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# Vahaan Registration System

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**Abstract -** *The main aim of this proposed system is to manage the number of vehicle registration requests raised by the users of this system as it tracks all the vehicle registration information. It helps to reduce the time taken by current legacy system as well as eliminate the process to store documents in hardcopy format. This also ease the life of user of the system as the user doesn't need to visit the office for follow-ups. The proposed system will replace our legacy system for vehicle registration with more digitally and globally availability. The goal is to register any vehicle through our system at any time by reducing the time taken by the manual registration system.*

***Keywords:*** *Android Studio, SQL Database, SDK tools, vehicle registration.*

## 1. INTRODUCTION

The proposed system will replace our legacy system of vehicle registration with more digitally enabled technology, where the user can register their vehicle at any time and place which suits them.

This application is based on Android App Development technology. In this application we have developed a login page, registration page and a database interaction layer between application server and database server. In this Application by default page being opened is Login page where user enters credentials and after successful login system renders user to registration page. On the registration page all the mandatory fields should be filled. If any of the mandatory fields is incomplete then the system will raise an error message for the incomplete field. If all the mandatory fields on registration page are filled properly then on clicking registration button all the information gets stored in the database through database layer between application and database server. During the registration process the flow of the process is to be followed strictly, if it is not followed then the registration data won't get stored and the system will notify the user about failure of registration process.

The registration of vehicles through this online system will be easy rather than doing registration manually. So here we introducing more sophisticated self-service system to our users using which they can register their vehicle at any time.

Many vehicle registration services are paper-based, which are time consuming and affect a large number of people as number of registration request of vehicles are pending through manual way. By doing it digitally we can save our time as well as nature by reducing paper waste.

## 2. LITERATURE SURVEY

Changxia Wu [1] projected vehicle registration system based on moving vehicles detection in which they can have register number of vehicle moving under urban traffic surveillance, using which they have solved major difficulties for the moving vehicle detection.

In [2] Jana Moravčíková has projected exchange of information on traffic offenses makes it possible to identify the perpetrator of a traffic offense for unlawful conduct in the field of road safety. It will be required from the state where the vehicle is registered to provide data on the holder of the vehicle under the cross-border exchange of information agreement.

Frederick W [3] has introduced a moving vehicle registration using Imagery Pattern Recognition, they register the large-scale image backgrounds and then, relative to the background registration, register the small-scale all over vehicles are frames simultaneously using a vehicle motion model.

A.T. Demmin, Du Zhang [4] has introduced a web based registration of vehicle to reduce the implementation cost using Blaze Advisor rules engine and Java application server.

By using this proposed system simply any user which wants to register any vehicle, can easily register through this proposed system. It consumes less time as compared to manual way. As we are providing all types of vehicle registration by which user can easily register their vehicle through this application.

All the registered data is securely stored in database and can be easily accessed without having any problem. So there is no need to maintain any hard copy for the details. Number of users can interact with the system at the same time so it eliminate the heavy waiting time for the approval.

## 3. PROPOSED METHODOLOGY

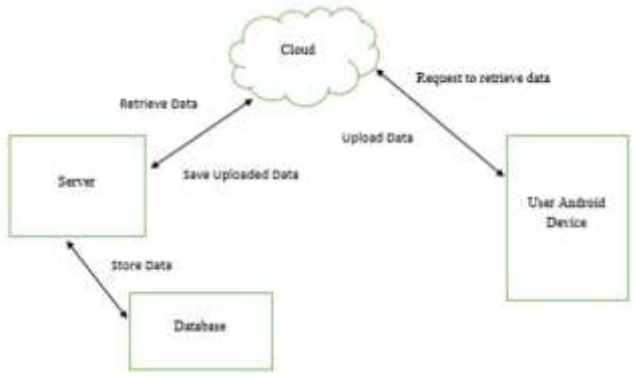


**Fig -1**: Block Diagram of System Architecture

This project is based on Android Studio using SDK tools. We have used a database server phpMyadmin to store all the details of the users and their registered vehicles. Using our system the user has number of choices to register any vehicle, by selecting vehicle he/she wants to register. The types of vehicles provided for user to choose for registration are: truck, bus, rickshaw, car and bike. User have to begin registration process by selecting type of vehicle along with details such as: vehicle brand, vehicle name, chassis number, engine number, color and the year in which the vehicle is manufactured. By filling this form with proper data the user can register their vehicle successfully and then all this details will get stored in database and the system will notify user upon successful processing of data by application and database.

The software requirements for the proposed system are:

Server: a software which is used to host the user's application is known as server. Hosting server is responsible for the management of all the request received by hosted application. Server should be available all time guaranteeing the availability of hosted application.

Cloud: A cloud database is simply refer to server that can be accessed over the internet which perform functions like to store, manage and retrieve data from the cloud.

Database: database is collection of information which is organized in the form of tables and fields by which we can easily access the data and also manage and update the data. Computer databases contain of data records containing information about any interactions with specific customers.

## 4. COMPONENT DETAILS

1. **Smartphone Module:** We have used android smartphone to run and test the design we have done in our android studio. First we have turn on the developer mode in our smartphone. It is used as a testing device.
2. **SDK Tools:** SDK tools includes the complete set of tools which are used for development purpose of android application as well as for the debugging task. We have used Java specific SDK tools.
3. **000WebHost:** It is an online hosting platform for php and MySQL. We hosted our application.

## 5. IMPLEMENTATION

These are the following steps which are involved in the implementation of the project:

**Step 1: Software Setup:** Download Android Studio, SDK tools, install it in your device.

**Step 2: Design:** A login page is designed where existing user can login by providing their credentials. In case of new user, user has to sign up by providing all the requested information. On successful completion of sign up process user will be redirected to login page. Once the login is successful then user will be redirected to a page where the user will get the option to select its appropriate vehicle type. After user selects proper vehicle type then user has to fill vehicle information which includes vehicle brand, vehicle name, chassis number, engine number, color and manufacturing year. When user provides all above information and clicks on Register button then all provided information will be stored into system database and user will be informed upon successful storage of data.

**Step 4: Operation:**

1. **Login:** In this application login page is designed for the login operation. To perform login operation user has to enter valid credentials and click on the login button and on click of the (click here) then registration page is open.
2. **Registration:** On the registration page all the mandatory fields should be filled by the user. If any of the mandatory field is incomplete then it will give an error message for that field. If all the fields are properly filled then on clicking register button registration operation is performed by storing all the information provided by user in the database.
3. **Data Validation:** this operation is performed on the data entered by user on registration page. This operation gets initiated when user clicks on register button. If the data entered by user is valid then this operation succeeds resulting successful storage of data entered by user. If the data entered by user is invalid then this operation fails with notifying user about invalid data.
4. **Data Insertion in Database:** If data validation operation succeeds then this operation begins. In this operation all the data entered by user on registration page is inserted into the database.

5. **Data Retrieval from Database:** this operation retrieves all users data from database through a database layer built between database and application.

6. **Logout Operation:** this operation makes user to exit from the application. To initiate this operation user has to click on logout button.

## 6. RESULTS

**Login form:**


**Fig -2**: Login form

This is a login page for the existing user where the user have to verify mobile number then the OTP will be send to user's mobile number which user should enter on login page. On successful verification of mobile number and OTP user will be able to login to the application as shown in fig 2.

**Sign up page:**


**Fig -3**: Sign up page

Sign up page is designed for the new user. Sign up page consists of fields: first name, last name, email id, mobile number as shown in fig 3. On clicking sign up button all the user details will be stored in database and user will be redirected to the login page.

**Vehicle index page:**

**Fig -4**: Vehicle index page

On vehicle index page there are options to choose vehicle type from available types such as: truck, bus, car, bike and rickshaw. Choose the vehicle you want to register from fig 4.

**Registration page:**


**Fig -5**: Registration page

On registration page user has to enter all the required vehicle details such as vehicle brand, vehicle name, chassis number, engine number, colour and manufacturing year as shown in fig 5.

**Admin application:**


**Fig -6**: Admin application

Another application is created where only admin has an access to this application. Admin has to use admin username and password in order to access this admin application. Once

admin user login to admin application then admin can see the number of users which have registered their vehicles as shown in fig 6.

## 7. CONCLUSION

The proposed system is a novel way to remove the dependency on legacy system of vehicle registration system. This is completely digital system which ensures high availability and robustness. Also this system will ease the life of user as user won't need to visit the registration office. This is an eco-friendly system which reduces the paper waste and use of paper thereby saving the nature by reducing the number of trees cut every year to produce paper. We have just proposed a basic prototype of this system which can be customized at an advanced level as per the business/user requirements.

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