Software Requirements Specification

for

DrivingManager

Student name: Latif Naderi

Student number:

Due Date:

Submission Date:

# Introduction

## Purpose of the SRS

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| Why this document has been created:  The purpose of the Software Requirements Specification (SRS) document is to precisely specify the functional and non-functional requirements of my website which is for driving instructors to manage their classes and students. The SRS's aim is to serve as a blueprint for the development team, ensuring that all stakeholders understand what the website is expected to accomplish and how it will be constructed. The SRS document offers full details of the website's capabilities, such as scheduling and managing classes, tracking student progress, and generating reports. Furthermore, the document explains any limits, assumptions, and dependencies that may effect the website's development. The SRS helps ensuring that the final product meets the criteria of the website by documenting them in a clear and unambiguous manner. The SRS assists in ensuring that the final product fulfils the needs and expectations of stakeholders such as driving instructors and their pupils. |

## Audience of the SRS

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| Who should read this document:  the Software Requirements Specification (SRS) document should be read by myself and the teachers and client(s), but in a usual SRS should be read by the development team, project managers, quality assurance and testing teams, clients or customers, and any other parties involved in the development or implementation of the software system which in my scenario is myself, teachers, my client. |

# General Overview

## Project description

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| Describe the software solution that you will be creating for your client:  The solution being developed for the client is a website that aims to address their problem of having to rely on memory and written notes to manage their driving instructor business. By creating a platform where the client can store comprehensive student records including names, phone numbers, addresses, fees, dates, and can add addition notes, the website will streamline the process of managing student driving classes and tests. This modernized solution replaces the client's previous use of pen and paper with technology, providing a more efficient and reliable method for managing their business. |

## Your client’s name

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| Your client’s business name and the name of your contact there. If your client is an individual, their name:  Client name: Gulam H Naderi  Their driving school business name : Naderi Safe Life Driving school The website name: DrivingManager |

## Description of client

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| The nature of your client’s business, or your client’s role – either within the business or as an individual:  The client for this project is Gulam H Naderi, who is an experienced driving school instructor with a long history of working in the industry. As he has a long history as a driving instructor, he holds a personal connection to the development process and brings a wealth of knowledge and expertise to the table. His role as a driving instructor will inform the development of the website solution, ensuring that it meets the specific needs and requirements of the driving school industry. |

## Client need

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| Description of current system, if any (computer or manual):  The platform is going to be a website so it can be on any device that has google,chrome or any other updated browser. But in general it would work best on a computer as it has a wider customization where on the phone it is just to add and check  Justification for and benefits of the proposed software solution:  several benefits compared to the current method which is being used, Firstly, the website provides a centralized location for storing student records, which reduces the risk of lost or misplaced notes.  Secondly, the website allows for greater customization and flexibility in managing student records, such as sorting and filtering based on various criteria.  Additionally, the website provides an easy-to-use platform for scheduling driving classes and tests, sending reminders to students, and tracking payment information. Overall, the proposed solution streamlines the process of managing a driving instructor business, allowing for greater efficiency and organization. |

## User characteristics

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| General characteristics of the proposed users for the software solution:  Main clients would be driving instructors who are familiar which can use technology. They will have a basic understanding of web navigation, form filling, and data entry Additionally, they will have a need for organizing and accessing student records, managing class schedules, and tracking payment information. It is expected that the users will have varying degrees of technical proficiency, so the software solution will be designed with an intuitive and user-friendly interface to ensure ease of use for all users. |

## Environmental characteristics

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| Technical description of the environment in which the software solution will operate:  The software solution will run in a web-based environment that will be available via typical web browsers including Google Chrome, Firefox, and Safari. The system will be intended to work on any internet-connected device, including PCs, laptops, tablets, and smartphones. The software will be built to work in a range of settings, including public Wi-Fi networks and cellular data connections. The program will be developed utilising cutting-edge web technologies to ensure interoperability with a wide range of devices and platforms. Regular upgrades and maintenance will be supplied to guarantee the system's security, stability, and compatibility with the most recent software and hardware developments. |

# Project Scope

*List the software’s capabilities*

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| The items that are within the scope of this software system include:  The software system will include student profile management, appointment scheduling, fee tracking, and note-taking capabilities for driving school instructors, all accessible through a website. |

*List the capabilities the software will not include*

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| The items that are not within the scope of this software system include:  The software system will not include integration with third-party software or applications, payment processing or financial management features, social media sharing or advertising capabilities, advanced data analytics or business intelligence tools, or compatibility with outdated web browsers or operating systems. |

# Project Constraints

*Solution constraints can be described as the conditions or limitations that must be taken into account when designing a solution.*

*These include:*

* *economic, such as cost and time;*
* *technical, such as speed of processing,*
* *capacity*
* *availability of equipment*
* *compatibility*
* *security*
* *social, such as level of expertise of users*
* *legal, such as ownership and privacy of data requirements*
* *usability, such as usefulness and ease of use of solutions*

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| The constraints that must be taken into account for this project are:  The project's constraints include economic factors like cost and time, technical factors such as processing speed and equipment availability, compatibility and security concerns, social factors like user expertise, legal considerations such as data privacy, and usability requirements like ease of use. |

# Functional requirements

*Determine the functional requirements of the solution. These describe what the software solution should do. This involves specific details such as:*

* *input required*
* *output developed*
* *functions of the solution, including:*
  + *data manipulation*
  + *validation*

*Requirements should be concise, complete, unambiguous, verifiable, and necessary.*

*Each requirement should be uniquely identified with a sequence number. (Add additional rows until all functional requirements are listed.)*

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| **ID** | **Requirement** | **Notes** |
| FR01 | The system shall allow instructors to create a new student profile. | The system shall allow the user to add a new student record Input fields should include name, phone number, address, fees, and date |
| FR02 | The system shall allow instructors to view and edit student profiles. | The system shall allow the user to view a list of all student records Output should include all data fields for each student record |
| FR03 | The system shall allow instructors to schedule classes for students. | The system shall allow the user to search for a specific student record by name or phone number |
| FR04 | The system shall allow instructors to view their class schedules. | The system shall allow the user to update an existing student record Input fields should include name, phone number, address, fees, and date |
| FR05 | The system shall allow instructors to record and track student progress. | The system shall allow the user to delete an existing student record |
| FR06 | The system shall allow instructors to send reminders to students for upcoming classes or driving tests. | The system shall generate an automated email reminder to each student before their driving test date Email content should include the test date, time, and location |
| FR07 | The system shall allow instructors to generate reports on student progress and performance. | The system shall allow the user to add notes to a student record |
| FR08 | The software should provide calendar view | The software shall provide a calendar view of the student's appointments. The user should be able to view the student's appointments in a calendar format. |
| FR09 | The system shall allow the user to export all student data to a CSV file for backup and reporting purposes/ The system shall automatically generate invoices for each student with outstanding fees | The software shall provide a payment history for each student. The user should be able to view a list of payments made by each student. |
| FR10 | The system shall automatically calculate and display student fees based on the number of classes scheduled. | The system shall automatically generate receipt for each student with outstanding fees |

# Non-functional requirements

**Non-Functional Requirements**

*Determine the non-functional requirements. These describe the quality attributes of the solution. These include:*

* *usability*
* *reliability*
* *portability*
* *robustness*
* *maintainability*

*Each requirement should be uniquely identified with a sequence number. (Add additional rows until all non-functional requirements are listed.)*

*You must explain and justify each non-functional requirement.*

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| **ID** | **Requirement** | **Notes** |
| NFR01 | The software should have an intuitive and easy-to-use interface, with clear and concise instructions for users. | This requirement focuses on the ease of use for the end-users of the software. |
| NFR02 | The software should be able to handle high volumes of data and traffic, without crashing or experiencing significant downtime | This requirement addresses the stability and reliability of the software system. |
| NFR03 | The software should be compatible with a variety of operating systems and devices, including desktop computers, laptops, tablets, and smartphones | This requirement emphasizes the flexibility of the software and its ability to operate on different platforms. |
| NFR04 | The software should be able to handle unexpected or incorrect user inputs, and provide appropriate error messages or feedback | This requirement focuses on the software's ability to handle errors and unexpected inputs without crashing or malfunctioning. |
| NFR05 | The software code should be well-documented, modular, and easily maintainable by developers. | This requirement emphasizes the importance of the software's maintainability and ability to be updated and improved over time. |

# Appendices – Analytical tools

# Context diagrams

*Construct a context diagram by drawing the system at the centre of the page, with the entities sitting outside of the system, linked by the incoming and outgoing data flows.*

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# Data flow diagrams

*Identify the entities, processes, data flows, and data stores for the system.*

*Start the construction of the data flow diagram by drawing each of the entities, processes, and data stores. Name process with a verb + noun pair, e.g. Add customer.*

*Link entities, processes, and data stores using data flows which depict the flow direction. Label the data in each data flow using nouns, e.g. customer details.*

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# Use case diagrams

*Identify system roles (actors, i.e. users) and goals (use cases, i.e. things the user can do using the software). Write use cases from the point of view of the actors. Only goals that can be completed by actors should be included. Do not include internal system functions. Your use cases may be very similar to, or duplicates of, some of your functional requirements.*

## Use cases

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| **ID** | **Use Case** | **Notes** |
| UC01 | Register for an account | Allows users to create an account on the platform. |
| UC02 | Book a driving class(’s) | Allows users to schedule and book a driving lesson with an instructor. |
| UC03 | Manage bookings | Allows users to view and manage their upcoming and past driving lesson bookings. |
| UC04 | Schedule lessons | Users can schedule driving lessons with a specific instructor. |
| UC05 | View driving lesson resources | Allows users to access resources such as driving lesson guides and tips. |

## Use Case Diagram

*In a vertical manner, draw each of the system actions as use cases (ellipse/oval).*

*Where actions are part of other actions, depict <<includes>> or <<extends>> relationships using the correct arrows (dashed and pointing in the correct direction).*

*Draw a box around the set of use cases to represent the system boundaries.*

*Around the box of use cases, draw each of the system roles as actors (stick figures).*

*Connect the use cases and relevant actors using solid lines.*

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# Evidence of Data Collection

*Students are required to document data for analysis using appropriate data collection methods.*

*The data collected will contribute to the use of analytical tools and techniques in Criterion 3 and the development of a software requirements specification in Criterion 4.*

*Data collection should use a range of techniques, including interviews, observation, reports and surveys. The data collected must provide students with sufficient information to determine requirements, constraints and scope.*

## *Skills underpinning the Analysis Stage*

* *Identify and clarify the data and information that needs to be collected and from what sources it will be collected.*
* *Critically analyse the sources of data and information to determine the reliability of it.*
* *Draft and evaluate questions to critically analyse requirements, needs or opportunities.*
* *Develop strategies for asking follow-up questions to further clarify the data and information collected.*

## Justification of appropriate data collection methods

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| **Collection Method** | **Who you would use it with, and why you chose them.** | **Justification – how this method will help to determine needs and requirements.** |
| *Face to Face conversation, and note taking* | *With the main client themselves because they are the main person who will decide the features of the product* | *This method allows the client and myself to question questions which will help both of us in the long run e.g. “what do you want? I want this and this, is this possible? Well regarding this requirement do you want it like so… and so on”* |
| *Surveys* | *With the main client themselves because they are the main person who will decide the features of the product* | *This method will allow the client to write freely with nothing holding them back, so they can spill their entire mind out and have nothing to worry about* |
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## Evidence of Data Collection

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| Insert evidence of data collection here, this could include:   * Interview questions and responses * Questionnaire questions and responses * Survey questions and response data * Notes and transcripts from informal conversations * Notes from observations * Copies of emails to and from the client * Screenshots of the current system * Photos/scans of physical artefacts from the current system, e.g. forms, tables, and other records |

*You can submit your evidence in separate files if you prefer. Make sure to give files meaningful and descriptive names.*

# Evidence of Critical and Creative Thinking

## Criterion 3

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| Document evidence of critical and creative thinking through the identification, clarification and critical analysis of the data collected.  Google forms survey.   |  |  | | --- | --- | | Questions | Client answer | | Can you describe in more detail how you currently manage your student records? | Currently, I keep all the student records in physical files and notebooks. It's a tedious process and I often have to search through multiple pages to find the information I need. | | How many students do you currently have, and how many do you expect to have in the future? | My students are random, They get a couple classes and then they comeback whenever, I have multiple students in upcoming ranging from 5-10 and I usually get 1-5 a day | | What types of information do you need to keep track of for each student (e.g. contact information, progress, payments)? | I need to keep track of their names, phone numbers, addresses, and any relevant notes such as their progress, payments, and scheduling | | Do you have any specific security requirements for storing sensitive information like student records? | the website must be secure and that only authorized users can access the information, and the data should ONLY and ONLY be accessed by whoever I give permission to. | | Are there any specific features or functionality you would like to see in the website, beyond what has already been mentioned? | It would be great if the website could automatically send reminders to students about upcoming classes and tests, and allow them to schedule and cancel classes online, or use third party to even book their appointments, via VicRoads | | How often do you need to access student records, and from what devices? | I access my diary almost every day usually they call me and sometimes i have to chase them down, and I need to be able to do so from my laptop and my smartphone. | | Are there any other tools or software that you currently use in your business that you would like to integrate with the website? | I currently am using my diary, to ensure spots for people so i dont get 2 classes overrunning each other and i use my phone to contact them. If possible i would like it to send emails or messages through there phone number | | How do you currently communicate with your students, and would you like any communication features to be included in the website? | I mostly communicate with my students through phone calls and text messages. It would be helpful if the website had a messaging feature so that I could communicate with them through the platform. | | Are there any potential challenges or roadblocks that you anticipate in implementing this solution? | The use of technology would be the hard part, using it in general | |

## Criterion 4

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| Document evidence of critical and creative thinking through the use of questions and strategies to critically analyse solution requirements.  I collected data from our clients through Google Forms surveys and personal brainstorming/interviews. The survey helped me understand my client's current situation and needs. The interviews also allowed me to dig deeper and ask more specific questions about website design and functionality.  Here are some of the survey questions and customer responses:  Can you elaborate on how you currently manage student files?  I currently keep all student records in physical files and notebooks. This is a time consuming process and often requires sifting through multiple pages to find the information you need. How many students do you currently have and how many do you expect to have in the future?  My students are random. Take some lessons and come back anytime. There are several students from 5 to 10 and usually he is 1 to 5 a day.  What kind of information do you need to track for each student (contact information, progress, payments, etc.)? Their names, phone numbers, addresses, and related notes such as progress, payments, schedules, etc. should be tracked.  Are there specific security requirements for storing sensitive information such as student files?  The website must be secure and only authorized users can access the information. Data should only be accessed by people I authorize.  Is there a particular feature or feature you would like to see on the site apart from what has already been mentioned? It would be great if this site could automatically send students reminders for upcoming classes and tests, allow them to schedule and cancel classes online, or book appointments using a third party via VicRoads. is.  How often do you need access to student records and from what devices?  I access my diary almost every day. Usually they call me and sometimes need to be tracked and I need to be able to do this from my laptop and smartphone.  Is there any tool or software your business currently uses that you would like to integrate with your website? I'm currently using a journal to keep people's spots so the two classes don't overtake each other. I use my phone for communication. I would like to send an email or message via their phone number if possible.  How do you currently communicate with your students, and would you like to add communication features to your website?  I communicate with my students mainly by phone and text messages. If your site has a messaging feature, it would be helpful if you could communicate with them through the platform. Are there any potential challenges or obstacles you foresee in implementing this solution?  Using technology is the hard part to use in general.  These questions helped me gather important information about our customers' needs and expectations, and helped me develop solutions tailored to their specific requirements. |