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Jnana Sangama, Belagavi- 590 018



A

Mini Project Report

on

Regional Transport Office Management System

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Submitted by

Mirza Omar Baig

1HK18CS082

Mohammed Ameen. A

1HK18CS087

Under the guidance of

Prof. Vikram Sindhu

Assistant Professor, Department of Computer Science & Engineering

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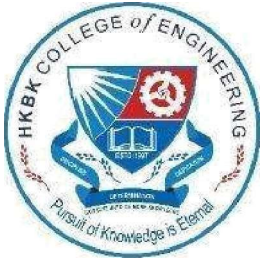
Department of Computer Science & Engineering
HKBK COLLEGE of ENGINEERING

(Approved by AICTE & Affiliated to VTU)

22/1, Nagawara, Arabica College Post, Bangalore-45, Karnataka

Email: info@hkbk.edu.in. URL: www.hkbk.edu.in

2020 - 2021



HKBK COLLEGE *of* ENGINEERING

Nagawara, Bangalore—560045

Approved by AICTE & Affiliated to VTU

Department of Computer Science and Engineering

Certificate

Certified that the Project Work entitled “**RTO Management System**”, carried by **Mirza Omar Baig (1HK18CS082)** and **Mohammed Ameen. A (1HK18CS087)** bonafide students of **HKBK COLLEGE of ENGINEERING**, in partial fulfillment for the award of Bachelor of Engineering in **Computer Science and Engineering** of the Visvesvaraya Technological University, Belgavi, during the year 2020-2021. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of **18CSL58—DBMS Laboratory with Mini Project** prescribed for the said Degree.

Prof. Vikram Sindhu
Guide

Dr. Loganathan R
HOD

External Viva

Name of the Examiners

Signature with Date

1. _____

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Mirza Omar Baig **1HK18CS082**

Mohammed Ameen. A **1HK18CS087**

ABSTRACT

The RTO office management system project is prepared for RTO office to maintain all records like 2 wheeler registration, 3 wheeler registrations, LMV, HMV, learning license and driving license, changing of address, renewal form and much more. These are the main activities of RTO office. The administrator is a power user, he has the power to verify the data and provide appropriate solutions. By introducing the new system we have been organized some striking facilities. Registration of vehicle through online. Fancy number selection of vehicles through online. Issues of information about the license, which includes application forms and license test and other information. In the existing system of RTO office perform functions such as registration, license and fitness. Regional transport office is the organization of the Indian government responsible for maintaining a database of vehicles for various states of India. The RTO issues driving licenses, organizes a collection of vehicle excise duty and sells personalized registrations. These are the main activities of RTO office, we developed this software application with a fully computerized method to manage all the data. At present all records are maintained manually.

Table of Contents

Acknowledgement	111
Abstract	1V
Table of Contents	V
List of Figures	vii
Chapter 1 Introduction	
1.1 Introduction	
1.2 Problem Statement	
1.3 Proposed Statement	
1.4 Objectives	
1.5 Course Outcomes	
Chapter 2 Requirements Analysis	
2.1 Initial Investigation	
2.2 Information Gathering	
2.3 Feasibility Study	
2.4 Existing System	
2.5 Proposed System	
2.6 Advantages of Proposed System	
Chapter 3 System Requirements Specification	
3.1 Functional Requirements	
3.2 Non-functional Requirements	
Chapter 4 System Design	
4.1 System Architecture	
4.2 E-R Diagram	
4.3 Schema Diagram	
Chapter 5 System Implementation	
5.1 Tools and Languages used	

Chapter 6: Snapshots

Chapter 7: Conclusion and Future Work

Chapter 8: References

List of Figures

4.1 System Architecture

4.2 E-R Diagram

4.3 Schema diagram

6 Snapshots

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION:

Regional Transport Office (RTO) is an Indian government bureau which is responsible for the registration of vehicles and issue of Driver's License in India. RTO management will be having a lot of work regarding registration of vehicles and issue of driver's license. Similarly, the vehicle owner sometimes forgets to carry the license and forgets the insurance at the time of inquiry. This paper proposed an approach to solving such problems that are by storing all the information related to vehicle and driver at database by RTO administrator.

RTO is an advanced "RTO management System" which is design keeping in a view to make the existing registration and issues of information about licence easier and faster. It includes the entire registration and insurance procedure starting from the initial phase of entering till the result. It is a more reliable, accurate, time saving and free from any misuse. The system provides information regarding the RTO.

1.2 PROBLEM STATEMENT:

Existing RTO Office work is very complex, waste of time & much more Real-life problem for example a person wants to make driving license then he or she first goes to RTO office and then they give work to the agent and then agent complete their work by taking a lot of money. In this way when passing his or her vehicle number, insurance of that vehicle, etc. are taking a lot of time. And nowadays each and every person is in hurry so by analyzing and considering these problems we are developing one web application which overcomes this problem and get a solution in an efficient way.

1.3 PROPOSED SOLUTION:

Here, we are developing a web application for RTO so here we give a brief description of our project overview. First, we provide familiar environment means the needy user can access this site for their work purpose related to RTO. First user needs to fill the registration form so that we provide authentication to him and the user can choose option he wants means if he select to making a driving license then we provide driving license requirement details and give available date to him so that he/she come on that date direct give the test so that he/she can save his time .

1.4 OBJECTIVES:

The project is an attempt to reduce the delay in the services provided by the RTO offices and it consists of the following users:

- 1) Citizens, who wants license or want to register their vehicles
- 2) RTO Inspector
- 3) RTO Administrator

1.5 OUTCOMES OF THE PROJECT:

- This RTO management system provide services for the people registration of vehicles and issue of Driver's License in India hence saving their time and money.
- With this system there will no loss of data or records which generally happens when a non-computerized system is used.
- All the modules are able to help the admin to manage the RTO database with more convenience and in a more efficient way as compared to offline database system that are not computeriz.

Chapter 2:

REQUIREMENT ANALYSIS

2.1 INITIAL INVESTIGATION:

The first step in reducing the risk of data loss the strategy for making sure that end users do not send sensitive or critical information outside the corporate network.

Inspector recommends that all the registration be screened for evidence of genuinity prior to the issue of all the license and the for vehicle or manufacturing use.

Screening of all documents submitted should be mandatory.

Offline exams be conducted thus leading to slot booking for LL and D1 tests, which should be feasible for the applicant.

For data integrity the data of all the users are prestored and kept under their aadhar number Thus saving their time of entering details.

2.2 INFORMATION GATHERING:

The information for the project is taken from google. Some information is taken by watching certain useful vedios on the related topic. Most of the things is been learnt with the help of our mentors. Some parts of the project is done through analyzing certain other existing projects.

2.3 FEASIBILITY STUDY:

Preliminary investigation examine project feasibility, the likelihood the system will be useful to the organization. The main objective of the feasibility study is to test the Technical, Operational and economical feasibility for adding new modules and debugging old running system. All system is feasible if they are unlimited resources and infinite time. There are aspects in the feasibility study portion of the preliminary investigation:

- Technical Feasibility
- Operation Feasibility.

2.4 EXISTING SYSTEM:

In the existing system things are done manually but in the proposed system we have to computerize the data using this application:

- Lack of security of data.
- More man power.
- Time consuming.
- Needs manual calculations.
- Fewer user friendly.

2.5 PROPOSED SYSTEM:

The aim of proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing system.

This system provides proper security and reduces manual work:

- Security of data.
- Ensure data accuracy.
- Minimize manual data entry.
- Greater efficiency.
- Better service and user friendly.

2.6 ADVANTAGES OF PROPOSED SYSTEM:

- The system makes the overall project management much easier and flexible.
- It provides higher level of security with level of authentication.
- It provides a user-friendly application.
- It provides higher efficiency and is easily accessible

Chapter 3:

SYSTEM REQUIREMENTS

3.1 Functional Requirements

The Functional Requirements Specification documents the operations and activities that a system is able to perform. It is designed to be read by a general audience. Readers should understand the system, but no particular technical knowledge should be required to understand the document.

The RTO Management system provides following functionality for effective usage and maintenance of time.

As the project is an attempt to make the existing RTO system fast and efficient, the built online RTO website provides numerous functionalities makes the job of the RTO officials easier and helps the citizens of the state in the most efficient way. From this, citizens get their job done as soon as possible in a systematic way with no difficulties, whether it may be acquiring license or registering their vehicles or submitting queries.

The major functionalities provided by the online RTO website includes:

- 1) Apply for Learner's License
- 2) Apply for Driving License
- 3) Vehicle Registration
- 4) Application Status check
- 5) Complaints/query submission
- 6) Information section
- 7) Gallery section.

The data to be stored include the details of citizens applying for learner's license, driving license, vehicle registration and citizens who submit complaints/queries. The database also stores the information of RTO Inspectors who verify and update the status of learner's license, driving license and vehicle registration.

APPLY FOR LEARNER'S LICENSE:

Citizen who craves for a Driving License (DL), starts by applying for a learner's license registration(LLR) through their Aadhaar number and a password which will be used for authentication of the citizen in the future. The system is expected to allow only those citizens who are 18 years old or above for registration. All the minor applicants will be denied of further processing.

Once age is verified, the citizen is asked for the category of vehicle (COV) for which he/she wants to apply. After selecting COV, the system will generate an appropriate date, exam ID, exam password and venue for the LLR test. The venue for the test is decided based on the citizen's address and accordingly, the nearest RTO office is assigned as the test venue.

APPLY FOR DRIVING LICENSE:

To apply for DL, one citizen must wait until his/her LLR is approved by the RTO Inspector. If the citizen fails to pass the LLR test, the LLR of that citizen will be rejected by the RTO Inspector. In that case, the citizen must re-apply for LLR if he/she wants DL. Once the citizen has received his LLR, he or she can apply for driving license, again through their Aadhaar number and a password as in the case of LLR. The system will check whether the LLR issued period is more one month and less than six months or not. If the LLR issued period is less than one month, the citizen will be asked to wait till one month completes.

If the LLR issued period is more than six months, the system will ask the citizen to re-apply for LLR. On a legitimate time of the LLR, the citizen will be asked for the COV to match whether LLR has been issued for the same COV for which the citizen is applying driving license for. On a correct match the system will generate the test date, test ID and test venue. In this case also, the venue for the test is based on the citizen's address and accordingly, the nearest RTO office is assigned as the test venue.

VEHICLE REGISTRATION:

This section is for the citizens to register their newly bought vehicles. The citizen will be asked to apply through their Aadhaar number and a password to be used for authentication. The citizen will be asked to submit the details of the vehicle such as the category of vehicle, vehicle company and the vehicle model. After the details are entered, the system will generate an appropriate date for the documents verification at the nearest RTO office.

COMPLAINT SUBMISSION:

The complaint submission form allows citizens to submit any complaint regarding the transportation system the state through Aadhaar number.

INFORMATION SECTION:

The website contains an information section where latest news and upcoming events are published.

GALLERY SECTION:

The home page also contains a gallery section where photos of events conducted by the RTO are published.

RTO INSPECTOR:

The duty of RTO inspectors is to update the status of LLR, DL and vehicle registration applications. Correspondingly, the system has three RTO inspectors, one each for updating the status of LLR, DL and vehicle registration. An LLR Inspector can view the table of applicants who have applied for LLR and update the status of LLR. To update the status of LLR, the LLR inspector will be asked to enter the applicant's Aadhaar number, LLR ID and update status (1 for approval and -1 for rejection). While viewing the LLR table, the inspector can also mail the applicant by clicking on the email link in the table.

Similarly, in the case of DL status update, the DL inspector must enter the Aadhaar number, DL ID to update the DL status which also applies to updating the vehicle registration status. Both DL inspector and vehicle registration inspector can view respective DL and vehicle registration table with an option to mail the applicant.

RTO ADMINISTRATOR:

The administrator will also login using a login page just like RTO Inspector. The list of privileges available to administrator.

That means, an administrator can view the LLR, DL and vehicle registration entry table. The admin can access the data base of driving license holders and the registered vehicles. Prior to one month of the expiry of driving license and RCs book of the vehicle, the administrator will send an alert email to the respective individual.

3.2.2 Security Requirements

Speed	Transaction/seconds
	User or event response
Size	Number of help frames
Reliability	Mean time to failure
	Probability of unavailability
	Rate of failure occurrence
Robustness	Availability
	Mean time to failure
	Probability of unavailability
	Rate of failure
Probability	Availability
	Number of target
	Percentage of target development statements.

3.3 Hardware Requirements

1. Keyboard.
2. Mouse Or any Input Method that can interact with the browser (touch capacitive screen).
3. Screen or monitor with screen resolution at least 1024x768. This is required for viewing the screen proper

3.4 Software Requirements

1. Any windows based operating system (Microsoft windows XP or higher).
2. Browser (Chrome/Firefox) and xampp with apache server
3. Notepad.

DATABASE DESIGN

TABLES CREATED

i. citizen

SNO	NAME	TYPE	DESCRIPTION
1	first_name	VARCHAR (30)	
2	middle name	VARCHAR (30)	
3	last name	VARCHAR (30)	
4	<u>aadhar</u>	CHAR (12)	Primary Key
5	gender	CHAR (1)	
6	dob	DATE	
7	phone_no	CHAR (10)	
8	mail id	VARCHAR (50)	

ii. address

SNO	NAME	TYPE	DESCRIPTION
1	<u>aadhar</u>	CHAR (12)	Primary key, Foreign key
2	street	VARCHAR (100)	
3	city	VARCHAR (30)	
4	state	VARCHAR (20)	

iii. offices

SNO	NAME	TYPE	DESCRIPTION
1	<u>district</u>	VARCHAR (30)	Primary key
2	rto address	VARCHAR (200)	

iv. inspector

SN O	NAME	TYPE	DESCRIPTION
1	d	INT	Primary Key
2	username	VARCHAR (50)	
3	password	VARCHAR (100)	
4	privilege	VARCHAR (5)	

Ilr

SNO	NAME	TYPE	DESCRIPTION
1	aadhar	CHAR (20)	Foreign Key
2	name	VARCHAR (50)	
3	cov	VARCHAR (20)	
4	edate	DATE	
5	eid	VARCHAR (10)	
6	<u>Ilr id</u>	INT	Primary Key
7	epwd	CHAR (10)	
8	passwd	VARCHAR (50)	
9	mail id	VARCHAR (50)	
10	Ilr status	INT	
11	Ilr issue date	DATE	

v. reg

SNO	NAME	TYPE	DESCRIPTION
1	aadhar	CHAR (12)	Foreign key
2	name	VARCHAR (50)	
3	cov	VARCHAR (30)	
4	model	VARCHAR (20)	
5	company	VARCHAR (20)	
6	rdate	DATE	
7	<u>r id</u>	INT	Primary key
8	passwd	VARCHAR (30)	
9	mail id	VARCHAR (50)	
10	reg status	INT	
11	reg_issue_date	DATE	
12	vno	VARCHAR (20)	
13	reg_expiry_date	DATE	

vi. dl

SNO	NAME	TYPE	DESCRIPTION
1	aadhar	CHAR (12)	Foreign Key
2	name	VARCHAR (50)	
3	cov	VARCHAR (20)	
4	edate	DATE	
5	eid	VARCHAR (10)	
6	<u>dl_id</u>	INT	Primary key
7	passwd	VARCHAR (50)	
8	mail id	VARCHAR (50)	
9	dl status	INT	
10	dl issue date	DATE	

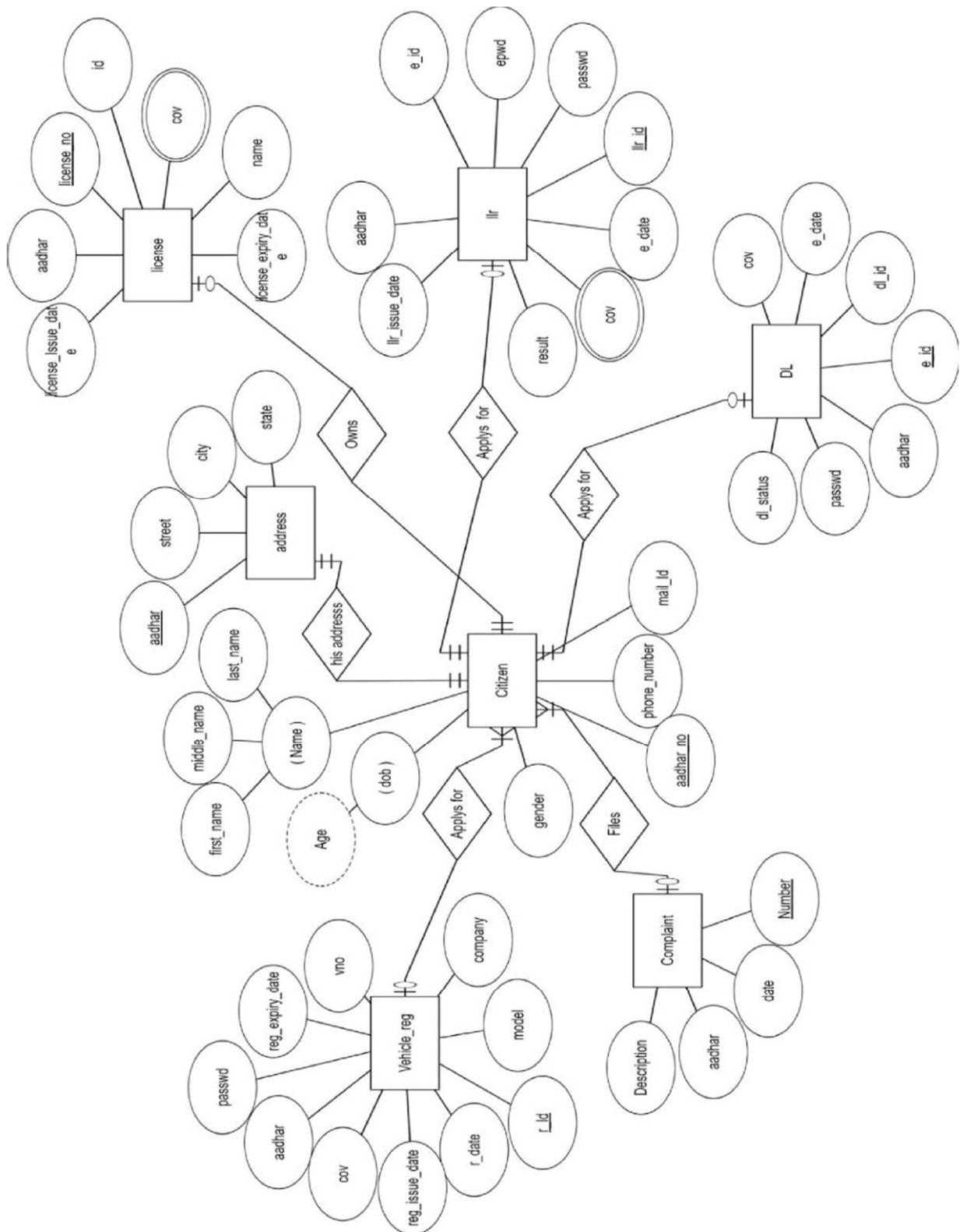
vii. license

SNO	NAME	TYPE	DESCRIPTION
1	d	INT	Primary Key
2	<u>aadhar</u>	CHAR (12)	Primary Key, Foreign key
3	name	VARCHAR (50)	
4	license no	VARCHAR (20)	
5	cov	VARCHAR (20)	
6	license issue date	DATE	
7	license expiry date	DATE	
8	mail id	VARCHAR (50)	

viii. complaint

SNO	NAME	TYPE	DESCRIPTION
1	aadhar	CHAR (12)	Foreign Key
2	cdate	DATE	
3	cdesc	TEXT	
4	cid	INT	Primary key

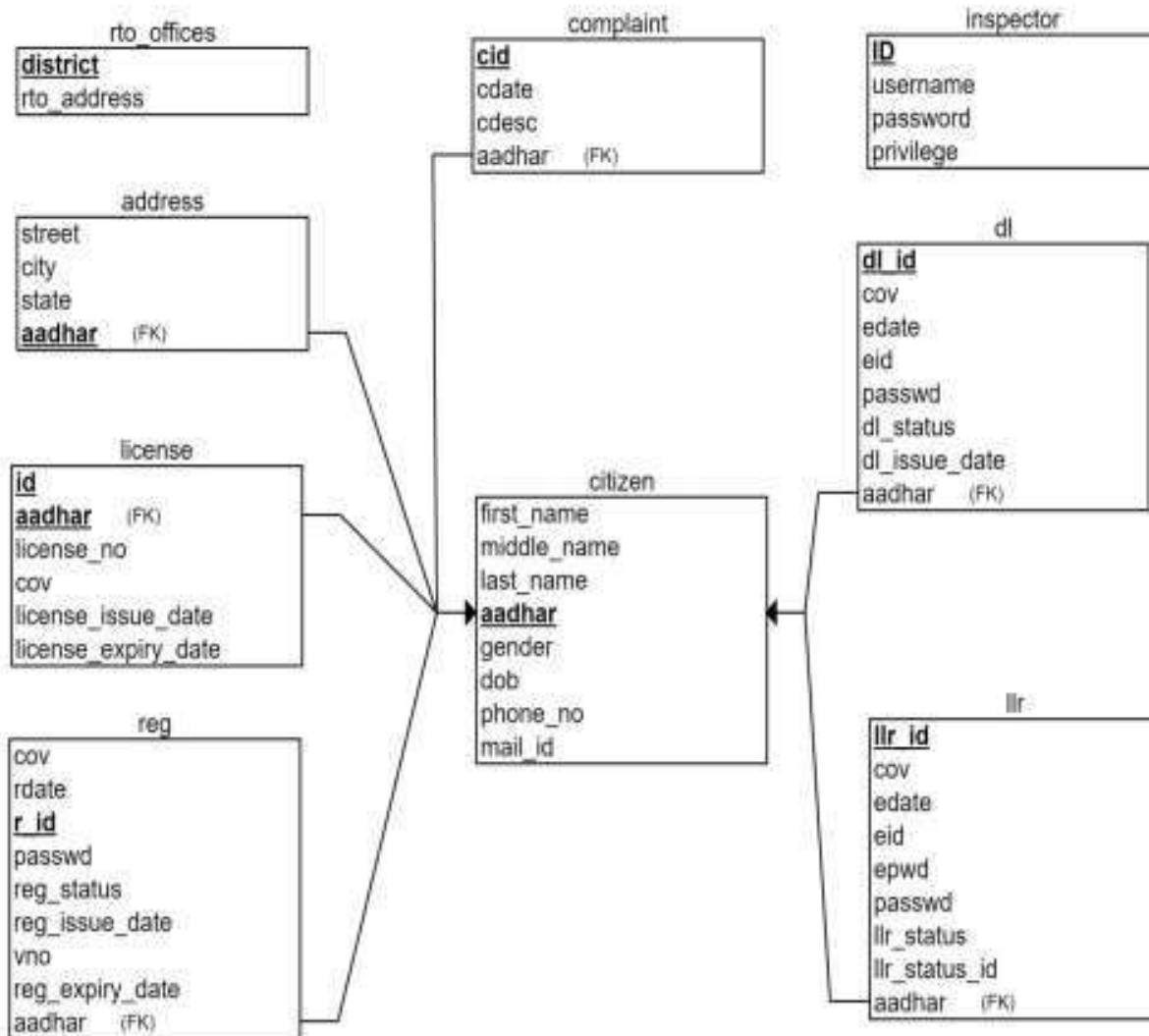
ER DIAGRAM (Rotate to see the diagram)
(Tool used: ERDPlus)



4.3 Schema Diagram

RELATION SCHEMA

(Tool used: ERDPlus)



Chapter 5:

SYSTEM IMPLEMENTATION

5.1 Tools and languages used:

5.1.1 Tools used:

1. Notepad/Notepad++
2. Apache
3. XAMPP
4. PHPMyAdmin (Database)

5.1.2 Languages used:

1. PHP (Hypertext Preprocessor)
2. SQL (Standardized Query Language)
3. HTML (Hypertext Markup Language)

- **Google Fonts** :

Used to make the web more beautiful, fast, and open through great typography.

Link-to-use : <https://fonts.google.com/>

- **Sublime Text 3** :

Used as text editor for code, markup and prose.

Link-to-use : <https://www.sublimetext.com/3>

- **Bootstrap** :

Used to design and customize responsive front-end with extensive prebuilt components, and powerful JavaScript plugins.

Link-to-use : <https://getbootstrap.com/>

- **Pixabay** :

Used to get high quality images for website.

Link-to-use : <https://pixabay.com/>

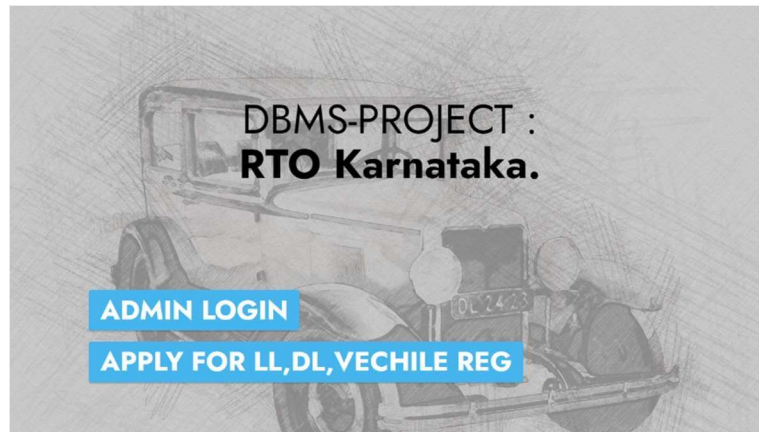
- **w3schools.com** :

Used for learning, testing, and training.

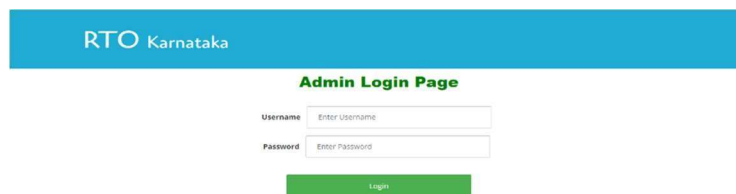
CHAPTER 6:

Snapshots

1) MAIN-PAGE:



2) ADMIN-LOGIN:



3) ADMIN-PAGE:



4) LLR's REGISTRATION PAGE:



5) COMPLAINT PAGE:

The screenshot shows the 'Complaint' page of the RTO Karnataka website. The header includes the RTO Karnataka logo and navigation links for 'Licence', 'Vehicle', 'Complaint', and 'gallery'. The main heading is 'Complaint'. Below it, a message states: 'Fill this form and we'll get back to you as soon as possible.' The form consists of two input fields: the first is pre-filled with '8772194207' and the second is labeled 'It's okay.'. A red 'Submit' button is located below the form. To the right of the form is a 3D illustration of a wooden box labeled 'COMPLAINT BOX' with a red envelope slot on top.

6) DLR's REGISTRATION PAGE:

The screenshot shows the 'Driver's License Registration' page of the RTO Karnataka website. The header includes the RTO Karnataka logo and navigation links for 'Home', 'LLR', 'Registration', 'DL', 'Complaint', and 'Gallery'. The main heading is 'Driver's License Registration'. Below it, a message states: 'Enter your Aadhar Number'. The form consists of two input fields: the first is labeled 'Aadhar number:' and the second is labeled 'New Password:'. A blue 'Submit' button is located below the form. To the right of the form is a graphic with the text 'WANT TO GET YOUR LEARNER LICENCE?' and an image of a red 'L' license plate and a key. At the bottom of the page, there are links for 'About Us' and 'Information'.

7) GALLERY PAGE:



8) VEHICLE's REGISTRATION PAGE:

The screenshot shows the 'Vehicle Registration' page of the RTO Karnataka website. The header includes the RTO Karnataka logo and navigation links for 'Home', 'LLR', 'Registration', 'DL', 'Complaint', and 'Gallery'. The main heading is 'Vehicle Registration'. Below it, a message states: 'Enter your Aadhar Number'. The form consists of two input fields: the first is labeled 'Aadhar number:' and the second is labeled 'New Password:'. A blue 'Submit' button is located below the form. To the right of the form is a graphic with the text 'WANT TO GET YOUR LEARNER LICENCE?' and an image of a red 'L' license plate and a key. At the bottom of the page, there are links for 'About Us' and 'Information'.

9) STATUS PAGE OF LLR:

RTO Karnataka

Home LLR Registration DL Complaint Gallery

Check status of your LLR

Enter your Aadhar Number

Aadhar number:

Enter Password:

Submit

About Us Information

Organisation of the Indian government responsible for maintaining a database of drivers and a database of Bengaluru

10) STATUS PAGE OF DLR:

RTO Karnataka

Home LLR Registration DL Complaint Gallery

Check status of your DL

Enter your Aadhar Number

Aadhar number:

Enter Password:

Submit

About Us Information

Organisation of the Indian government responsible for maintaining a database of drivers and a database of Bengaluru

11) STATUS PAGE OF VECH REGISTRATION:

RTO Karnataka

Home LLR Registration DL Complaint Gallery

Vehicle Registration

Enter your Aadhar Number

Aadhar number:

New Password:

Submit

WANT TO GET YOUR LEARNER LICENCE?

About Us Information

CHAPTER 7:

CONCLUSION

The implemented project RTO Management System brings out an improvement over the existing RTO system by reducing the processing delay and allowing RTO to provide quality of service to the citizen. It overall increases the efficiency of the RTO office and effectively reduces the burden on the RTO officials. People need not stand in long queues just to apply for LLR or DL at RTO offices. All this pre- registration task can be done online through the implemented system. Any doubts or queries can be submitted which will be responded by the officials. This project even eliminates the presence of middle man from the entire process and thereby decreasing the degree of corruption in the state. The other ways in which the system helps is by publishing the latest news and events. The project is mainly built using web scripting languages. So, in the future, updating the system or adding extra features to the system as per the requirements will not be difficult as simple web scripting languages will help us in accomplishing it

Future Work:

- 1.We can add more advance software for “RTO Management System” including more facilities.
- 2.We can make it accessible worldwide.
- 3.Implementing the backup mechanism for taking backup of codebase and database on regular basis on different servers.

REFERENCES

Google Fonts : <https://fonts.google.com/>

Sublime Text 3 : <https://www.sublimetext.com/3>

Bootstrap : <https://getbootstrap.com/>

Pixabay : <https://pixabay.com/>

w3schools.com : <https://www.w3schools.com/>

MYSQL : <https://dev.mysql.com/>

FreeCodeCamp : <https://www.freecodecamp.org>

Tutorialpoint : <https://www.tutorialspoint.com>

BOOKS:

MySQL Crash Course, Ben Forta.

Software Engineering , Pressman.