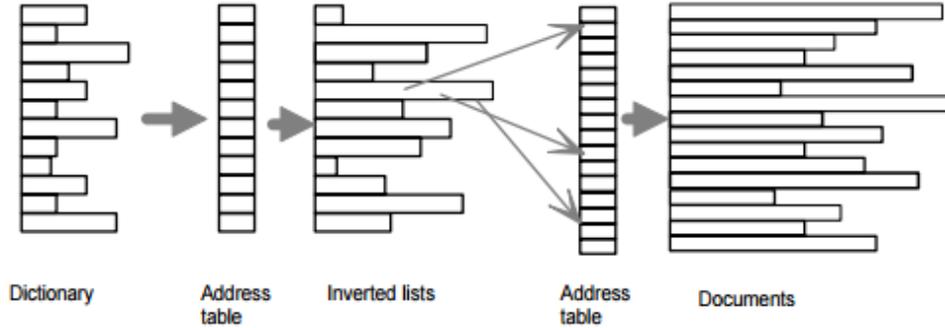


Figure 3: Tree structure of indexing

**2.3. ARCHITECTURE**

This tree structure may be viewed as one-dimensional R-tree [5] with additional information and special form of leaf nodes. Manipulation of such trees is similar to spatial (multi-dimensional) case with some simplifications (or similar to B-trees with additional features). For example, application of forced reinsert algorithm [5]

Index  $i = \{1, 2, \dots, n\}$

**2.2.2 AUDIO STORE:**

In that Audio shot boundary detection can be used, for detecting of the particular audio, that data will be stored in database. Audio Word conversion which is major conversion to change the unsigned signal to signed signal, the digital sign can be formatted as the analog words.

$C = I * b \rightarrow$  Rectangle (that should convert as the sign wave to word format)

**2.2.3 AUDIO RETRIEVAL**

The Audio Retrieval that represent data in the native format, when a particular data can be achieved means it should match the data capture in the dictionary. The inserted file can be inverted for retrieval process.

**2.3. ARCHITECTURE**

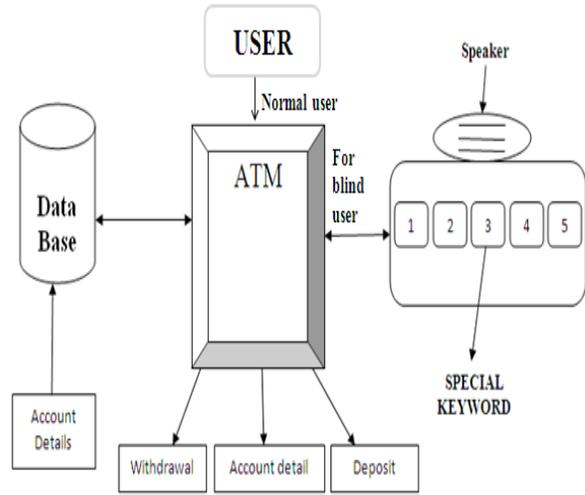


FIGURE4: ARCHITECTURE

While the normal user can access the ATM using of his/her card, the database can check the details of the account and give permission to access what transaction you need to proceed.

The type blind-user access the ATM using of his/her card, the database checks the details also the inbuilt speaker will help the blind-user to access the ATM using Headphone-jacks.

Database:

The database that store all details of the users to access the ATM services,it provides the standard and efficient data accessing .it perform the services like account detail,user profile,security constrains,it should manage by the particular admin.automated changes that should be updated

Services for blind user:

The blind people can perform their transaction services with the Same Atm with the additional features using audio jack and biometric,the audio jack provide audio information through the help of the headsets.

The special keyboard which is used in the ATM,accessing the finger prints using the biometric.the biometric and audio jack for blind users to access their account services

In the Audio jack and biometric scanner ATM will provide the audio ruling through the speaker system and biometric scanner use to scan the blind user are the correct person to access and in the intimate manner.

At each bio-metric for scanning of impression.,

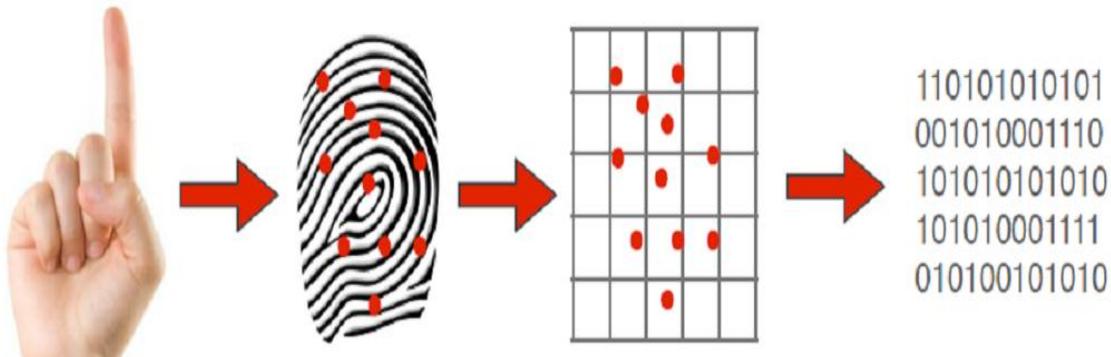
If (scanning finger is detected)

```
{
// Send "finger observation" to database;
While (finger moved)
{
Capture the finger impression;
Match with the database impression;
Analyze whether valid user or not;
}
Valid
}
Else
{
// not-valid
}}
Valid
}}
```

**2.4 BIO-METRIC ALGORITHM:**

The below algorithm represents the scanning of bio metric to the finger impression:

```
Bio-metric passing ()
{
// signal identifier part. Detecting signal via finger
through bio-metric.
```



**Figure 5: Bio – metric Representation**

In that biometric signal can be achieved by finger prints. Already finger print data can be stored in database for the particular blind users. When a

finger print capture can be arrived that should check with database .If it is match the user is valid user the further can be start, or the user is not valid end it reach out of the process.

The audio jack can also work with the combine manner, the mean time the instructions can provide with the help of the speaker, it should only provide for the particular blind account holder.

### 3. RESULT AND ANALYSIS

ATM with the listening device with scrutinize makes use of pre-recorded sound files in the speaker system; It will allow the visually challenged person to admittance enhance lofty tier defense. ATM with the listening device with scrutinize makes use of pre-recorded sound files in the speaker system; It will allow the visually challenged person to admittance enhance lofty tier defense.

It will consist of the following features in ATM

- This ATM feature is a benevolent for cash palinode and hang delving, etc.
- The head pieces with scrutinize will provide both aural utility and sweep tact for enjoyer.
- If a illicit ingress the airy's ATM card service means it will initiate a spook bang.
- The contribute of this ATM utility we provide the muzzle of barred people's in a tack mien.

It will consist of the following features in ATM

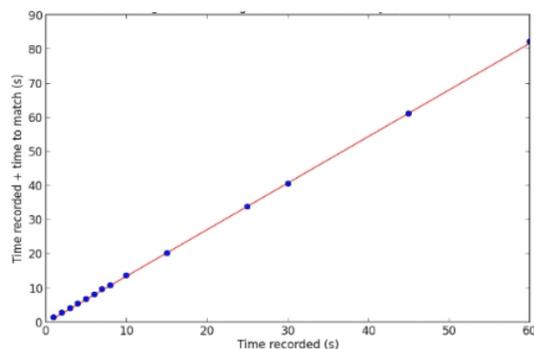


Figure 6: Graph shows the scanning of bio metric impression in seconds.

It mainly focuses on snooker and lawful chap only can examine the overhaul and make exert of ATM through the help of headpiece audio jack and biometric scanner for partially sighted.

In this, The Headphone-concert will provide the narrow guidance through speaker system, and biometric scanner use to scan the low visually

person's are the correct identity to gale and in the intimate manner.

Recognizable instruction and scrutinize that can be act as a merge mode.

### 4. CONCLUSIONS

In the future this process can provide the standardized way of accessing the ATM services for the blind users.

The main aim of this paper is that, authorized users only perform the transaction services. In that biometric with audio jack used for blind people receiving their instructions with the help of audio jack and scanning the person's finger with the help of biometric

Both can be performed in a combined manner, biometric can be attached with the keyboards. This is the best and secure way of accessing ATM services for the blind people. In that many security features that should included with the biometric and audio jack

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