## Technical Requirements

The system for online DMV, needs to support a web-based, cloud hosted application. This application will need a secure way to access, perform reliably, and be scalable as the company grows in size. To accomplish these goals, the technical requirements are broken down into hardware requirements, software requirements, and infrastructure requirements.

**Hardware Requirements:** The software will be web-based and hosted on a cloud server. This will limit the hardware the client will need to use. They should still have the following minimum requirements to properly use the software.

* Minimum of 4GB RAM.
* Intel i5 processor or equivalent from another manufacturer.
* Reliable internet connection, minimum 25 Mbps download and 5 Mbps upload.
* Access to a printer for reports
* Relatively modern device (desktop, laptop, or smartphone) that has the ability to connect to the internet and interact with a webpage.
* Scanner to scan documents or IDs into the system if needed.
* For computers, compatible with Windows 10 or newer/MacOS 11 or newer.
* For smartphones, compatible with iOS13 or newer/Android 10 or newer.

Software Requirements: The software for DriverPass can be broken down into frontend, backend, and other utility tools/miscellaneous requirements.

Front end: This is the part of the software

* Web technology such as HTML5, JavaScript, or industry equivalent.
* Responsive framework for mobile devices such as Tailwind CSS or industry equivalent.

Backend:

* Database such as MySQL or industry equivalent.
* Cloud platform such as AWS, Azure or industry equivalent.
* Webserver such as Apache, Nginx, or industry equivalent.
* Application framework such as Node.js or industry equivalent.
* Two-factor authentication service such as one-time passwords sent via text or email.

Utility tools/miscellaneous:

* Microsoft office software such as Word and Excel for exporting reports
* Project management software for the development team such as Jira.
* UML design tool such as Lucidchart

**Infrastructure Requirements:** These requirements can be broken down into the following categories, Security, integration, database management, and cloud hosting.

Security:

* Role-based access control for all employees and customers. Roles include admin, IT officer, driver, secretary, and customer.
* Two factor authentication for all employees and optional for customers.
* SSL encryption for all connections to the webpage.
* Tracking and logging for all activity on the system.
* Password lockout after 5 consecutive failed attempts.
* Password reset system for employees and customers.
* Proper handling of PII and payment information of customers including complying with all applicable data protection laws.

Integration:

* DriverPass will need an integration to the Department of Motor Vehicles (DMV) that tracks updates to policies, driving test requirements, and written test requirements/questions.
* DriverPass will need an alert system that notifies Liam and other administrators if there is a change in the DMV requirements.

Database Management:

* The database will need to be backed up at regular intervals at a minimum once every 24 hours.
* The database will need to be a cloud hosted relational database
* Secure and encrypted storage for all customer data including their payment information.

Cloud Hosting:

* DriverPass will need the use of a cloud provider to provide reliability and scalability such as AWS EC2 or Azure.
* The cloud host should provide load balancing and auto-scaling to provide fault tolerance.
* A content delivery network (CDN) should be utilized to ensure faster access.