Lab 2 – Traffic Tamer Product Specification

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November 25, 2024

Lab 2 Version 2

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1 Introduction

1.1 Purpose

This document provides the software requirements specification for the Traffic Tamer System. The document is to outline the functional and non-functional requirements that are required for the development of Traffic Tamer.

1.2 Scope

The purpose of Traffic Tamer is to give individuals a tool that will provide them with the means to gain a better understanding of traffic laws. Traffic Tamer's goal is to simplify the complex legal jargon into an understandable statement that allows a greater comprehension of the traffic law. It aims to provide the benefit of assisting individuals that are confused about traffic laws and to create the daily commute safer.

1.3 Definitions, Acronyms, and Abbreviations

Apache - An open-source web server software that is widely used to serve web content over the internet.

CSS (Cascading Style Sheets) - A style sheet language used for describing the presentation of a document written in HTML or XML, defining the look and layout of a web page.

Docker - A platform for developing, shipping, and running applications in containers. Containers are lightweight, portable, and self-sufficient environments that include all the necessary components to run a piece of software.

HTML (HyperText Markup Language) - The standard markup language used to create web pages. HTML elements are the building blocks of web pages.

JavaScript: A programming language that enables interactive web pages and is an essential part of web applications. Along with HTML and CSS, it is one of the core technologies of the web.

Linux - An open-source operating system based on UNIX. It is used to run servers, desktops, and mobile devices.

Machine Learning - A branch of artificial intelligence that focuses on building systems that can learn from and make decisions based on data.

MySQL - An open-source relational database management system (RDBMS) that uses SQL (Structured Query Language) to manage and manipulate databases.

Node.js - A JavaScript runtime built on Chrome's V8 JavaScript engine, allowing developers to use JavaScript to write server-side code.

React - A JavaScript library for building user interfaces, particularly single-page applications where data changes over time.

SQLite - A C-language library that implements a small, fast, self-contained, high-reliability, full-featured, SQL database engine.

State Court - A court that has authority over disputes with some connection to a U.S. state.

Traffic Law - Rules and regulations that govern how vehicles operate on the roads and how road users must behave to ensure safety and order.

Web Application - An application software that runs on a web server and can be accessed through a web browser.

1.4 References

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1.5 Overview

Section 2 of this document will be providing an explanation of Traffic Tamer's product perspective, product functions, user characteristics, constraints, and assumptions and dependencies.

Section 3 of the document will be providing Traffic Tamer's requirements, organized by feature.

2 Overall Description

2.1 Product Perspective

Traffic Tamer will be a web application that aims to aid its users in comprehending the traffic laws in their area. The system will possess the most up to date traffic laws and be constantly updated when an update is made to the traffic laws and then categorize the laws by state and country. Traffic Tamer's features will be utilized with traffic data and machine learning to show the associated traffic laws in a user's area and be capable of providing simplified explanation of a traffic law to serve as a supplement to safer driving practices.

2.2 Product Functions

Traffic Tamer is to have a full user account creation and management so users can keep track of specific traffic laws and provide feedback on the system itself.

Users will be able to keep track of traffic laws through the bookmarking system and receive notifications for when a traffic law has been updated.

The users can find specific traffic laws with an implemented search bar and filtering system.

Traffic Tamer should be able to provide users a simplified explanation of a specific traffic law.

2.3 User Characteristics

Traffic Tamer's primary users are the general drivers, traffic violators, driver improvement class students, and law students. Due to the nature of primary subject Traffic Tamer will be working with, those that are often engaged in commuting and need some assistance or individuals that have been directly involved with the traffic laws are the primary user groups for this product. User groups that are secondary to the primary user groups would be organizations such as legal professionals, driving schools, and government agencies. These users would utilize the application either as a supplemental tool in their curriculum or as a method of promoting safer driving.

2.4 Constraints

N/A

2.5 Assumptions and Dependencies

N/A