Project Proposal On
Online Vehicle Tax Pay System

ONLINE VEHICLE TAX PAY SYSTEM

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Chapter1. Introduction

1.1 Project Introduction

Online Vehicle Tax Pay System is the system for paying vehicle tax online. This System will let owner pay the tax of their vehicle without getting in queue for hours. Vehicle Insurance is also processed through this system. This project will save valuable time of Vehicle Owner.

1.2 Background of the project

People are very busy nowadays. They want their life to be easier and simpler. In this busy life schedule, most of their time passes while standing in queue for many specific purpose. One of them is for paying their vehicle tax. So I intend to decrease this waste time. Here in this system, Owner need to enter their vehicle information and owner's information like phone number, email id, address. The information will be saved in our system and will get their tax paid.

1.3 Problem Statement

Many of the Government System are now online but the process of paying vehicle tax is still in old way i.e standing in queue and wait for the turn. This consumes time of every individual. This is the problem in current system. So this project will focus only on possible way of paying vehicle tax efficient. With this project, Owner can be sure that their vehicle tax will be paid in time without any effort.

1.4 Description of the Project

Description of the project include following requirements:

Front End Language: HTML, CSS, Javascript

Programming Language: PHP (Laravel Framework)

Tool: Dreamweaver

Platform: Web Based

Pattern: MVC (Model, View and Controller)

Database: MySQL

For this Project I will use HTML, CSS, and Bootstrap for completing my frontend task while I will be using PHP for backend and MySQL for database. The System will be based on web. Tools like Dreamweaver will be used during this whole project.

1.4.1 Feature of the Project

Features of the Online Vehicle Tax Pay System include following things:

- **Register**
  - For register user will enter their Name, Mobile Number, Email Address, Last Renewal Date, and Vehicle Type.
  - New information regarding clients will sent to Email.
- **User can see the status of their task.**
  - User can view if their Bill Book is renewed or not.
- **User can see the Tax Amount of their vehicle.**
- **User will get notification of their next renew time.**
- **Report of the Payment**

1.5 Overview of the Project

Online Vehicle Tax Pay System will be useful for the person who are very busy in their work and are unable to get time for paying their vehicle tax. The system will generate the tax amount after the information of the vehicle is provided by owner. It is a simpler yet faster service for people.

The main purpose of this project is to make people life easier by automating one of the must do task of people i.e Vehicle Tax Payment

Chapter2. Scope of the Project

2.1 Scope

Online Vehicle Tax Pay System is for supporting people/organization for paying their vehicle tax. It helps owner to pay their tax in easier way. One can even pay their amount directly by bank account or by online payment systems. It doesn't just get the job done easily but also reduces the queue in the Transport Office as not all owner will be going there to pay tax.

2.2 Limitations

Individual may not get their bill book renewed at instance as government does not have the automatic renew system. It may take up to 24hr for renew depending on the situation. This system doesn't support android or IOS platform as it is based only on Web.

2.3 Aims

- ❖ The main aim of this project is to develop web based application where a vehicle owner can enter their vehicle type, last renewal date and get their tax amount and pay the amount without getting in queue for hours.
- ❖ Calculates the Tax Amount automatically.

2.4 Objectives

- ❖ User Friendly Design
- ❖ Time Management
- ❖ Online Payment System.
- ❖ Generate Tax Amount
- ❖ Database of Vehicle Information.
- ❖ Different diagrams like use case, activity and sequence are designed.
- ❖ Can be used for both individual or for organizations.
- ❖ Illustrate the flow of application.

2.5 Overview of the Scope

The system Online Vehicle Tax Payment System has its own limitations, aims and objectives. Limitation of this system is that payment are not done in real time. It requires time to process payment as the government doesn't allow the online transaction for the vehicle tax payment. Furthermore the system also run on browser as it is web based only. The aim of this system is to provide hassle free environment for paying their vehicle tax. The Objective of this system is to provide bug free system for user and well documented for future use.

Chapter3. Development Methodology

3.1 Description of the Methodology

Waterfall Model

The waterfall model is a sequential model divided mainly into five phases. It is a very simple and easy to understand. Each phase must be completed before moving into another phase.

Phases of Waterfall model are as follows:

- ❖ Requirements analysis
- ❖ Design
- ❖ Implementation
- ❖ Verification
- ❖ Maintenance
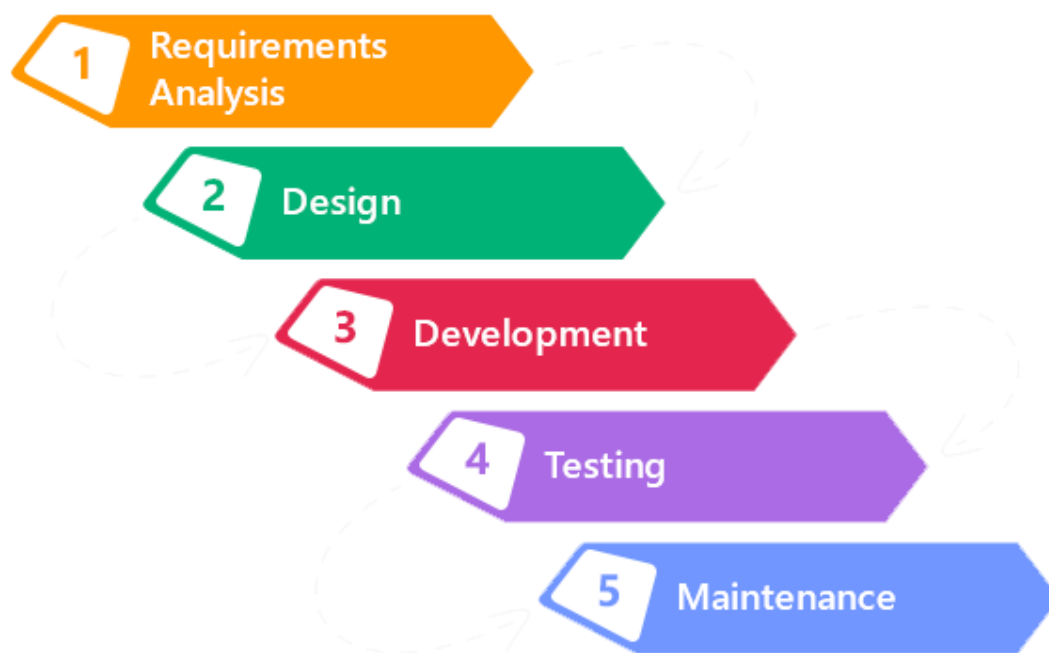
Screenshot 1: Waterfall Model

I have chosen Waterfall Methodology due to following reason:

- ❖ It's easier to use and understand.
- ❖ Since the project is small, waterfall method is suitable for it.

Advantage of using Waterfall Model:

- ❖ Earlier phases must be completed before continuing to next phase. So overlapping doesn't occur.
- ❖ Developer and Customer agree upon delivery of project at before starting the project.
- ❖ Scope of the project is known in advance. So Progress is measured easily.
- ❖ Customer Presence is not required after requirement phase.

Disadvantage of using Waterfall Model:

- ❖ All the deliverables are based upon documented requirement. So the customer may not see the product until it is fully done. If changes occurred by that time it is difficult to implement.
- ❖ Moving backward to phases is difficult and costlier.
- ❖ Testing time is at last phase which is against the rule of software development.

3.2 Design Pattern

Here in this project I will use **Model View Controller (MVC)** design pattern.

Model – this part is concerned with the business logic and the application data. It can be used to perform data validations, process data and store it. The data can come from;

- flat file
- database
- XML document
- Other valid data sources.

Views – this part deals with presenting the data to the user. This is usually in form of HTML pages.

Controller – this is the part deals with the users' requests for resources from the server.

In a nutshell, the controller links the models and views together depending on the requested resources.
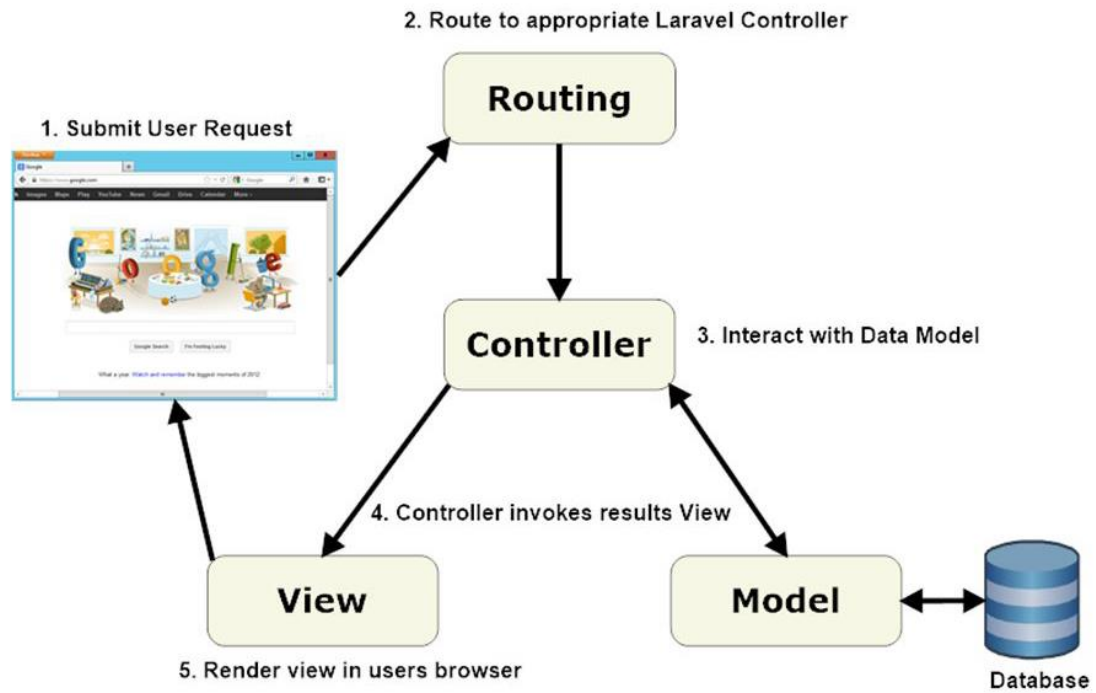
Screenshot 2: MVC design pattern

Advantages of using MVC design pattern:

- ✓ It hides all complex details of implementation.
- ✓ It provides standard methods to build applications.
- ✓ With MVC architecture, you have full control over how your application appears to the world by choosing the application routes. This comes in handy when you are trying to improve your application for SEO purposes
- ✓ MVC can force you to split your files into logical directories which makes it easier to find files when working on large projects.

Disadvantages of using MVC design pattern:

- ✓ Modification option for core behavior is lacking.
- ✓ The view and the controller are closely coupled which makes modification to one affect the other.
- ✓ Changes to the model interface will necessitate changes to the controller and the view.
- ✓ When the model is active frequent changes to model can result in excessive updates of the corresponding views.

3.3 System Architecture

Three Tier Architecture

As it's name, this tier consists of three tier i.e Presentation Tier, Application Tier and Data Tier.

Presentation Tier:

It contains UI part of the application. Here data is presented to the user or input is taken from the user. This tier communicates with other tiers by sending results to the browser and other tiers in the network.

Application Tier:

   All the logic written like validation, calculations, insertions are written in this layer. It is the intermediary layer which helps to make communication faster between presentation and data layer.

Data Tier:

 Database resides into this Tier. Data Access layer contains methods to connect with database and to perform CRUD from database based on input data.
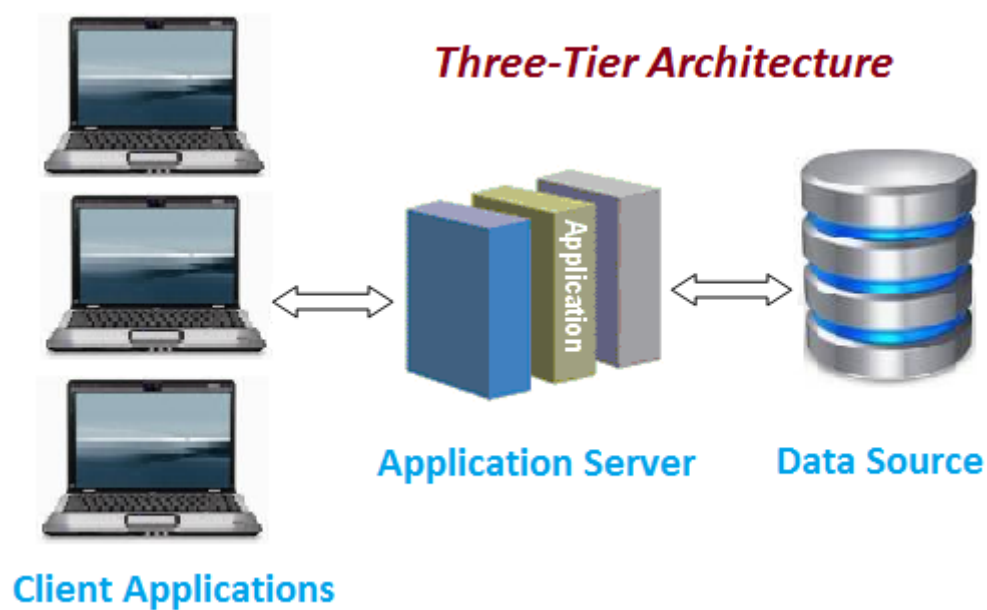

Screenshot 3: Three-tier Architecture

Chapter4. Project Planning

4.1 Work Breakdown Structure (WBS)

Work Breakdown Structure (WBS) is a breakdown of project into smaller components to remove complexity and for manageable purpose. It decomposes the project into phases, deliverables and work packages. It breakdown the entire project into meaningful components. The Work Breakdown Structure for Online Vehicle Tax Pay System are as given below:

- ✓ Project Management
- ✓ Analysis
- ✓ Design
- ✓ Implementation
- ✓ Deployment
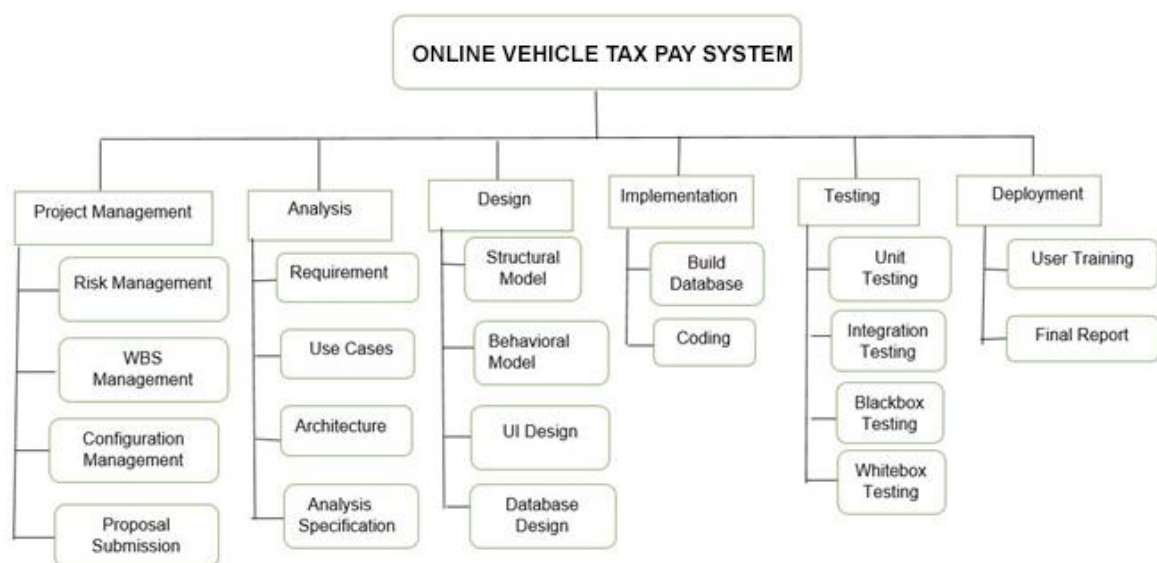
*Screenshot 4: Work Breakdown Structure for Online Vehicle Tax Pay System*

4.2 Milestones

Milestones Table:

S.N	Milestones	Start Date	End Date	Total Days (108)
1.	**Project Management**	**03/25/2019**	**04/07/2019**	**14**
	Risk Management	03/25/2019	03/27/2019	3
	WBS	03/28/2019	03/30/2019	3
	Configuration Management	03/31/2019	04/03/2019	4
	Proposal Submission	04/04/2019	04/07/2019	4
2	**Analysis**	**04/08/2019**	**05/04/2019**	**27**
	Requirement analysis	04/08/2019	04/17/2019	10
	Use Case	04/18/2019	04/24/2019	7
	Architecture	04/25/2019	05/01/2019	7
	Analysis specification	05/02/2019	05/04/2019	3
3	**Design**	**05/05/2019**	**05/24/2019**	**20**
	Structural Diagram	05/05/2019	05/09/2019	5
	Behavioral Diagram	05/10/2019	05/14/2019	5
	UI Design	05/15/2019	05/19/2019	5
	Database Design (ER, Data Dictionary)	05/20/2019	05/24/2019	5
4	**Implementation**	**05/25/2019**	**06/18/2019**	**25**
	Building Database	05/25/2019	05/29/2019	5
	Coding	05/30/2019	06/18/2019	20
5	**Testing**	**06/19/2019**	**06/30/2019**	**12**
	Unit Testing	06/19/2019	06/21/2019	3
	Integration Testing	06/22/2019	06/24/2019	3
	Blackbox Testing	06/25/2019	06/27/2019	3
	Whitebox Testing	06/28/2019	06/30/2019	3
6	**Deployment**	**07/01/2019**	**07/10/2019**	**10**
	User Training	07/01/2019	07/05/2019	5
	Final Report	07/06/2019	07/10/2019	5

4.3 Gantt Chart

Below are the schedule and the Gantt chart of project

Schedule:

		Name	Duration	Start	Finish	Predecessors
1		⊟ Project Management	14 days	3/25/19 8:00 AM	4/7/19 5:00 PM	
2		Risk Management	3 days	3/25/19 8:00 AM	3/27/19 5:00 PM	
3	▦	WBS	3 days	3/28/19 8:00 AM	3/30/19 5:00 PM	2
4		Configuration Management	4 days	3/31/19 8:00 AM	4/3/19 5:00 PM	3
5		Proposal Submission	4 days	4/4/19 8:00 AM	4/7/19 5:00 PM	4
6	▦	⊟ Analysis	27 days	4/8/19 8:00 AM	5/4/19 5:00 PM	
7		Requirement Analysis	10 days	4/8/19 8:00 AM	4/17/19 5:00 PM	
8		Use Case	7 days	4/18/19 8:00 AM	4/24/19 5:00 PM	7
9		Architecture	7 days	4/25/19 8:00 AM	5/1/19 5:00 PM	8
10		Analysis Specification	3 days	5/2/19 8:00 AM	5/4/19 5:00 PM	9
11	▦	⊟ Design	20 days	5/5/19 8:00 AM	5/24/19 5:00 PM	
12		Structural Diagram	5 days	5/5/19 8:00 AM	5/9/19 5:00 PM	
13		Behavioral Diagram	5 days	5/10/19 8:00 AM	5/14/19 5:00 PM	12
14		UI Design	5 days	5/15/19 8:00 AM	5/19/19 5:00 PM	13
15		Database Design (ER, Data	5 days	5/20/19 8:00 AM	5/24/19 5:00 PM	14
16	▦	⊟ Implementation	25 days	5/25/19 8:00 AM	6/18/19 5:00 PM	
17		Building Database	5 days	5/25/19 8:00 AM	5/29/19 5:00 PM	
18		Coding	20 days	5/30/19 8:00 AM	6/18/19 5:00 PM	17
19	▦	⊟ Testing	12 days	6/19/19 8:00 AM	6/30/19 5:00 PM	
20		Unit Testing	3 days	6/19/19 8:00 AM	6/21/19 5:00 PM	
21		Integration Testing	3 days	6/22/19 8:00 AM	6/24/19 5:00 PM	20
22		Blackbox Testing	3 days	6/25/19 8:00 AM	6/27/19 5:00 PM	21
23		Whitebox Testing	3 days	6/28/19 8:00 AM	6/30/19 5:00 PM	22
24	▦	⊟ Deployment	10 days	7/1/19 8:00 AM	7/10/19 5:00 PM	
25		User Training	5 days	7/1/19 8:00 AM	7/5/19 5:00 PM	
26		Final Report	5 days	7/6/19 8:00 AM	7/10/19 5:00 PM	25

Screenshot 5: Schedule of Online Vehicle Tax Pay System

Gantt chart:
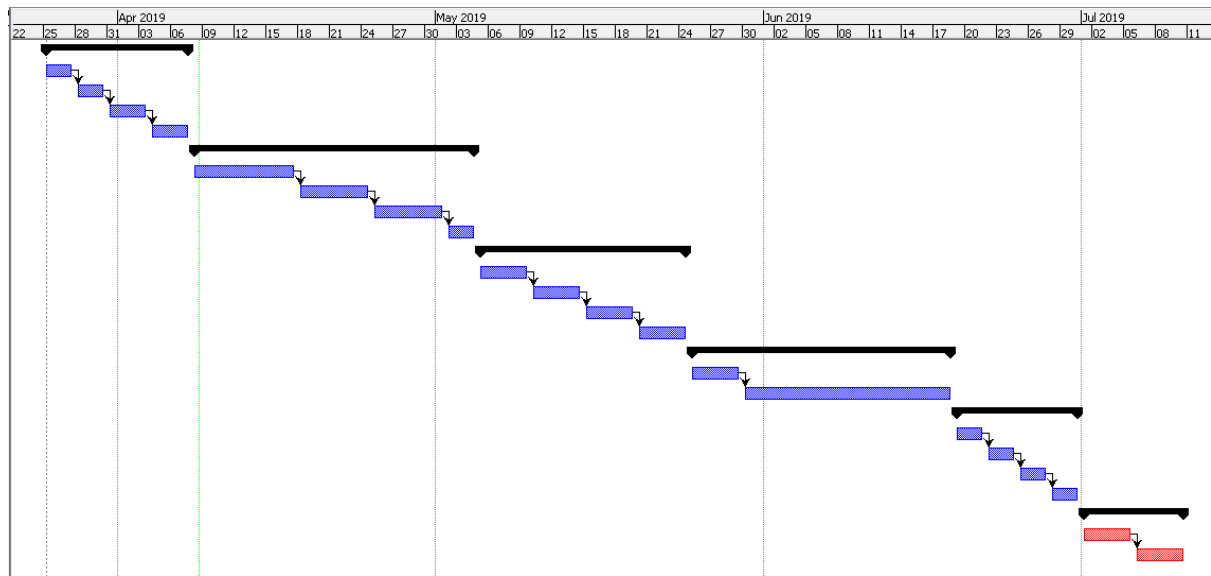
Screenshot 6: Gantt chart of Online Vehicle Tax Pay System

Chapter5. Risk Management

The process of identification, analysis and acceptance or mitigation of uncertainty in investment decisions is known as risk management. It controls or minimize the flow of unexpected risk, time and money. We have mathematical Calculation to get the impact of the risk.

Impact = Likelihood * Consequences

Likelihood values of risk:

Likelihood	Value
Low	1
Medium	2
High	3

Consequences values of risk:

Consequences	Value
Very Low	1
Low	2
Medium	3
High	4
Very High	5

Risk Table:

S.N	Risks	Likelihood	Consequences	Impact	Solution
1	Lack of resources	2	3	6	Resources should be provided before starting project.
2	Operating System failure	2	2	4	Backup File
3	User Experience	2	3	6	Provide System Manual to user.
4	Virus, Threats	2	4	8	Daily Based Scanning and updated antivirus should be installed.
5	Natural Disaster	1	5	5	Implementation of cloud back up system.
6	Hard drive failure	1	4	4	To prevent from failure reduce data load and provide back-up system.

Chapter6. Configuration Management

Configuration Management is the governance and system engineering process which identifies and track individual configuration items, documenting functional capabilities and interdependencies. It ensures consistency among physical assets in an operational environment.

Below information shows the directory structure of project:

Screenshot 7: Github Directory Structure

```
C:\WINDOWS\system32\cmd.exe

Microsoft Windows [Version 10.0.17763.379]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\Bishesh>cd documents

C:\Users\Bishesh\Documents>cd github

C:\Users\Bishesh\Documents\GitHub>cd Online-Vehicle-Tax-Pay-System

C:\Users\Bishesh\Documents\GitHub\Online-Vehicle-Tax-Pay-System>tree /a /f
Folder PATH listing
Volume serial number is F004-3600
C:.
|   README.md
|
+---Analysis
|       readme.txt
|
+---BackUp
|       readme.txt
|
+---Design
|       readme.txt
|
+---Documentation
|       readme.txt
|
+---Implementation
|       readme.txt
|
+---Proposal
|       00175019_CP_Proposal.docx
|       Gantt Chart.pod
|       readme.txt
|
\---Testing
        readme.txt
```

Screenshot 8: Tree structure for Online Vehicle Tax Pay System

Chapter7. Conclusion

There is always rush in Transport Department Office for paying taxes of vehicles. People have to wait in lines for hours leaving their jobs behind. The main purpose of my project is to make rush in Transport Department lower. Here my project will provide platform to pay vehicle taxes in easy way for such people who are very busy in their daily work. This will save people's time and money.

Chapter8. References