

Agile Requirements Specification

for

E- Challan Application

Version 1.0 approved

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1. Purpose

The main objective of the document is to illustrate the requirements of the E-Challan System. The document gives us a detailed description of both functional and non-functional requirements of the system. The main idea of this project is to provide an online platform for the user and a convenient way to pay their penalties for traffic violations. The database will consist of all the violators' previous history and their credentials, which can be verified and a penalty can be imposed in case of any traffic violation. The main aim of the project is to reduce the paperwork and manual processes and increase the convenience for the users.

1.1 Scope

The scope of the proposed system is to provide a platform where

- **Accuracy:** The E-Challan System provides the users a quick response with very accurate information regarding the users etc. Any details or system in an accurate manner, as and when required.
- **Automation:** The E-Challan System automates every activity of the manual system and increases its throughput. Thus, the response time of the system is very low and it works very fast.
- **User-Friendly:** The software E-Challan System has a very user-friendly interface. Thus, the users will feel it is effortless to work on it. The software provides accuracy along with a pleasant interface. Make the present manual system more interactive, speedy, and user-friendly.
- **Maintenance Cost:** The project aims at reducing the cost of maintaining the records of all the challan.

1.2 Overview

The front end will be accessible to two types of users - the traffic policeman imposing a fine and the traffic rule violator, who pays for the imposed fine.

Every eligible driver has a unique driving license no. And every traffic policeman has a unique employee ID no.

- The policeman imposing the fine can log in through his unique username and password. He can verify the violator's driving details. After verification, he can impose the necessary penalties and remarks against the violator's license.
- The violator will be given a certain amount of time to pay his fine and penalty. The user can log in through his unique username and custom password after verification. If the user does not pay his fees in the due time he will be imposed an additional penalty per day delayed. This management system will help reduce the paperwork and improve the convenience for the users

2. Overall Description

2.1 Product Perspective

E-Challan System is the software aimed at providing a wide range support in managing and monitoring the traffic and penalties, helping users regarding the problems they face in paying for their challan. The E-challan System is basically an interaction between police and driver easily through an online platform or an app.

2.2 Product Functionality/Features

The system will have users such as:

- Driver
- Police

Major functionality of system will include:

- Credential verification.
- Impose necessary penalties and remarks against the violators license.
- Identifies and automatically imposes late penalties .
- Provides information regarding the various violations and their respective chalan amount.

2.3 User Characteristics

The users who will be using this system must have a login ID and password. Also the users must have knowledge of the internet.

There will be two different users who will be using this system:

- Driver
- Police

2.4 Constraints

The product will be supported only by the below mentioned browsers and operating systems.

- Supported Web browsers
 - Internet Explorer
 - Google Chrome
 - Mozilla Firefox
- Supported Operating System
 - Windows XP, Vista

2.5 Assumptions and Dependencies

The proposed system needs an internet connection on the client side. It needs the following third party products on the server side:

- SQL Server
- Java Framework
- IIS

3. Specific Requirements

3.1 Functional Requirements

3.1.1 Driver's Requirements

3.1.1.1 Login

3.1.1.1.1 To login into the system, the following details are required:

3.1.1.1.1.1 Driving Licence – must be a valid Driving Number

3.1.1.1.1.2 Password – Must have at least 8 characters, the text field must be in password mode.

3.1.1.1.1.3 Change Password

3.1.1.2 Create Account

3.1.1.2.1 The customers can register themselves on the website.

3.1.1.2.2 For registering, the following information are required:

3.1.1.2.2.1 Driving Licence – must be an active driving license.

3.1.1.2.2.2 Password – Must have at least 8 characters, the text field must be in password mode.

3.1.1.2.2.3 Contact Details

3.1.1.2.2.3.1 Name

3.1.1.2.2.3.2 Mobile

3.1.1.2.2.3.3 Mailing Address

Upon successful registration, this information will be stored in the database in the driver_login table.

3.1.1.3 Challan Information

3.1.1.3.1 Provides information regarding different traffic rules and their corresponding Challans (fines)

3.1.1.4. Pay Challan

3.1.1.4.1 Shows the list of challan yet to be paid by the driver.

3.1.1.4.1.1 Challan Number

3.1.1.4.1.2 Status (Paid, Late, Ongoing)

3.1.1.4.2 Upon clicking, it gives details of the challan

3.1.1.4.2.1 Challan Number

3.1.1.4.2.2 Place

3.1.1.4.2.3 Date

3.1.1.4.2.4 Time

3.1.1.4.2.5 Vehicle Number

3.1.1.4.2.6 Rule Number

3.1.1.4.2.7 Pay (Link)

3.1.1.4.3 Upon clicking pay, it asks the user for card details

3.1.1.4.3.1 Challan Number

3.1.1.4.3.2 Card Number

3.1.1.4.3.3 Name on Card

3.1.1.4.3.4 CVV

3.1.1.4.3.5 Password

3.1.1.4.3.6 Expiry Date

3.1.2 Police Requirements

3.1.2.1 Login

- 3.1.2.1.1 To login into the system, the following details are required:
 - 3.1.2.1.1.1 Badge Number – must be a valid Badge Number.
 - 3.1.2.1.1.2 Password – Must have at least 8 characters.
 - 3.1.2.1.1.3 Change Password

3.1.2.2 Issue Challan

- 3.1.2.2.1 Manually fills forms in order to issue challan.
 - 3.1.2.2.1.1 Driving Licence Number
 - 3.1.2.2.1.2 Name
 - 3.1.2.2.1.3 Challan Number
 - 3.1.2.2.1.4 Place
 - 3.1.2.2.1.5 Date
 - 3.1.2.2.1.6 Time
 - 3.1.2.2.1.7 Rule Broken
 - 3.1.2.2.1.8 Vehicle Number
 - 3.1.2.2.1.9 Total Amount

3.2 External Interface Requirements

3.2.1 Software Interfaces

Database Management System: SQL Server
Java RunTime Environment
Eclipse/Net Beans
Technology: Java Script, JSP, HTML, CSS

3.2.2 Communication Interfaces

- The proposed system needs internet connection.
- The HTTP protocol will be used to facilitate communication between client and server.

3.3 Design and Implementation Constraints

Database accuracy and data retrieval speed:

The online central database and offline database should be synchronized at particular intervals.

4. Non-Functional Requirement

4.1 Security and Privacy Requirements

4.1.1 Authentication

- Only authenticated users will be allowed to issue or pay the fines.
- The unauthenticated users will only be allowed to browse through the site and can see the list of traffic rules and their respective challan.
- The security will be based on password protection and document verification.

4.1.2 Authorization

- Security needs to be checked on the applicable pages to prevent URL manipulations.

4.1.3 Privacy

- The fines paid by the driver can only be seen by the driver themselves.

4.2 Computer Resource Requirements

4.2.1 Computer Hardware Requirements

Server side:

- Pentium 4 processor
- 80 GB HDD or higher
- 512MB RAM or higher
- NIC

Client side:

- Pentium processor
- 256MB RAM or higher
- Internet Connection

4.2.2 Computer Software Requirements

Server side:

- Java Framework
- Windows 2000 or later version
- MS SQL 2008

Client side:

- Browser