

# Implementation and Analysis of a Computerised Vehicle License Registration System

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**Abstract:-** In today's world, registrations are now going online. An online vehicle License Registration system is a work which aims in developing a computerized system to maintain all the daily works of vehicle registration to provide an easy and stress free method of vehicle registration, to provide an easy and stress free method of vehicle registration, to enhance the database for proper information and recordkeeping, and enhance speedy recovery of stolen vehicles. This work designed some features like facility of vehicle information, registration of vehicle through which the admin can monitor the whole system and change of ownership. This system is developed to help the vehicle management to maintain the vehicle registration licensing in the best way possible thereby reducing stress and manual efforts. The Programming language used in developing this application software is Visual Basic.net 2012. It is developed to accommodate upgrades of Windows up to the Latest windows 10.

**Keyword:-** Vehicle Registration, License, Change of Ownership, Online, Vehicle Information.

## I. INTRODUCTION

Vehicle enlistment in Nigeria started more than 100 years back and the records have been basically manual which thusly has not assisted with raising the productivity of general car benefits as of late. Vehicle enlistment in the city, state and area workplaces troubled candidates by expecting them to by and by convey the guaranteed duplicate of occupant's enrolment and different records which was extremely repetitive at that point. In Nigeria, there are three arms of government offices that are answerable for car, they are authorizing, enrolment and control. They are Federal Road Safety Commission (FRSC), the state Vehicle Inspection Officer (VIO) and the state Board of Internal Revenue (BIR). The typical practice is for a proprietor to visit these three arms for the fundamental instalment, information assortment and issuance of important records and materials, for example, plate numbers. Right now, cooperation will be made on the computerization and usage of engine vehicle permitting authority at the three level association; vehicle assessment official, (VIO), Federal Road Safety Commission (FRSC) and the Board of Internal income, which are required to screen the procedures that are included beginning from the

specific date the engine vehicle is enlisted, authorized, re-established, and so forth. As per [1] so as to test the speculation that e-framework activity has fundamentally affected handling rates for vehicle enlistment recharges, the examination technique includes looking at normal month to month preparing rates per worker for the pre-usage and post-execution times of the framework. Presumably that this framework is relied upon to give a few increases, [ 2] gives an alert since it can't to expel the current framework totally all things considered, data innovation ventures ought to be considered as fundamental however not adequate condition for the business esteem evaluated by the proposed inquire about system.

## II. CONCEPT OF VEHICLE LICENSING

A vehicle permit (additionally called a vehicle enrollment declaration in certain locales) is given by an engine enlistment expert in a ward in regard of a specific engine vehicle. A present permit is required for an engine vehicle to be lawfully allowed to be utilized or kept on an open street in the ward. Normally in Nigeria and in different pieces of the world, a permit is legitimate for one year and a yearly permit charge is payable before another one is given (revalidation) [3].

A vehicle permit might be a paper record to be kept in the vehicle consistently or as a cement sticker to be attached or shown on the windshield of the vehicle or on the enrollment plate.

### ➤ Review of Related Literature

The Federal Road Safety Commission (FRSC) was built up in February 1988 with the statutory command to lessen to the barest least the occurrence of street car accident and the resulting human and material misfortunes among different capacities incorporates structuring the driver's permit to be utilized by the different classes of vehicle administrators, and planning vehicle plate ID numbers and controlling the utilization of speed constraining gadgets.

[3] Proposed an online engine vehicle permitting framework utilizing RBAC component. This work was intended to help the edge work for a customer server disseminated database framework for permitting and enlistment of vehicles in Nigeria on the web. The present

procedure of engine vehicles permitting is being worked physically and because of this method, various issues are been experienced.

[4] Proposed a vehicle following framework utilizing GPS. To accomplish programmed vehicle area framework that can transmit the area data progressively. Dynamic frameworks are created. Reconnaissance is determined to vehicle caution framework and the methods for sending the information to the proprietor of the vehicle utilizing SMS when the alert is activated. Because of the wasteful customary vehicle security framework, the chance of the car can be stolen is high.

[5] Summarizes the current commitments with respect to security in web framework administrations. One of the primary ends in the wake of investigating these works is the need of giving versatile and adaptable security models for this sort of framework, where the extraordinary imperatives of the gadgets make customary systems not straightforwardly pertinent.

Four key jobs was characterized by [6] to clarify the on-screen characters and the stream to get an ensured asset. The asset proprietor is the substance equipped for giving access to the asset. As far as it matters for its, the asset server is the place the ensured assets are facilitated, and it is fit for tolerating and reacting to secured asset demands utilizing access tokens (a string that speaks to the client as far as approval). The customer is the application making demands, lastly, the approval server issues get to tokens to the customer after effectively verifying the asset proprietor and getting approval.

[7], "our vehicle enrollment workplaces today are confronted with potential ascent and wasteful aspects related with manual for example aper based procedures which are expensive, inclined to blunder and require mental and physical work. Uplifted guideline in the nation is additionally setting these vehicle proprietors compelled to address prosecution issues".

As indicated by [8], "most vehicle proprietor thinks that it's hard to enroll their vehicle on time because of the manual procedure which expends time. For you to enlist your vehicle inside a brief period, you have to know a couple of people in the authorizing office. This factor is impossible to miss to most Nigerian workplaces.

[9] Proposed a vehicle situating checking framework. The exactness and accuracy is given by CORS administration system and Mobile which has additionally checked the plausibility to coordinate CORS and Mobile GIS for versatile area administrations. GPS encourages in to get precision and rapid for acting in quicker manner. It is most appropriate for taxi checking and route, vehicle against burglary and different fields.

[10] Presented all the satellite route frameworks accessible or in process today. Each framework from GPS to IRNSS has been appropriately presented and flagging

plans and balance plans are considered. Satellite route now days are what each nation want to need to become on incredible force as in particular it serves military applications and salvage tasks. The up and coming age of satellite route are offering administrations to the common clients and thus an awesome market for business perspective.

[11] This work executed a framework for observing the consistence of property exchange specialists with government enlistment laws and guidelines incorporates vehicle enrollment. Utilizations a focal observing PC to think about data with respect to property buys from PCs at financing sources, and data in regards to property enlistments from PCs at an administrative substance. The job is recognizes occurrences where there are absent or late enrollments, or mistakes in enlistment data. The focal observing PC likewise consequently creates interchanges to the rebellious operators dependent on the parameters.

[12] Proposed a framework for recognizing fast vehicles, transit regulation requirement and electronic cost assortment. The issues related with enlistment plate acknowledgment are, plate pictures have distinctive quality and arrangements. They attempted to determine the issues with picture handling devices for removing just the area of intrigue. This calculation is tried with vehicle pictures of various foundations and brightening. The camera center, seeing plane and the good ways from the vehicle were fluctuated. The consequences of analyses are interesting with acceptable exactness rate. In any case, because of clamor in the picture and nature of camera, there can be a chance of a mistake in recognizing a character. There are some other normal missteps done by the calculation.

[13] Proposed a GSM Based Vehicle Registration framework that helps in the confirmation and assessment of street commendable autos and it is likewise used to follow taken vehicles by getting to the engine authorizing database remotely. The task is appropriate for a wide scope of utilizations on remote database access as it tends to be applied in different territories of human life. The product can be tweaked to fit in any association. For the most part, it is utilized to get to information remotely anyplace, whenever, even areas outside the nation that has a GSM inclusion.

[14] This work contemplates the wrongdoing avoidance procedures inserted in the Australian vehicle enrollment framework. The wrongdoing anticipation quantifies that have been presented in Australia since the late 1990's have included confirmation of personality checks, checks of accessible databases, character assessments for between state vehicles and investigation of repairable discounted vehicles resubmitted for enlistment. By this techniques, re-enrollments of taken vehicle are prematurely ended.

[15] This paper depicted encounters in catching the business rationale and actualizing an electronic master framework for vehicle enlistment expense calculation at

California Department of Motor Vehicles and was executed utilizing the Blaze Advisor rules motor and has been conveyed to Sun's JZEE Reference Implementation of a Java application server. Their outcome shows that utilizing master framework innovation to actualize an electronic, business-driven arrangement is unquestionably a suitable and promising alternative. By not holding a candle to the current situation a business rule approach, it is conceivable to actualize a standard base that can't versatile to a changing business world and won't precisely speak to the genuine business space. So as to fulfill an expanding need to react quickly to changing business necessities and information, and to lessen usage costs, the standard business world is continuously depending on the master frameworks innovation. As indicated by the paper, conceivable future work incorporates: a framework for complete vehicle enrollment since this venture concentrated on a sub-area (vessels) of the total business application for producing the proper expenses for vehicle enlistment.

[16] This work proposed an Autoregressive Moving Average for the transportation framework in Nigeria utilizing Lagos State and furthermore keeps up a strong information base through the AUTOREG System as a contextual analysis by demonstrating and determining the Vehicle enrollment framework as far as types and possession. The consequence of the Autoregressive Moving Average (ARMA) approach demonstrated that there is

inclination for an expansion in the Enlistment of Vehicles later on. They proposed that so as to oblige an expansion in the quantity of Vehicles enrollment, a vigorous Vehicle database ought to be structured the nation over for security, look into and satisfactory arranging; and Nigerian government at all levels ought to endeavor to give sufficient and solid street organize framework to meet this rising formative exercises among others.

### III. ANALYSIS OF THE PROPOSED SYSTEM

The proposed framework is required to give a superior methods for enlisting vehicles. The different parts of this framework incorporates a menu where one can without much of a stretch register his/her vehicles, a menu for change of possession in the event that one needs to give or sell his/her vehicle to another person. The subtleties given by the individual will be analysed by the administrator who will login to the database and check if the data given by the client is exact, he likewise checks the framework occasionally for mistakes or any issues, any discovered is quickly rectified.

#### A. Design of the Proposed System

Since the framework to be executed is now predefined, it is accepted that dependent on the issues completed in the current framework, the new framework is in fact, operationally and financially attainable.

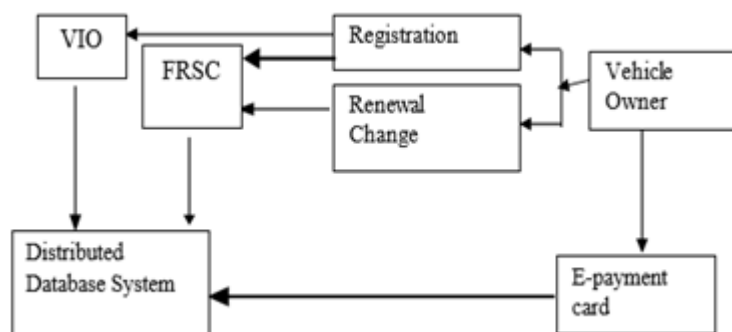


Fig 1:- Hierarchy of System Functionality

#### B. Proposed Work

The main Objectives of the proposed system are as follows:

- To develop software that will link by computerization, all the procedures of motor vehicle licensing system in motor license authority (that is, to have a centralized system).
- To improve the system performance and efficiency.
- To enhance the database for proper information and recordkeeping
- To build an application that will provide an easy means of accessibility in case of accident and emergency.
- To enhance speedy recovery of stolen vehicles
- To provide an easy and stress free method of vehicle

registration.

- To ensure a very high level of accuracy during registration of certain vehicles or category of vehicles that is prone to errors in the manual system.

#### C. System Architecture

The system architecture used is 3-tier. The first is the presentation tier or the user interface, designed using HTML and CSS. The second tier interconnects the presentation tier and data tier together, it was designed using PHP. The last tier is the data tier, it is the systems database which is responsible for storage and retrieval of data, and it was designed using MYSQL database.

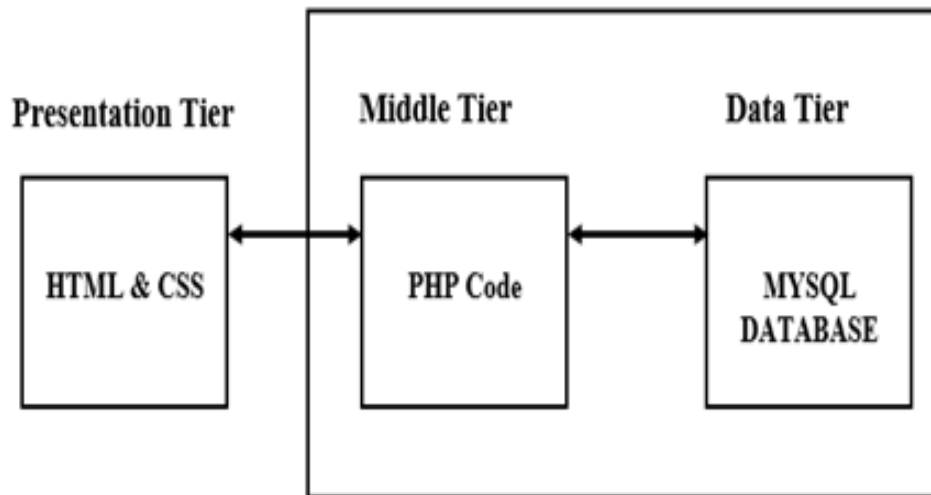


Fig 2:- System Architecture

*D. Systems Implementation Architecture*

System implementation is a collection of inter-dependent physical devices together with their programming which provides the functionality and performance for which the system was designed. It covers all the activities necessary to set the system that has been analyzed and designed to be fully functional to the users.\

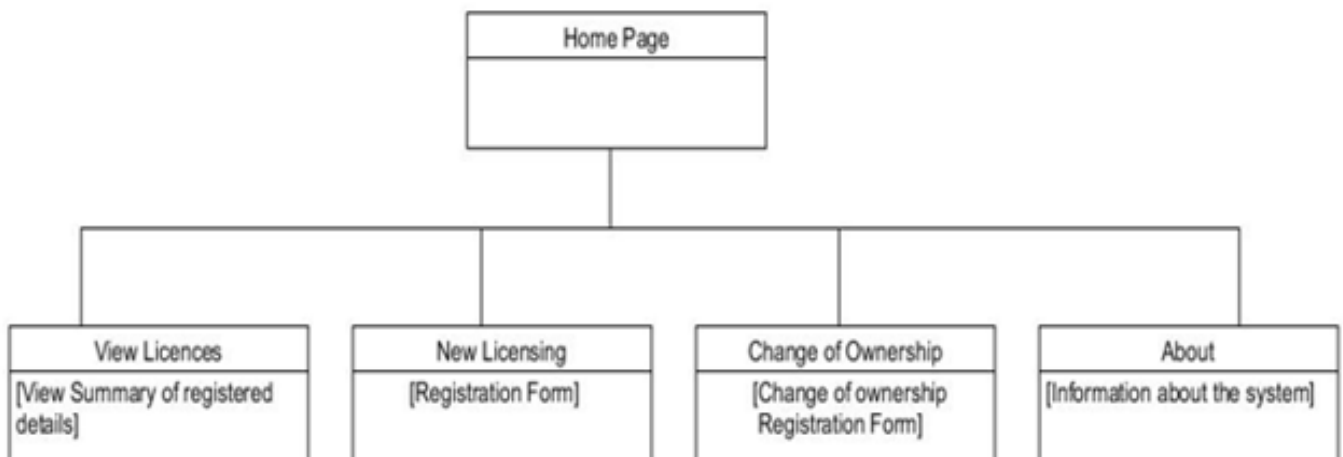


Fig 3:- System Implementation Architecture

**IV. RESULTS AND DISCUSSION**

The software experienced different phases of testing during its advancement. This testing helped broke down the framework, to check for any bugs or mistakes and in particular to ensure it gave the right yield. The Software is anything but difficult to utilize, adaptable and furthermore proficient. To utilize the product, clients need to do the accompanying:

- Switch on a PC
- Run XAMPP server as administrator
- Start Apache and MYSQL
- Open any web browser (Firefox, chrome), type in "localhost/auto/index.php" on the address bar, click enter.
- After the index (home) page has been displayed, the user can then navigate to
- Other pages shown on the page.

Below are screenshots of the system:



Fig 4:- Screenshot of Home Page



Fig 5:- Screenshots of New License Registration Page





Fig 6:- Screenshot of Summary of Registration Details Page



Fig 7:- screenshot of Change of Ownership Registration page

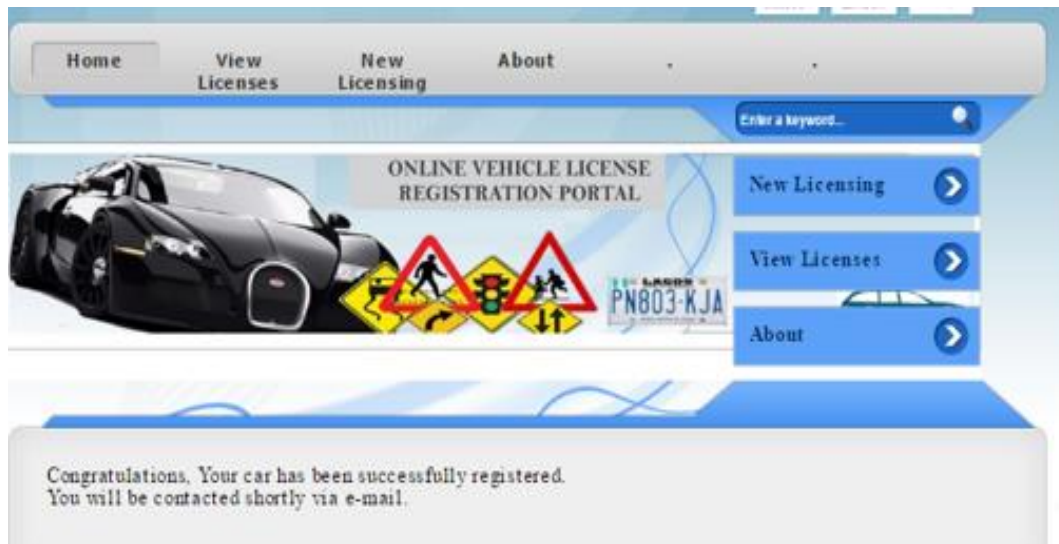


Fig 8:- screenshot of Congratulations page



Fig 9:- screenshot of about page

## V. CONCLUSION

In a great exposure, during the research work of this project, we were able to realize that the consistent problem encountered is as a result of improper storage of data/information in the motor vehicle licensing system. This study explains well that the introduction of the online motor registration system in motor licensing system in Nigeria will wipe away all human prone errors in processing and increase the security of registered motor vehicles in the country. This study shows that the decision-making process of the motor vehicle licensing system offices depends solely on how well the records are managed and stored in the computer. It is now paramount that security agencies such as police now have a reliable source of retrieving or getting information on vehicles on the Nigerian roads.

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