**CHAPTER - 4**

**SYSTEM ANALYSIS**

**4.1 Study of Current System**

A total manual system, which is running without any participation of a computer-definitely have its own disadvantages. We know that the production and use of vehicles are increasing day by day. Hence the need of RTO is very important now days. The complex functions such as Registration of vehicles etc. becomes very difficult if we are using the existing system.

To know about the problems specifically, we have done a detailed study on the whole procedure of the system which is currently running.

In the existing system of RTO office performs functions such as registration, license, vehicle detained and fitness. There are certain procedure and formalities required to perform these functions.

It is essential that the particulars of every vehicle and its owner should be available in the concerned department or office of Government and that the vehicle should be distinguishable from other vehicles by sight. The registration mark should be displayed in specified places and in specified manner. In the registration section, application for registration of a new vehicle shall be submitted before the Registering Authority in whose jurisdiction the applicant is residing or having his business and the vehicle is normally kept. The application for registration shall be made in Form, within a period of 7 days from the date of delivery of such vehicle excluding the period of journey.

Many people have craze on their vehicle registration numbers. Some of them want fancy numbers while the others want numbers according to their belief in the numerical astrology. Whatever it may, it will be interesting to know about the theory of formation of vehicle registration numbers in the state, keeping it as a unique identifier for each vehicle.

In the license section at the RTO, after the verification of the form your knowledge on traffic rules and regulations as well as interpretation of symbols will be tested. However, if the need arises, they may take a written test too.

After all this, a learner’s license will be issued. This license is valid for a period of 6 months and can be renewed for another 6 months just once though. The next time, a fresh learner’s license will have to be made following the whole earlier procedure.

**4.2 Problem and Weakness of Current System**

The proposed system is aimed to automate the major processes in the Regional Transport Office.

**Decomposition of Proposed System**

The basic modules in the total procedure are:

Administrator: Administrator is power user. He has the power to verify the data entered by the user, processing of data and provide appropriate solutions.

Authorized user: Any person who have been authorized by the administrator. An authorized user should have a user name and password to access detailed information from the site excluding for accessing general information in shared, public pages.

User: He is the person who gets the full benefits of this application. By introducing the new system we have been organized some striking felicities: Registration of vehicle through online.

Fancy number selection of vehicles through online.

Issue of information’s about license, which include application forms, demo of leaner’s license test and other information’s.

It help’s traffic police for tracing particular vehicle’s.

It help’s for public awareness.

Separate account for the license holders and police.

Provide mail alerts for users about license expiry.

Complaint registration.

**4.3 Requirement of New System**

Proposed system is an online system: so any persons can browse the sit and download & upload the application form.

Less time consuming.

Highly secure in data storing.

Can avoid intermediate persons & institutions.

Helpful in traffic issues: authorized users can trace the vehicle in the accident cases using their register number.

It is more users friendly: the sections such as, registration, license etc are combined together in a single window.

Demo questions of learner’s license test will help the users in their license test.

Users can have knowledge about the new rules and regulations from the information’s & awareness section.

**4.4 Feasibility Study**

Feasibility study is the detailed study expanded from the result of initial investigation. This is done by investigating the existing system in the area under investigation or generally ideas about a new system. It is the test of a system proposal according to its work ability, impact on organization, ability to meet user needs and effective use of resources. Objective of feasibility study is to acquire a sense of the scope of the problem. It is carried out to select the best system that meets performance requirements.

Feasibility analysis involves the following steps:

Form a project and appoint a project leader.

Prepare system flowcharts.

Weigh system performance.

Prepare and report final project directive to management.

There are three key considerations involved in feasibility analysis namely:

Economic feasibility

Technical feasibility

Operational feasibility

**4.4.1 Economic Feasibility:**

Economic feasibility is used to determine the benefits and savings expected from the candidate system and to compare them with costs incurred. If benefits outweigh cost, then decision will be to design and implement system. Otherwise, alterations will have to be made to the proposed system. The proposed system is economically feasible.

**Technical Feasibility:**

Technical feasibility centres on existing system and to what extent it can support proposed modifications. It involves financial enhancement.

This evaluation determines whether the technology needed for the proposed system is available or not. This is concerned with specifying satisfy the user requirements. The technical needs of the system may include front-end and backend-selection.

An important issue for the development of a project is the selection of suitable front-end and back-end. Based on some aspects, we select the most suitable platform that suits the needs of the organization.

**4.4.2 Operational Feasibility:**

The present system is easily understandable. The users are presented with friendly user interface that helps them to understand the flow of the system more easily.

Maximum transparency has been provided. The new system is very much user friendly and operational cost is bearable. The maintenance and working of the new system needs less human efforts. The proposed project is beneficial to the organizational and is user friendly.

**4.5 REQUIREMENTS VALIDATION**

The requirements validation is the process to identify area of concern that requires further exploration. By validating the requirements before design begins, manufactures can guard against the need for unexpected rework late in the development cycle. The resulting savings in time and money and even reputation can be significant.

Following is the checklist for preparing requirements documents appropriate:

* Does the requirement meet stated client’s need?
* Is the requirement both necessary and sufficient?
* Is the requirement understandable without having to analyze the meanings of words?
* Do all project participants interpret the requirement in the same way?
* Is the requirement redundant?
* Does the requirement conflict with others?
* Does the requirement contain errors of fact?
* Is it physically possible to meet the requirement using existing technologies?
* Can the requirement be met within the approved schedule and budget?
* If the requirement may have to be changed, is there enough information available to allow the change to be made completely and consistently?
* Is the statement of the requirement verifiable through modeling, simulation, analysis, inspection, or logical argument?

As the requirements validation is also concerned with showing that the requirements actually defines the system which the organization wants, by answering above checklist that requirements are fulfilled. The requirements which we have mentioned earlier are actually defines that system which client wants.

* 1. **FUNCTION OF SYSTEM**

**4.6.1 Use Case Diagram for Admin:**



**Fig. 4.6.1 Use Case Diagram for Admin**

* + 1. **Use Case Diagram for Consultant:**



**Fig.4.6.2** **Use Case Diagram for Consultant**

**4.6.1 Use Case Diagram For Visitors:**



**Fig. 4.6.1 Use Case Diagram For Visitors**

**4.7 DATA MODELING**

**4.7.1 Class Diagram**



**Fig. 4.7.1 Class Diagram**

**4.7.2 System Activity Diagrams**

Below are shown the activity diagrams of the system. As the organization required the activity diagrams, instead of flow chart I’ve drawn the activity diagrams. The diagrams are shown below very clearly and clear the idea about the activities carried out by the project.

1. **Activity Diagram for Admin:**



**Fig. 4.7.2 Activity Diagram for Admin**

**(2) Activity Diagram for Consultant:**



**Fig. 4.7.2 Activity Diagram for Consultant**

**(3) Activity Diagram for Visitors:**



**Fig. 4.7.2 Activity Diagram for Visitors**

**4.8 Data Flow Diagram**

**4.8.1Context Diagram: 0 Level**



**Figure 4.8.1 0 Level DFD**

**4.8.2Data Flow Diagram Level 1**



**Figure 4.8.2 Levels 1 DFD**

**4.8.3 E-R Diagram**



**Fig. 4.8.3 E-R Diagram**

**4.9 MAIN MODULES OF NEW SYSTEM**

The system after careful analysis has been identified to be presented with the

Following main modules:

* Admin
* Consultant.
* Visitor.
* User.