**Software Requirements**

**Specification**

**for**

**Road to Senior**

**Version 1.0 approved**

**Prepared by <author>**

**<Universidad Nacional de Río Cuarto>**

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# Revision History

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| **Name** | **Date** | **Reason For Changes** | **Version** |
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# Introduction

## Purpose

Esta Software Requirement Specification (SRS) define con detalle la estructura, especificaciones, requerimientos funcionales y no funcionales, y el dominio del proyecto Road to Senior. Este documento está centrado en orientar tanto a desarrolladores como a usuarios.

El propósito del proyecto Road to Senior es desarrollar un software de trivia sobre programación inspirado en Duolingo. Su público objetivo son principalmente estudiantes y entusiastas que deseen poner a prueba y mejorar sus conocimientos sobre conceptos generales de programación y del lenguaje Python.

Desde conceptos fundamentales hasta temas más avanzados, cada etapa desafiará a los usuarios con preguntas diseñadas para evaluar y ampliar su conocimiento en el lenguaje.

## Document Conventions

|  |  |
| --- | --- |
| **Término** | **Significado** |
| Trivia | Un sistema que emplea diversas técnicas de validación de preguntas. |
| Etapa | Nivel específico de habilidad y comprensión en Python que los usuarios pueden alcanzar a medida que avanzan en su aprendizaje. |
| Progreso | Sistema de etapas y logros. |
| Ranking | Tabla comparativa del progreso de los usuarios de la aplicación. |

## Intended Audience and Reading Suggestions

Este documento está dirigido a todas las personas involucradas en la supervisión o participación en el proyecto Road to Senior. El documento brinda una breve introducción al proyecto, a sus objetivos y distintos tipos de requerimientos.

## Product Scope

El proyecto "Road to Senior" es un software de trivia basado en Python diseñado para ayudar a estudiantes y entusiastas de la programación a mejorar sus habilidades en conceptos clave de programación y el lenguaje. El software permitirá a los usuarios participar en una serie de preguntas y respuestas estructuradas en diferentes etapas de aprendizaje, cada una destinada a abordar aspectos específicos del lenguaje Python. En cada etapa, los usuarios tendrán acceso a lecciones diseñadas para reforzar el conocimiento existente y ayudar en la comprensión de nuevos conceptos. Estas lecciones podrán incluir texto, ejemplos de código y otros recursos educativos. Además de las preguntas y respuestas de trivia, el software incluirá características adicionales como la pérdida de vida por respuestas incorrectas, la posibilidad de obtener logros y un sistema de clasificación para ver la posición en un ranking.

## References

# Overall Description

## Product Perspective

## El proyecto Road to Senior es un nuevo software auto-contenido desarrollado como una aplicación web y destinado a ofrecer a los usuarios una forma entretenida de reforzar sus conocimientos sobre conceptos de programación y Python. Esto se logrará mediante la combinación de preguntas desafiantes, retroalimentación inmediata y una interfaz de usuario intuitiva y atractiva.

## Product Functions

* Gestión de Usuario
* Sistema de Trivia
* Sistema de Reportes
* Seguimiento del Progreso
* Seguimiento de Logros
* Visualización de Ranking

## User Classes and Characteristics

El sistema está diseñado para satisfacer las necesidades de un único tipo de usuario, denominado “jugadores”.

Los usuarios podrán registrarse, responder las preguntas, reportar errores y realizar un seguimiento de su progreso.

## Operating Environment

<Describe the environment in which the software will operate, including the hardware platform, operating system and versions, and any other software components or applications with which it must peacefully coexist.>

## Design and Implementation Constraints

<Describe any items or issues that will limit the options available to the developers. These might include: corporate or regulatory policies; hardware limitations (timing requirements, memory requirements); interfaces to other applications; specific technologies, tools, and databases to be used; parallel operations; language requirements; communications protocols; security considerations; design conventions or programming standards (for example, if the customer’s organization will be responsible for maintaining the delivered software).>

## User Documentation

La documentación para el usuario proporcionará una guía detallada sobre cómo utilizar la aplicación "Road to Senior" y comprender su lógica subyacente. Incluirá un tutorial introductorio que explicará los conceptos básicos y el funcionamiento del sistema de trivia.

## Assumptions and Dependencies

<List any assumed factors (as opposed to known facts) that could affect the requirements stated in the SRS. These could include third-party or commercial components that you plan to use, issues around the development or operating environment, or constraints. The project could be affected if these assumptions are incorrect, are not shared, or change. Also identify any dependencies the project has on external factors, such as software components that you intend to reuse from another project, unless they are already documented elsewhere (for example, in the vision and scope document or the project plan).>

# External Interface Requirements

## User Interfaces

**Interfaz de inicio:**

Al abrir la aplicación, los usuarios son recibidos con una pantalla de inicio que les ofrece dos opciones:

* Iniciar sesión: Permite a los usuarios acceder a sus cuentas existentes proporcionando su nombre de usuario y contraseña.
* Registrarse: Para nuevos usuarios, permite crear una cuenta proporcionando un nombre de usuario, contraseña y correo electrónico.

**Interfaz de registro:**

Los usuarios deben ingresar su nombre de usuario, contraseña y dirección de correo electrónico para crear una cuenta.

**Interfaz de juego:**

Se le presenta al usuario la pregunta a responder y cuatro opciones correspondientes, junto con un apartado de reporte para informar errores.

## Hardware Interfaces

El producto tiene como objetivo ser accesible y funcional en computadoras de escritorio.

## Software Interfaces

El producto cuenta con conexión a una base de datos donde se almacena información sobre sus usuarios, un conjunto de preguntas y respuestas y, además, reportes que puedan surgir por parte de los usuarios.

## Communications Interfaces

<Describe the requirements associated with any communications functions required by this product, including e-mail, web browser, network server communications protocols, electronic forms, and so on. Define any pertinent message formatting. Identify any communication standards that will be used, such as FTP or HTTP. Specify any communication security or encryption issues, data transfer rates, and synchronization mechanisms.>

# System Features

<This template illustrates organizing the functional requirements for the product by system features, the major services provided by the product. You may prefer to organize this section by use case, mode of operation, user class, object class, functional hierarchy, or combinations of these, whatever makes the most logical sense for your product.>

## System Feature 1

<Don’t really say “System Feature 1.” State the feature name in just a few words.>

### Description and Priority

<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>

### Stimulus/Response Sequences

<List the sequences of user actions and system responses that stimulate the behavior defined for this feature. These will correspond to the dialog elements associated with use cases.>

### Functional Requirements

<Itemize the detailed functional requirements associated with this feature. These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. Include how the product should respond to anticipated error conditions or invalid inputs. Requirements should be concise, complete, unambiguous, verifiable, and necessary. Use “TBD” as a placeholder to indicate when necessary information is not yet available.>

<Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.>

### REQ-1:

### REQ-2:

## System Feature 2 (and so on)

# Other Nonfunctional Requirements

## Performance Requirements

<If there are performance requirements for the product under various circumstances, state them here and explain their rationale, to help the developers understand the intent and make suitable design choices. Specify the timing relationships for real time systems. Make such requirements as specific as possible. You may need to state performance requirements for individual functional requirements or features.>

## Safety Requirements

<Specify those requirements that are concerned with possible loss, damage, or harm that could result from the use of the product. Define any safeguards or actions that must be taken, as well as actions that must be prevented. Refer to any external policies or regulations that state safety issues that affect the product’s design or use. Define any safety certifications that must be satisfied.>

## Security Requirements

<Specify any requirements regarding security or privacy issues surrounding use of the product or protection of the data used or created by the product. Define any user identity authentication requirements. Refer to any external policies or regulations containing security issues that affect the product. Define any security or privacy certifications that must be satisfied.>

## Software Quality Attributes

<Specify any additional quality characteristics for the product that will be important to either the customers or the developers. Some to consider are: adaptability, availability, correctness, flexibility, interoperability, maintainability, portability, reliability, reusability, robustness, testability, and usability. Write these to be specific, quantitative, and verifiable when possible. At the least, clarify the relative preferences for various attributes, such as ease of use over ease of learning.>

## Business Rules

<List any operating principles about the product, such as which individuals or roles can perform which functions under specific circumstances. These are not functional requirements in themselves, but they may imply certain functional requirements to enforce the rules.>

# Other Requirements

<Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse objectives for the project, and so on. Add any new sections that are pertinent to the project.>

# Appendix A: Glossary

<Define all the terms necessary to properly interpret the SRS, including acronyms and abbreviations. You may wish to build a separate glossary that spans multiple projects or the entire organization, and just include terms specific to a single project in each SRS.>

# Appendix B: Analysis Models

<Optionally, include any pertinent analysis models, such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams.>

# Appendix C: To Be Determined List

<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>