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System of Biometric Approach for Metro Ticket Expenses Using Finger Print Recognition

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Abstract: ***This paper based on automated system for ticketing in the Metro Train System which is based on unique passenger identification. This is a user friendly system, which will automatically identify the passenger and deduct the passenger's fare according to the distance travelled. Transportation plays a vital role in ones life. The main goal of this paper is to eradicate the day to day and one of the major problems with regard to carrying a ticket during transportation from ones life and make traveling a lot more peaceful. For this purpose, we are proposing a biometric-based ticketing system in the metro railway scenario but not limited to the same. In order to get a unique identifier for each person, we are considering their fingerprint right away from registration, booking tickets and validating the fingerprint on the day of the journey so he/she can travel on a particular day and on the desired train to his/her preferred destination. The fingerprint sensor will be interfaced with Arduino which in turn will store the fingerprint data to the cloud. We are proposing a two-way encryption standard for storing the sensitive fingerprint data in the cloud. This two-way encryption standard involves encrypting the data during data generation at the hardware end and encrypting it again before storing it in the cloud database.***
Keywords: patients, lab test, ambulance, GPS

I. INTRODUCTION

A. Literature Survey

Title: System of Biometric Approach for Metro Ticket Expenses Using Finger Print Recognition
Author: Sunitha Nandhini.A , Sangeetha.G , VidhyaJanani.J
Review: In general way, every bus is controlled by a conductor. The conductor will collect money from each passenger and issue ticket. Initially, printed papers or tokens are used as tickets. Nowadays, handheld machines are used to print tickets. This system has many disadvantages. The passenger have to carry the ticket till the reaching their stopping, the conductor should ensure that everyone has got the ticket, the time taken for ticketing is comparatively more and more amount of paper is needed to print the Ticket. For example, if a passenger wish to travel in bus. He has to carry money with them. Then conductor will collect the money and he will give ticket. This has to repeat for all passengers. This will take more time and waste of human resource as well as energy. The data relate to an AFC system integrated with an automatic vehicle location system that records a transaction for each passenger boarding a bus, containing attributes regarding the route, the vehicle, and the travel card used, along with the time and the location where the journey began.

Title: Manual Bus Fare Collection
Author: Chanda Rajurkar, S R S Prabaharan, S.Muthulakshmi(2017)
Review: Every bus is controlled by a conductor. The conductor will collect money from each passenger and issue ticket. Initially, printed papers or tokens are used as tickets. Nowadays, handheld machines are used to print tickets. This system has many disadvantages. The passenger have to carry the ticket till the end of travel, the conductor should ensure that everyone has got the ticket, [3]the time taken for ticketing is comparatively more and more amount of paper is needed to print the Ticket. Nowadays conductors are trained to operate the handheld ticketing machine. For example, if a passenger wish to travel in bus. He has to carry money with him. Then conductor will collect the money and he will give ticket. This has to repeat for all passengers. This will take more time and waste of human resource as well as energy. Even handheld ticketing machine is comparatively slow and need trained person to operate it.

Title: PTS System
Author: Carlos Kamienski1, João Henrique Kleinschmidt1, Juha-Pekka Soininen2, Kari.Kolehmainen2,Luca Roffia3, Marcos Visoli4, Rodrigo Filev Maia5, Stenio Fernandes6 (2018)

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Review: Portrays about the public transport ticketing system, prevailing in the megacity Dhaka (Bangladesh) which introduces severe mal-function in the system, malicious argument among public, corruption and most of all traffic jam. PTS remains the major source of income in most of the developing countries like India. ButPTS now faces severe malfunction and various security problems. First, there is a lot of confusion between the passengers regarding fares which lead to quarrels and corruption. In addition to this, nowadays there is a severe security crisis in PTS due antisocial elements.

II. PROBLEM DEFINATION

Nowadays, transportation has become very hectic for people travelling via metro train.
This project is a complete metro train simulator that will be installed in a metro train. The Biometric technology is used that is it has a unique id for every tag. Every person is registered along with fingerprint scan with the fixed balance in it. The metro train will keep on passing between the stations and as it stops at the station the person has to scan its fingerprint to make an exit.

III. ARCHITECTURE DIAGRAM

1) In order to get a unique identifier for each person:
2) We are considering their fingerprint right away from registration, booking tickets and validating the fingerprint on the day of the journey so he/she can travel on a particular day and on the desired train to his/her preferred destination.
3) The fingerprint sensor will be interfaced with server which in turn will store the fingerprint data.
4) We are proposing a encryption standard for storing the sensitive fingerprint data in the server.

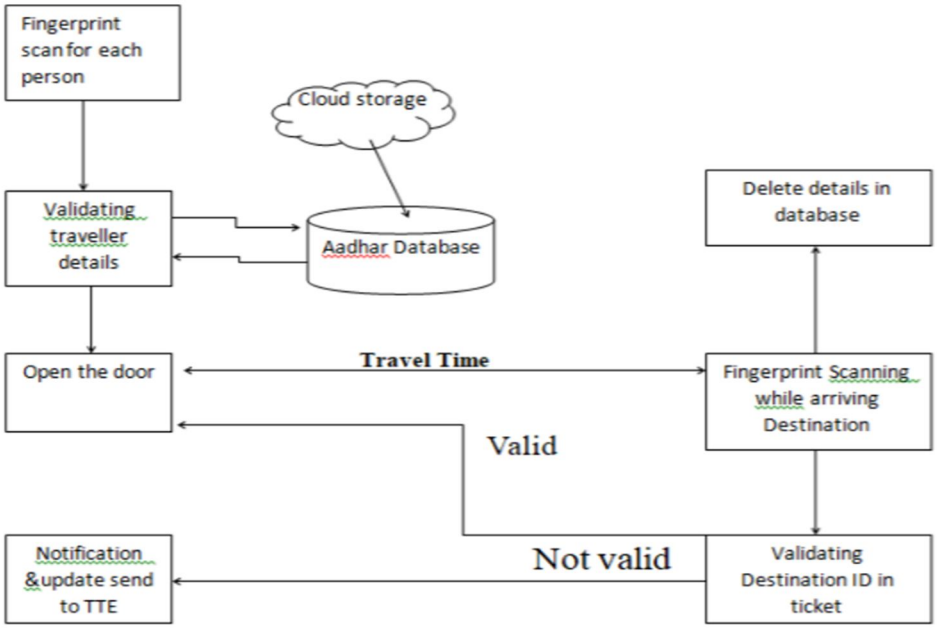

Fig No 1. Architecture Diagram

A. ANT Colony Algorithm

The first ACO algorithm was called the ant system[25] and it was aimed to solve the travelling salesman problem, in which the goal is to find the shortest round-trip to link a series of cities. The general algorithm is relatively simple and based on a set of ants, each making one of the possible round-trips along the cities. At each stage, the ant chooses to move from one city to another according to some rules:

1) It must visit each city exactly once;
2) A distant city has less chance of being chosen (the visibility);
3) The more intense the pheromone trail laid out on an edge between two cities, the greater the probability that that edge will be chosen;
4) Having completed its journey, the ant deposits more pheromones on all edges it traversed, if the journey is short;
5) After each iteration, trails of pheromones evaporate.

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IV. CONCLUSIONS

Using this system we eradicated the hassles of day to day traveling. There is now no need to carry physical tickets/tokens or any other UID card/documents for the sake of traveling. With this proposed methodology, the user will be ensured a more comfortable and convenient travel experience

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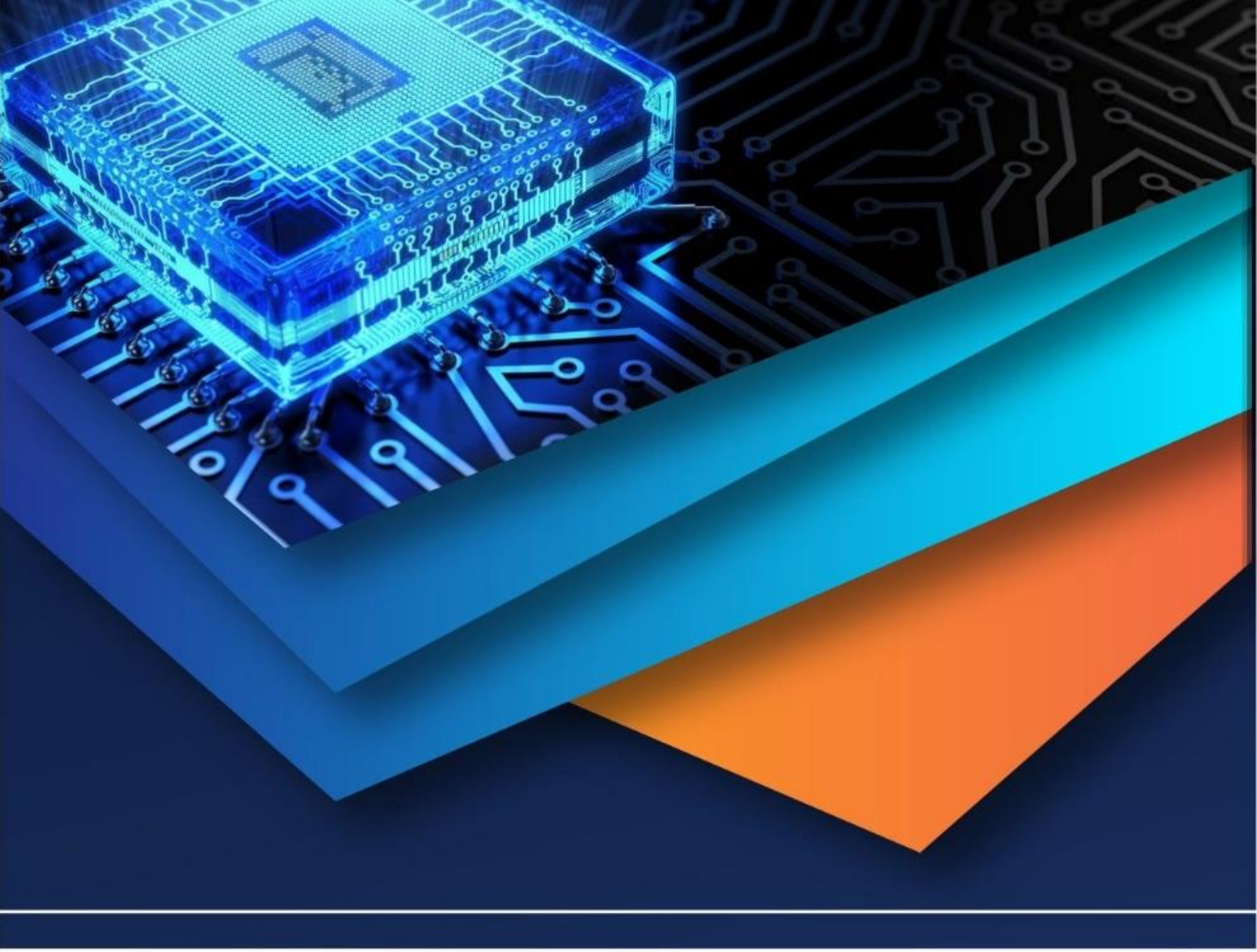

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