THE TICKETLESS TRAVEL USING BIGDATA

BharathRam.B
B.tech Information Technology
Sri ManakulaVinayagar Engineering
College,Puducherry
bharathram311@gmail.com

Faizalahamed.B
B.tech Information Technology
Sri ManakulaVinayagar Engineering
College,Puducherry
toufiqahamed306@gmail.com

MohamadIrshath
B.tech Information Technology
Sri ManakulaVinayagar Engineering
College,Puducherry
mdirshath12@gmail.com

Abstract—In information technology, biometrics refers to technologies that measure and analyze human body characteristics, such as DNA, fingerprints, eye retinas and irises, voice patterns, facial patterns and hand measurements, for authentication purposes and Big data is a buzzword, or catch-phrase, used to describe a massive volume of both structured and unstructured data that is so large it is difficult to process using traditional database and software techniques [1]. Thus with the help of these to revolutionary concepts in IT field we are trying our best to give our country a very useful solution for the problems that we Indian commoners face in their day to day life. Yes, in everyday bus travel we need to search for change in order to buy our tickets without any quarrel with the conductor. This has become an ordeal which people hesitate to face day by day. In order to avoid quarrels, to stop unruly conductors depriving our balance money by saying that they don't have change, to stop private sector buses from having their own policy on charging the bus-fair we can use a device from biometrics. The fingerprint scanner combined with wireless transmission as well as the concept of BIGDATA to pay our ticket bills according to government standards. This is also called as digitalization of India.

Keywords—BIGDATA, fingerprints, voice patterns, facial patterns, Ticket less Travel (TLT), *DTA- Digital Travel Account*

Introduction

Biometric verification is any means by which a person can be uniquely identified by evaluating one or more distinguishing biological traits. With help of This Biometrics the recent usage has been for security purposes. Since This kind of technology has the ability to identify each and every one's uniqueness and provide details about that particular person This has also been taken into credibility for offering citizenships around the globe and recent has been taken into accounts for AADHAR CARD provided by the government. Application of This concept has had a very good response from the people. Biometric safes and biometric locks, provides security to the homeowners. Biometric access control systems, providing strong security at entrances. Biometric systems are also developed for securing access to pc's and providing wireless devices like PDA's, etc. Some of the applications of biometrics technology in identifying DNA patterns for identifying criminals, etc.

Biometrics airport security devices are also deployed at some of the world's famous airports to enhance the security standards. Big data is a broad term for data sets so large or complex that traditional data processing applications are inadequate. Challenges include analysis, capture, data curation, search, sharing, storage, transfer, visualization, and information privacy. So it is possible for use to store our unique identification on a large scale and access them frequently. And also the concept of BIGDATA is engulfing the banking world as well as any stream which PROCESS large DATA. Thus with help of these two concept as the primary source the paper might help us to deal with the social issue of travel in bus and give us a solution which we have termed as "**THE TICKETLESS TRAVEL**".

I. PROPOSED SYSTEM

A. Introduction

The idea as clearly as possible, initially we need to create special travel accounts (usage will be revealed in further discussion) for all the people in India based on the census or according to the count of the AADHAR CARD since this holds the identity of all citizens in the country. Next step is that we are going create biometric devices which can scan our finger prints and install it in both entry and exit doors of the bus.

B. Architecture of TLT

Now when a passenger enters the bus the only job of the conductor is to make sure that the passenger has pressed users finger to the scanner to be scanned. At This point the intimation is made to users special travel account (DTA) that the person has gained entry into so and so bus at This palace (using the co-ordinates of the GPS) and again when they exit the bus they have to again scan their fingerprints in order to notify the DTA that the person has got down from the bus at This certain place etc. and according to that the travel expenditure will be calculated. This DTA will hold the travel details of that particular person. The accumulated sum of money or the bill of travel for that person will be sent to the person on a monthly basis. Or it can also be configured in such a way that it can be deducted from user's relevant bank account. In case, if there is no account for the person and the bill is sent to users address then that person should pay users bill within a period of time (May be 2-3 days) if the person denies or even forgets to pay users bill. Users DTA will be

blocked hence users finger print will not be recognized the person where the conductor should decline the entry of the person.

C. CLIENT

The client can access the online portal using different nodes such as laptop, pc, etc. The client can fetch the data by requesting MONGO DB query and the requested queries is forwarded through server and fetch the data from MOGO DB[1].

D. Biometric device (Finger print Scanner)

Fingerprint recognition is the technology that verifies the identity of a person based on the fact that everyone has unique fingerprints. It is one of the most heavily used and actively studied biometric technologies. Reason for choosing finger prints: The cost of a fingerprint based biometric system is quite low in comparison to others like iris and face readers. Fingerprint based systems are quite strong and can be deployed across any kind of environment [4]. This system is less intrusive than iris or retina scans. Most people find it unacceptable to have their pictures taken by video cameras or to speak into a microphone. Finger based systems are more user friendly. Besides, the ability of multiple fingers enrolment makes this a very flexible option. It is a proven technology and has been in use for a long time as compared to other nascent technologies.

Principles of fingerprint biometrics: A fingerprint is made of a number of ridges and valleys on the surface of the finger. Ridges are the upper skin layer segments of the finger and valleys are the lower segments. The ridges form so-called minutia points, ridge endings (where a ridge end) and ridge bifurcations (where a ridge splits in two). Many types of minutiae exist, including dots (very small ridges), islands (ridges slightly longer than dots, occupying a middle space between two temporarily divergent ridges), ponds or lakes (empty spaces between two temporarily divergent ridges), spurs (a notch protruding from a ridge), bridges (small ridges joining two longer adjacent ridges), and crossovers (two ridges which cross each other).The uniqueness of a fingerprint can be determined by the pattern of ridges and furrows as well as the minutiae points [6]. There are five basic fingerprint patterns: arch, tented arch, left loop, right loop and whorl. Loops make up 60% of all fingerprints, whorls account for 30%, and arches for 10%.Fingerprints are usually considered to be unique, with no two fingers having the exact same dermal ridge characteristics.

E. Web Server

Web servers are computers that deliver (*serves up*) Web pages. Every Web server has an IP address and possibly a domain name.

F. MONGO DB

MongoDB is an unstructured database that uses a document-oriented data model. It is one of the several databases under the NoSQL banner[2]. It is built on architecture of collections and documents.
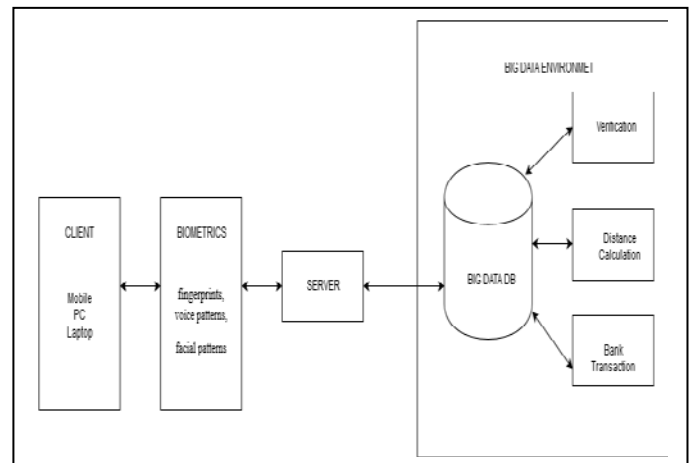

Fig 1: System Architecture

II. WORK FLOW OF SYSTEM

The workflow of the system comprises of the fingerprint scanner combined with wireless transmission as well as the concept of BIGDATA to pay our ticket bills according to government standards. This is also called as digitalization of India.

A.DTA- Digital Travel Account

This account consists of the detail about the citizens of India, aided with the GPS location to track them when they activate their account when they travel. This account is activated and de-activated with help of the biometric system. Thus when they are active they track down the movement of the bus in which they have been activated. The tracking begins with the co-ordinates (Initial point) at instant of the activation point and is de-activated at the point of co-ordinates (destination point). Thus the travel of the person is recorded and the bill for users travel is saved [5]. This continues for the rest of the month and the persons travel in buses is recorded and at the end of the month they total expenditure of that person in travel is being aggregated. And if the user has a relevant account users money will be deduced from user's account sending him a message about the amount deduced from users account. If a

person has no account in a bank then a bill is sent to users address and dead line starts from the moment to the next three days. If users bill is not payed within the due date then users account will be blocked automatically unless user's bill is paid. The bill can be paid in any nearby DTA stations [6].

B. Work Flow Process

The fig 1 describes the system architecture of the TLT , and the working process of TLT is described below

1) The first step is to enter the bus by scanning our finger.
2) Once the scanning is done, the account of DTA is activated.
3) Then the by use of GPS the entry point of the account holder is noted and tracked.
4) Then during the exit the account is de-activated with accumulation of distance travelled by the account holder.
5) Then the cost according to the distance is evaluated and then they are calculated on monthly bases and the cost is deducted from their accounts or bills is supplied to them to pay it in monthly basis accounts or bills is supplied to them to.

III.CONCLUSION AND FUTURE WORK

The conclusion of our work is not done, Even though our project has many merits such as avoiding quarrel with the conductors for asking changes. The risk of user life is less, where Travelling in Footboard is reduced. The security of banking transaction without any problem and Easy tracking of the suspect if he/she can be done when there is a presence of any crime and escape in bus. Number of peoples having the bank account, aadhar account can be keep tracked. Private Sectors rate fixing will be identified. Our future work is to

have RFID tags for the client's inorder to know about the movement in case of emergency situations.

REFERENCES

[1].Dursun Delen , Haluk Demirkan "Data, information and analytics as services" Decision Support Systems 55 (2013) 359–363

[2].Linquan Zhang, Chuan Wu, Zongpeng Li, Chuanxiong Guo, Minghua Chen, and Francis C.M. Lau "Moving Big Data to The Cloud:An Online Cost-Minimizing Approach" IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, VOL. 31, NO. 12, DECEMBER 2013

[3].Grigorios Tsagkatakis, *Student Member, IEEE,* and Andreas Savakis, *Senior Member, IEEE"* Online Distance Metric Learning for Object Tracking*"* IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS FOR VIDEO TECHNOLOGY, VOL. 21, NO. 12, DECEMBER 2011

[4]HaoZhang,J.RossBeveridge,BruceA.Draper,P.JonathonPhillips"Ontheeffectivenessofsoftbiometricsforincreasingfaceverificationrates" Computer Vision and Image UnderstandingComputer Vision and Image Understanding 137 (2015) 50–62

[5]OlasimboAyodejiArigbabu,SharifahMumtazahSyedAhmad, WanAzizunWanAdnana,SalmanYussof"Integrationofmultiplesoftbiometricsforhumanidentification" Pattern Recognition LettersPattern Recognition Letters 000 (2015) 1–10

[6]RaghavenderReddyJillela,ArunRoss,SegmentingirisimagesinthevisiblespectrumwithapplicationsinmobilebiometricsPattern Recognition Letters" Pattern Recognition Letters