ARM9 BASED DRIVING LICENSE VERIFICATION SYSTEM

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Abstract: At present era in our country there are so many people who are not having their original driving license with them. Instead, they are maintaining fake license, due to this the ratio of accidents increasing day to day. The objective of this project is to find out the fake license ID's by using fingerprint reader finding a man with fake driving license is a difficult task to the RTOs and the police. In order to avoid this kind of problem the project is proposed to provide driving license verification system using ARM9 processor with fingerprint reader. With the help of finger print reader finger prints of the user will be taken and their respective details like license identification number, photo, Aadhar card number are maintain along with the driving license database with the help of ARM9 processor. Whenever the officers want to check the driving license of vehicle users, the verification system is used to authenticate liability of the vehicle user license.

I. INTRODUCTION

Now-a-days in our country most of the existing RTO offices didn't have systematic driving license verification system. If we want to get the driving license from RTO office, it is not a difficult task now a days but maintaining the original driving license is major task to the vehicle users. On the other side vehicle users are cheating the police by maintaining fake license. Which was crime. Currently driving license card having details like driving license identification number and address Details of the authorized vehicle Drivers are being morphed. So now-a-days the persons who are maintaining fake driving license, they are removing the authorized vehicle driver license photo and the details and using same license identification number. This is the major disadvantage for the authorized driving license persons and it is advantage for the persons who are maintaining fake driving license. In order to overcome these problems an authenticating driving license system is proposed and provided to RTOs. By making use of finger print reader we can maintain authenticated driving license system. And the fingerprints are the unique and they cannot change over time.

The existing method at the road transport offices was we need to fill the online driving license application form and next step is the written exam, that exam is about the basic traffic rules. After that there is a LLR test and driving test, after clear the all the tests finally issuing a driving license by taking photo and the details of the eligible person. So in that driving license as we already know there exist a license identification number also called serial number. It is easy to morphing the authorized person serial number or photo or details. This is the major drawback of the existing driving license issuing system.

II. PROPOSED METHOD

In order to overcome the drawback of the existing system, we proposed a new method; that gives the exact results to overcome the above drawback. In order to avoid the drawbacks a new project is implemented called ARM9 based dynamic driving license verification system. The objective of this project is to find out the fake license IDs by using fingerprint reader, first we are taking the finger prints of the user and entering the details like license identification number, photo, Aadhar card number and maintaining the driving license database with the help of ARM9 processor. Whenever RTOs wants to check the driving license of vehicle users, if the person is authenticated then he is having authenticated driving license otherwise if he is not authenticated then officer can identify that the person was carrying fake license and he can take necessary action on him.
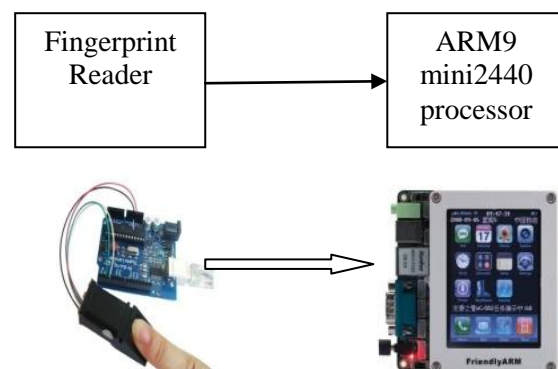
2.1 Project block diagram:

Figure2.1: Project block diagram.

Hardware requirement:

1) R305a Fingerprint Reader.
2) ARM9 Mini2440 Processor.

Software requirement:

1) SynoDemo Software.
2) Visual Studio2008.

2.2 Fingerprint reader:

Introduction:

The R303A*fingerprint reader* is a sensitive fingerprint device that is used to capture a digital image of the fingerprint pattern. Fingerprints offer an infallible means of personal identification. Fingerprints are widely used for the purpose of security more than tens of years due to its feasibility, accuracy, reliability, and acceptability.

Operating Principle:

Fingerprint transforming incorporates two sections: one section is fingerprint enrollment and an alternate part is fingerprint matching. At the point when selecting, client needs to give thumb impression twice. The framework will transfer this twice finger pictures to the sensor, and the produced thumb impressions are stored in the sensor. At the point when searching, client needs to give thumb impression in order to verify it. This process is called as 1:1 verifying process, if we search one thumb impression on sensor database it is 1: N searching. In both circumstances, framework will furnish a proportional payback result, achievement or disappointment. The correspondence convention is serial correspondence convention it is a semi duplex a synchronism serial correspondence. At force on, it takes around 500ms for initialization at starting period. This sensor is having five security levels, comparing quality at all levels. At stage1 the FAR is more and FRR is less.
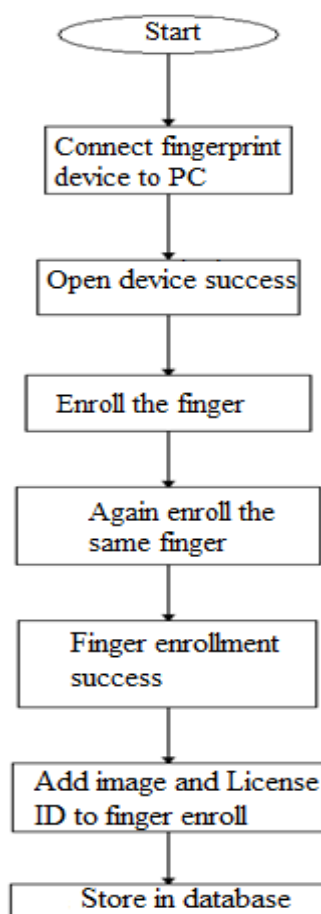

Figure 2.2: Flowchart design for fingerprint enrollment.

The flowchart gives the information about fingerprint enrollment. First we need to connect the fingerprint device to PC and open the device first and enrollment of same finger done twice, after fingerprint enrollment success we need to add the license ID and image, Aadhar card number of authorized person and finally that information is stored in database.

2.3 ARM9 MINI2440 Processor:

ARM is a group of guideline set architectures for machine processors focused around a (RISC) architecture created by British organization ARM Holdings. The full type of ARM is "Advanced RISC machines". A RISC-based machine methodology means ARM processors require fundamentally less transistors than regular CISC x86processors in most PC's. This methodology diminishes the expense, high temperature and force utilization. Such decreases are attractive characteristics for light, compact, battery fueled gadgets including laptops, tablet and notepad machines, and other implanted frameworks.
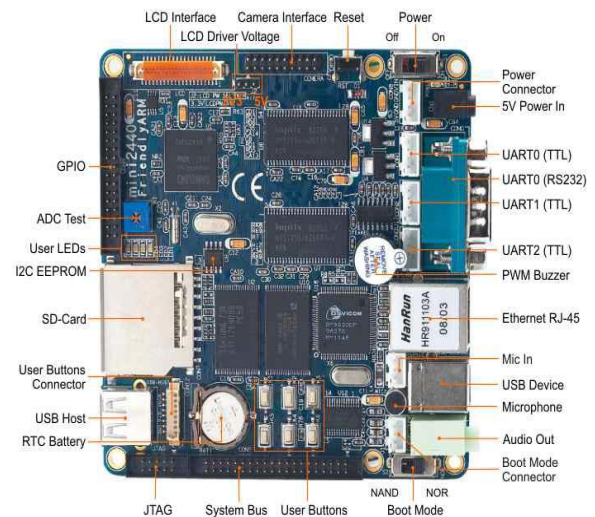

Figure 2.3: ARM9 mini2440 board.

ARM Processor is a leading processor in the Electronics industry. ARM Processor has features like high performance, less power consumption and that can be used in real time applications. ARM9 Mini2440 specifications include, it has neither 2MB NOR Flash and 64MB NAND Flash with bus width of 16bit data bus and 20bit address bus. It has a 40pin system bus, 64MB SDRAM, interfaces like Ethernet RJ-45 port, 3 serial ports and one RS232 interface, one SD card, 20pin camera interface, one USB host and one USB device port, JTAG interface.

2.4 SynoDemo Software:

By making use of SFGDemo software we can easily enroll the fingerprints of the users, first we want to connect the fingerprint device to PC with the help of RS232 cable and then open the Syno Demo software in PC, there open the device first, after enroll the same finger twice, we can save fingerprints of the users in the module.
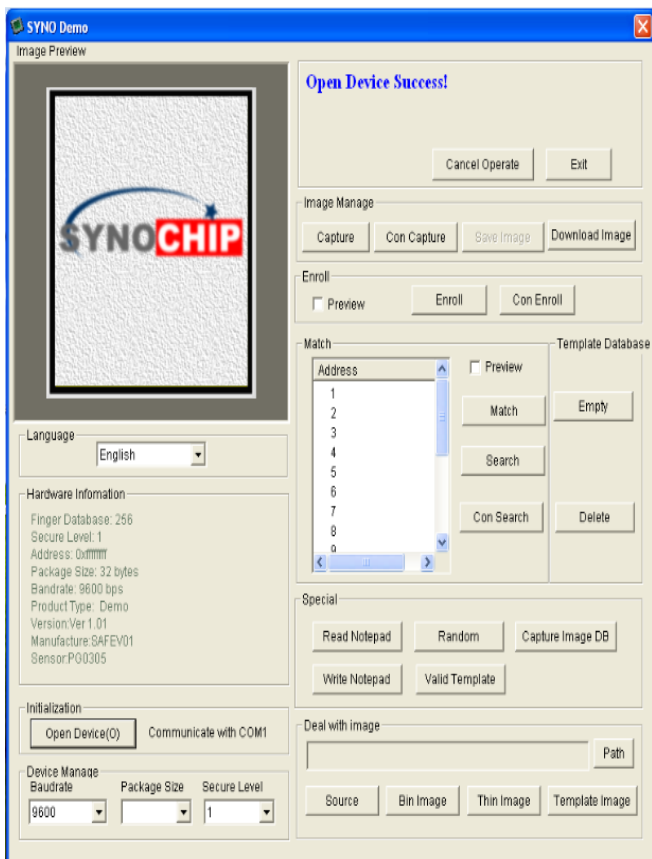
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Figure 2.4: Fingerprints enrollment process in Syno Demo software.

2.5 Visual studio2008 software:

Visual studio is a set of development tools for building ASP.NET applications, desktop, XML web services and mobile applications. The visual studio supports many programming languages that allow code editor and debugger. And the following are the features of visual studio 2008. Code editor, debugger, designer, extensibility.
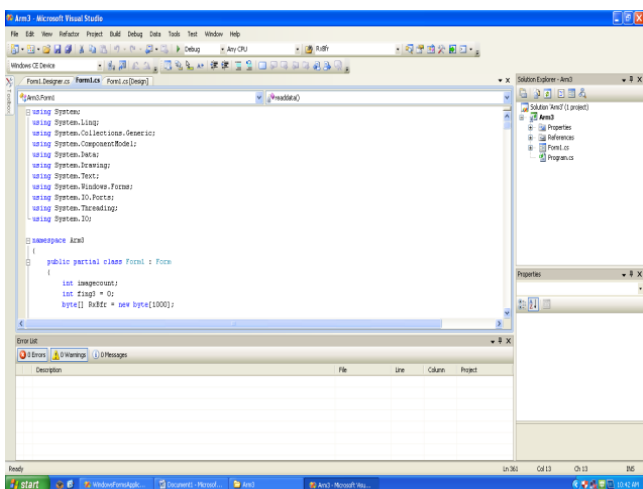

Figure2.5: Writing code in Visualstudio2008.
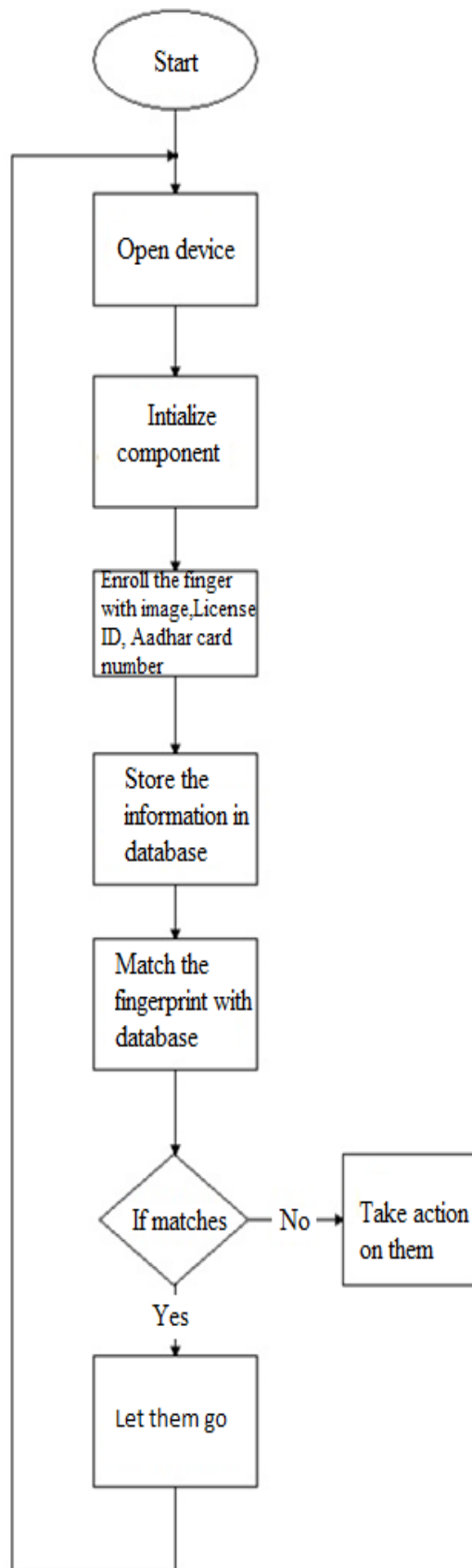
2.6 Project flow chart design:

Figure 2.6: Flowchart design for driving license verification system.

The figure2.6 flowchart expresses the process of designing a driving license verification system. First connect the fingerprint device to PC and then open fingerprint device with the help of Syno demo software, enroll the user finger with the image, License ID, Aadhar card number and store that details into ARM9 database. Next step is match the user finger with the database, if matched let them go otherwise if not authenticated; then officers easily recognize that it is a fake license ID.

III. RESULTS
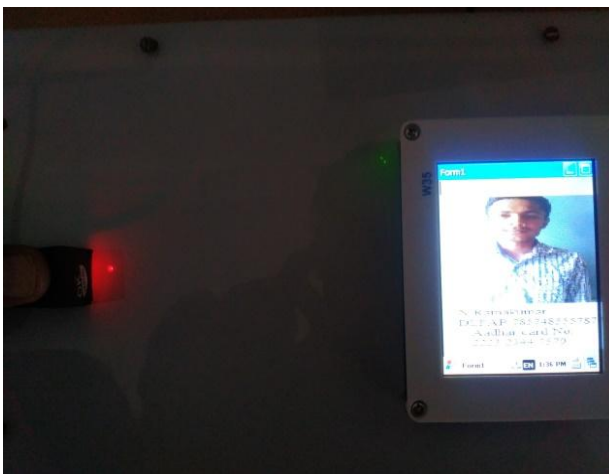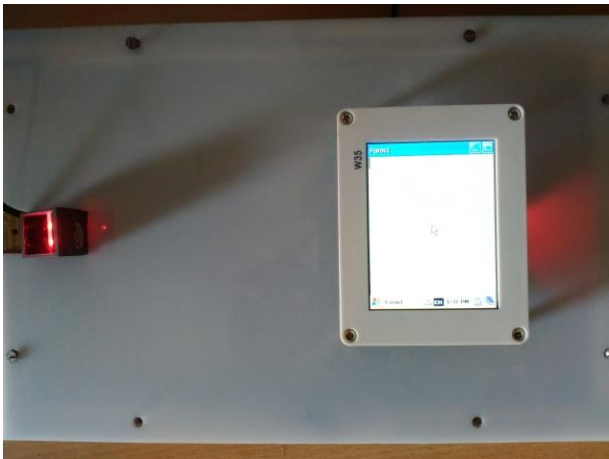
IV. CONCLUISON

The objective of implementing this project to detect the fake license ID's by making use of fingerprint reader and ARM9 mini2440 processor. In this project the proposed method overcomes the drawback of the detecting fake license ID's. This project is useful to reduce the accidents rate and reducing the task to the RTO and police officers. This is a real time project so we can implement it at RTO offices.

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