**CS 255 System Design Document by Justin Leger**

**UML Diagrams**

**UML Use Case Diagram**

DriverPass use case diagram based on system design; this version uses an automated system that tracks the customers progress and creates a report for the administator.



**UML Activity Diagrams**

DriverPass activity diagrams based on use case diagram; User Actor performs a password reset and Admin Actor performs a policy update.





**UML Sequence Diagram**

DriverPass sequence diagram based on Password Reset Activity Diagram; User Actor interacts with DriverPass website, Email system, and DriverPass Administrator to reset password.



**UML Class Diagram**

DriverPass class diagram based on use case diagram; site admin acts as an intermediary who communicates with everyone. Customer uses website and sends support ticket to Customer Support, and begins back and forth communication. DMV website only interacts with the DriverPass website by updating policies.



**Technical Requirements**

The technical requirements of the system are based on technical and nontechnical requirements and describe required hardware, software, tools, and necessary infrastructure for the system to run properly.

In nonfunctional requirements - performance requirements indicate that the website should be cloud-based, run quickly, and be kept up-to-date with new rules and policies from the DMV. Platform constraints say that all platforms will be used from Microsoft Windows to Apple I-Phones and that a systems analyst may be required to add new modules. Precision-wise, we consider the boss of DriverPass, the IT officer, secretary, and customers; we know that the system will inform the admin right away of any problems that arise. In the sense of Adaptability, the system should be designed using an object-oriented approach, in a way that makes the system adaptable to changes, and such that the admin has full access. Security-wise, the user needs a strong password; logins will use multiple-authentification practices; data will be secured through the cloud, the admin can reset passwords, and website breaches attended to immediately.

In terms of functional requirements - the system shall allow customers to create an account, login, and log out, change password, download the drivers manual, schedule driving lessons, take practice tests, browse the site at high speeds, and the system shall be kept up-to-date with new rules and policies from the DMV. The user interface should be simple, easy to access, secure, and work quickly; progress, time taken, score, and status are important aspects of the online tests; the site should be accessible from all devices. We will consider the assumptions that students want to study the drivers manual, students want coaching and support, students may need additional road lessons to be fully prepared for driving exam, and some students make be too young to drive. The system limitations are unexpected bugs from the development process, insufficient budget, outdated technology, and general lack of resources.

Hardware that the system will use is any type of computer device whether PC Desktop, Laptop, Tablet, Smartphone, or Supercomputer. We want people anywhere in any situation to have access to the materials and opportunities to get a drivers license. Software necessary may be any operating system from Android to Windows and we will use a website for DriverPass. Tools necessary to build that website will be Javascript, HTML, and CSS. The basic infrastructure necessary is the web development team, the website itself, the DMV, the customer support and administrators, the customers themselves, the customers email service provider, driving instructors, and finally the budget and technology to build the site from.