
Software Requirements Specification

for

Vocational Test Quiz WebApp

Version 1.0 approved?

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Revision History

Name	Date	Reason For Changes	Version

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1. Introduction

1.1 Purpose

The purpose of the project is to help the incoming students of the Universidad Nacional de Río Cuarto to find the career that most fits their profile.

1.2 Document Conventions

APP: Application.

DB: Database.

1.3 Intended Audience and Reading Suggestions

This document is intended for clients with some knowledge about programming and computer sciences. This has been implemented under the guidance of college professors.

1.4 Product Scope

The software is being developed to guide students and teachers in the vocational orientation process, specifically with a quiz. Primary objective is to bring a powerful and concise, ease to use tool to resume strengths and interest of the student users. It will consist of a multiple choice test and a database to store test results.

1.5 References

<https://www.typeform.com/> WebApp provided by Franco Brusatti to orient the software that we will make.

2. Overall Description

2.1 Product Perspective

This is a new product, consisting of:

- A database, where statistical info will be stored.
- The main application, where questions and answers will be presented to users.
- A GUI for teachers to access info stored in the DB.
- A server to connect the main app and the client.

2.2 Product Functions

This software requires the following general functions:

- Create, edit and delete quizzes.
- Respond quizzes and request information based on results.
- View and analyze students' results and answers.

2.3 User Classes and Characteristics

This product will have this users and responsibilities:

- Students users can respond to several vocational tests.
- Professors users can visualize the statistics of vocational tests results.
- Professors super users can modify the questions of vocational tests and the decision flow of the quiz.

2.4 Operating Environment

This software will run in the following conditions:

- Centralized database.
- Client/Server system.
- Browser based.
- Database: PostgreSQL.
- Platform: Ruby/Sinatra.

2.5 Design and Implementation Constraints

- Implement a secure login system.

2.6 User Documentation

TBD

2.7 Assumptions and Dependencies

- Students will make a responsible use of this software.
- Third party server dependence?

3. External Interface Requirements

3.1 User Interfaces

TBD

3.2 Hardware Interfaces

Any hardware device.

3.3 Software Interfaces

Every user will need an internet browser and an internet connection to display tests and information in any operating system. DB will be in PostgreSQL.

3.4 Communications Interfaces

This software will use HTTP transfer protocol to send and receive formularies. It will send e-mails to the user if she/he wants, giving information about their results. Is important to support most popular browsers.

4. System Features

4.1 Account Management

4.1.1 Description and Priority

A login system general for every user, with encrypted info to provide security. Then, the server must check if the user is a student, a teacher or a super teacher so info can be displayed depending on their role.

Also, it must provide tools to manage your account settings, like password recovery, creating and deleting an account, etc. More details will be seen in the next subsection.

Priority: Medium.

4.1.2 Stimulus/Response Sequences

- When a user accesses the main page of the application, it will be required to log into his/her account or create a new one.
- When a user logs out, it must show a new login screen.
- When a user logs in, it must show his privileges options (creating a new quiz, taking a quiz, looking data, etc)

4.1.3 Functional Requirements

REQ-1: Creating a new user, with username, email and password.

REQ-2: If the username or email is already in use, it should give you a notification and a new attempt.

REQ-2: Recovering password as the user requires.

REQ-3: Login into an account.

REQ-4: If the password is incorrect, it should give you a notification and a new attempt.

REQ-5: If the user doesn't exist, it should notify and give the option to create a new account.

REQ-6: Once logged in, it should allow the user to change account settings and preferences, like unsubscribing to info, changing password, changing username, displaying types, etc.

REQ-7: Once logged in, it should display each user's interface with each user's class options.

- REQ-8: It should auto log out when a certain time elapses without activity.
REQ-9: Once logging out, it should save all unsaved changes and test progress.
REQ-10: Once logged out, a new login screen should appear.
REQ-11: TBD

4.2 Feedback System

4.2.1 Description and Priority

The finished quizzes can be stored in the DB, with the purpose of recopilate information about the careers and the incoming student. For example which career was the most returned for the vocational test, or request a list of careers ordered by the numbers of occurrences.

The quizzes could store in DB characteristics of the student, such as the type of high school from which he/she came, his/her socioeconomic situation and other important details about them.

Priority: Low.

4.2.2 Stimulus/Response Sequences

- When student users respond to a vocational test and send the information for feedback.
- When professor users request some information to the system.

4.2.3 Functional Requirements

REQ-21: System must be able to store the information about the quiz.

REQ-22: System must be able to store the information about the incoming students

REQ-23: System must be able to calculate the information requested by the professor users.

4.3 Quiz System

4.3.1 Description and Priority

Show the questions and a list of answers, allowing the user to select one of the answers, after making all the questions the result will be analyzed, it will be shown to the user who completed the questionnaire, giving the information of a group of careers related to the answers given. Once completed, the data will be saved in a database that can be seen by the professor users.

Priority: High.

4.3.2 Stimulus/Response Sequences

- when selecting an answer you go to the next question

- if next or previous is selected, you can see next or previous questions
- each time an answer is selected the progress is saved
- If the user does not answer all the questions, it does not allow you to finish the test and shows which answers were not answered

4.3.3 Functional Requirements

REQ-41: The system must be able to load all the questions with their answers from a database.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- Fast feedback ordering.
- Low hardware usage.

5.2 Safety Requirements

TBD.

5.3 Security Requirements

Here we list some security concerns:

- Hide login password.
- Encrypt user data.
- Anonymum data results for statistics.

5.4 Software Quality Attributes

- Robustness.
- Portability.
- Adaptability.

5.5 Business Rules

Developers must be able to make changes in tests and users preferences.

6. Other Requirements

Appendix A: Glossary

Appendix B: Analysis Models

Appendix C: To Be Determined List

Revision History

2.6 User Documentation

3.1 User Interfaces

5.2 Safety Requirements

Appendix B: Analysis Models