Training Academy	Software Requirement Specification
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Revision History

Doc.	Date	Author	Reviewer	Description of Revision
1.0	13/07/2022	Raktim	Nani Gopal	Role based authentication and authorization. API endpoints based on role
1.2	16/07/2022	Raktim	Nani Gopal	Trainee and Trainer Module Registration
1.3	18/07/2022	Raktim	Nani Gopal	Course and Batch Module Mapping
1.4	19/07/2022	Raktim	Nani Gopal	Quiz Module Complete
1.5	20/07/2022	Raktim	Nani Gopal	Front End login registration.
1.6	22/07/2022	Raktim	Nani Gopal	API Integration of different modules.
1.7	23/07/2022	Raktim	Nani Gopal	Front End view complete of underlying data.
1.8	25/07/2022	Raktim	Nani Gopal	Front End completion.

Contents

1. Introduction

This section gives a scope description and overview of everything included in this SRS document. Also, the purpose for this document is described and a list of abbreviations and definitions is provided.

1.1 Purpose

The purpose of this document is to give a detailed description of the requirements for the "Role Based ERP System for Training Academy" software. It will illustrate the purpose and complete declaration for the development of system. It will also explain system constraints, interface, and interactions with other external applications. This document is primarily intended to be proposed to a customer for its approval and a reference for developing the first version of the system for the development team.

1.2 Scope

The Role Based ERP System for Training Academy is a software to help the students, teachers, and the admin to view the data. The view window in customized based on the role and authorization. As per the requirements, admin have all the authority to view all the information. There are five modules in the system. Trainer, Trainee, Quiz, Batch, Scheduling. Admin can access and modify any part of the data. Student can only view the data of quiz module according to his credentials. Lastly, Moderators can view the Data and modify the data of the quiz modules.

Teacher, Student, and the admin needs to login first into the system to access the option to view data. Based on the role, corresponding view options are attached with the view. Clicking the option admin and student, teacher can view their data based on their role. Furthermore, this application requires, internet connection to run.

1.3 Intended Stakeholder

<BJIT Academy >

1.4 References

Reference	Location

Requirement Specification	IEEE Software Engineering Standards Committee, “IEEE Std 830-1998, IEEE Recommended Practice for Software Requirements Specifications”, October 20, 1998.
	Davis M A, “Just Enough Requirements Management: Where Software Development Meets Marketing”, New York, Dorset House Publishing, 2005.
	Karlsson J, “A Cost-Value Approach for Prioritizing Requirements”, Norges TekniskNaturvitenskapelige Uni. 1997

1.5 Definitions, Acronyms, and Abbreviations

Term/Acronym	Definition
Stakeholder	A stakeholder is a party that has an interest in a company and can either affect or be affected by the business.
Student	A User having limited privileges to access limited data.
Admin	A User having full privileges to access al data.
Teacher	A User having moderate level of privilege to access the data.

The remainder of this document includes three chapters and appendixes. The second one provides an overview of the system functionality and system interaction with other systems. This chapter also introduces different types of stakeholders and their interaction with the system. Further, the chapter also mentions the system constraints and assumptions about the product.

The third chapter provides the requirements specification in detailed terms and a description of the different system interfaces. Different specification techniques are used to specify the requirements more precisely for different audiences.

The fourth chapter deals with the prioritization of the requirements. It includes a motivation for the chosen prioritization methods and discusses why other alternatives were not chosen.

The Appendixes in the end of the document include all results of the requirement prioritization and a release plan based on them.

2. Overall Description

2.1 Overview

This section will give an overview of the whole system. The system will be explained in its context to show how the system interacts with other systems and introduce the basic functionality of it. It will also describe what type of stakeholders that will use the system and what functionality is available for each type. At last, the constraints and assumptions for the system will be presented.

2.2 Technical platform

Development Platform: Windows: 11

IDE: Intellij Community Edition

Database Server: MySQL/XAMPP

Back-end technologies: Spring Boot

Front-end technologies: React.Js

3. Functional Requirements

3.1 Overview

This section sums up in the below table the main functionalities or services provided by the sub-system, which will be detailed in the following subsections. A use case diagram could be also used to list the main functionalities.

Serial No	Main Features	Description
1	Authorization and Authentication	A user can login into the system using the credentials.
2	View Information	Based on the role, user can view their data.
3	Data Insertion and Mapping	Insert corresponding Data and modify them according.

3.1.1. Authorization and Authentication

This subsection and the subsections that follow provide a short description of the feature X offered by the sub-system. It also details the actors of the system using this feature.

Requirements

REQUIREMNT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
S_L_01	Student Role. Can only access limited data.	Can login and accept data based on role.	Can only view options assigned to student role.	Can't access the system for bad credential. Assigned options are mounted on the frontend.
M_L_01	Moderator Role. This role is assigned to the teachers. A person having this role can review the assigned quizzes of a student from any batch.	Can login and Access Quiz Submission	Can only view Options to Moderator Role	Can't Edit other modules
A_L_01	Admin Role. Can access all the data.	Can login and accept data based on role.	Can only view options assigned to Admin role.	Check all data are accessed correctly.

3.1.2. View Information

Requirements

REQUIREMNT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier

S_V_01	Student Role can only view his personal data, and the quizzes assigned to him.	Data of another module is inaccessible.		Proper option is attached at the navbar.
A_V_01	Admin Role. Can view All Data.	All data is accessible	N/A	Proper option is attached at the navbar.

3.1.3. Data Insertion and Mapping

REQUIREMNT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
S_D_01	Student Role. Student can submit the quiz once.	Quiz marked as submitted.	Can't resubmit the assigned quiz.	Information is correctly displayed for respective user.
A_D_01	Admin Role. Admin can view their username, token number and role name.	Token is partially displayed; other information is hidden	Can't edit user credentials	Information is correctly displayed for respective user.
M_D_01	Moderator Role. Moderator can check and review any submitted quizzes.	Can't review the quiz twice. Review criteria is strictly limited to one.	Only daily schedule can be shown.	Can review the recently submitted quizzes.

4. User Interface

UI No.	UI Name	Related Function Req ID	Description	Test case Identifier
UI_L_01	Common Login Page	S_L_01, A_L_01	User and Admin can access the system using their credential.	Both roles can access the system only with proper credential.
UI_LD_01	Common Dashboard	S_D_01, A_D_01	User and Admin dashboard to view user information.	Only corresponding user information is displayed correctly without any mix-up.
UI_A_01	Admin role-based view page.	A_V_01	Admin dashboard. Admin can view all the data including all the column.	For admin role, only “View Data” option is attached with the navbar.
UI_U_01	User role-based view page.	U_V_01	Student dashboard. Student can view all the data.	For Student role, only Quiz submission related option is attached with the navbar.

5. Non-Functional Requirements

This section represents the non-functional requirements covering the performance requirements, safety requirements, security requirements.

5.1 Performance Requirements

The requirements in this section provide a detailed specification of the user interaction with the software and measurements placed on the system performance.

REQUIREMNT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
USER_VIEW	Prominent user information fetch feature.	User information to generate view needs to be fetched quickly from the database to generate view for specific role.	Needs to fetch the information each time. If multiple requests are made, then the data throughput is lesser by time.	From fetching data to generating view, response time should be < 200 milliseconds.
USER_TABLE_VIEW	For each role, in view mode, table needs to be created dynamically.	Table headers and rows in view mode needs to be created dynamically.	Table header related information may raise security issues	Table header name matches with the table residing at the database.
RESP_TIME	Response time for any kind of request.	METER: Measurements obtained from 1000 searches during testing. MUST: No more than 2 seconds 100% of the time. WISH: No more than 1 second 100% of the time.	Between each request there exists few seconds of interval.	N/A

5.2 Safety Requirements

REQUIREMNT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier

NON_EXIST_USER	Non-existing account security for User.	This need to be included in the first release to enhance the safety of the system	N/A	For non-existing user system can handle the exceptions and marked as unauthorized access.
NON_EXIST_ADMIN	Non-existing account security for Admin.	This need to be included in the first release to enhance the safety of the system	N/A	For non-existing Admin system can handle the exceptions and marked as unauthorized access.

5.3 Security Requirements

REQUIREMNT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
PASS_ENCRYPT	User Password Encryption	User plain text password needs to be encrypted before storing to the database.	N/A	Check if the password is encrypted properly.
JWT_TOKEN_KEY	Secret key for generation JWT token.	JWT token needs to be > 512 Bits	Secret keys can be accessed from the program.	Check if the token is being generated correctly and uniquely.
TOKEN_EXPIRED	Expired Token needs to be handled correctly.	User must not authenticate to access the system.	Needs to login again.	Check after 10 minutes if the user being authorized or not.

6. Design Constraints

This section should indicate any design constraints on the system being built. Design constraints represent design decisions that have been mandated and must be adhered to.

REQUIREMNT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
HD_SPC	Required hard drive space to operate normally.	MUST: No more than 20 MB. PLAN: No more than 15 MB. WISH: No more than 10 MB.	Limitation might be exceeded in some cased for improper functions of garbage collector.	Check how much space is taking at the runtime.
MEM_USG	Memory Usage at the run time.	MUST: No more than 20 MB. PLAN: No more than 16 MB WISH: No more than 10 MB	Might exceed the limit if other program runs background in multiple thread.	The amount of Operate System memory occupied by the application at run time for different cases.

7. Software Quality Attributes

REQUIREMNT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier

REL_AVL	The reliability of the system.	METER: Measurements obtained from 1000 requests during testing. MUST: More than 98% of the requests. PLAN: More than 99% of the requests. WISH: 100% of the requests.	In measuring the reliability, we assumed that power supply is uninterrupted.	Check the reliability in different exceptions.
NET_AVL	The availability of the system when it is used	MUST: More than 98% of the time. PLAN: More than 99% of the time. WISH: 100% of the time.	Network failure is not considered.	Measurements obtained from 1000 hours of usage during testing

8. Other Requirements

REQUIREMNT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
APP_EXT	Application extendibility	The application should be easy to extend. The code should be written in a way that it favors implementation of new functions.	For future functions to be implemented easily to the application.	Check if design patterns are followed correctly and add dummy extension cases.
APP_TST	Application testability	Test environments should be built for the application to allow testing of the applications different functions.	N/A	Test cases can be defined easily.

APP_PORTABLY	Application portability	Application should be portable and deployable to other devices.	Device set up is correct considered for this case.	N/A