



Question Paper Generator System

Business Requirements Document

V1.0

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1.0 Introduction

1.1 Purpose of this document

This document is aimed at:

- Providing the necessary inputs to the detailed requirements gathering phase and further on for the SDLC processes.
- This document also serves to establish the traceability between the Business Objectives and the requirements identified in the proposed solution and how they satisfy the stated objectives.
- Provide expectation traceability in terms of the requirements and the user expectation
- Serves as a formal template for documenting the Business Requirements, which also includes statutory and regulatory requirements.

The purpose of this document is to systematically capture requirements for the project and the system to be developed. Functional requirements are captured in this document. It also serves as the input for the project scoping.

1.2 Project Overview

1.2.1 Objectives

Below are the objectives that shall be fulfilled post the execution of this project:

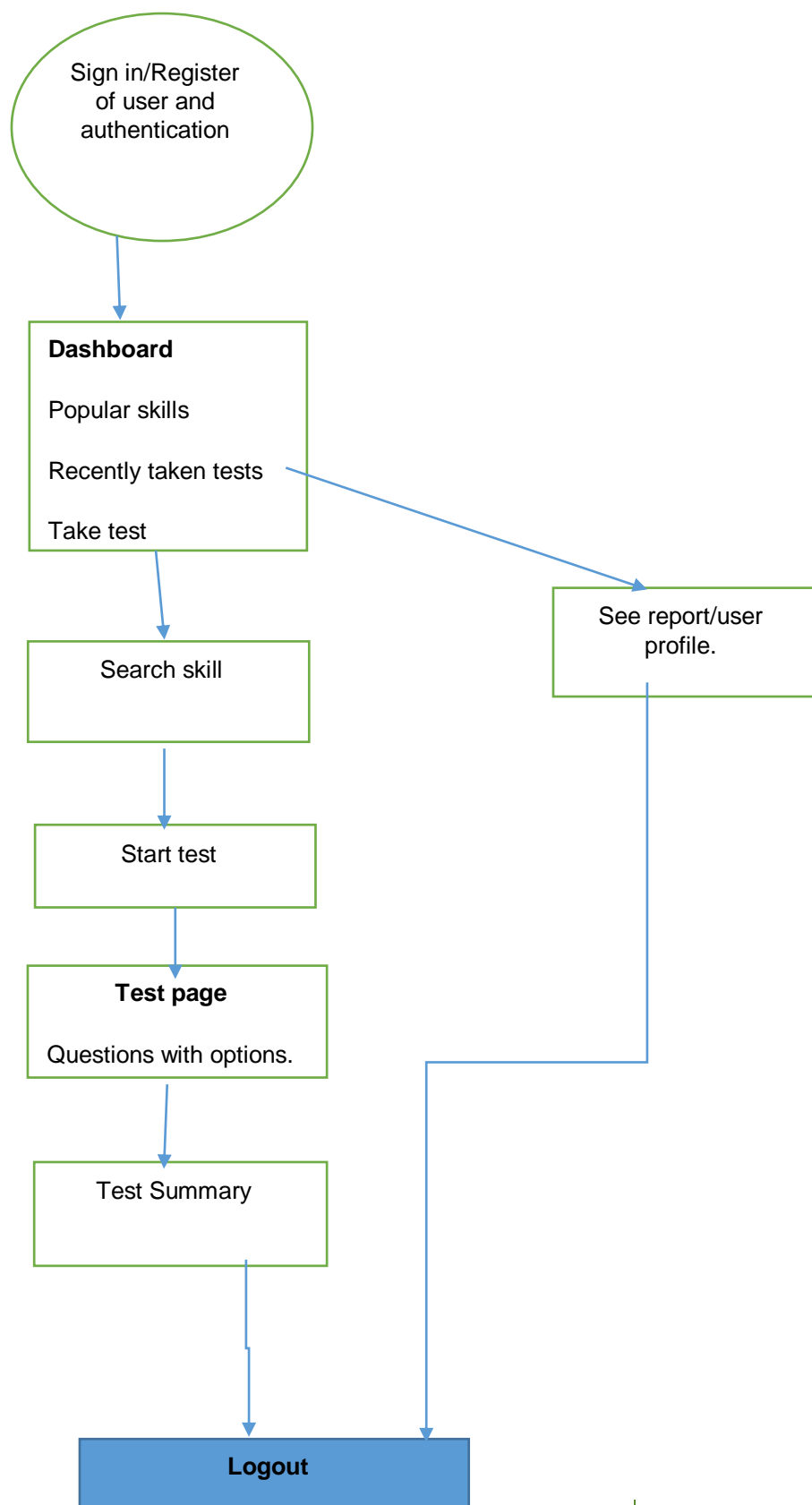
- User registration & credential authentication and admin login
- Test conduction where user/admin can take test to measure the depth of knowledge of subjects.
- Question generation based on course complexity.
- Graphical representation of knowledge based on marks of the test taken.

1.3 Intended Audience

- All members of the project.
- Delivery assurance/excellence group

2.0 Process Architecture

Below is the overall functional flow of the project including the components of interaction



3.0 High Level Business Requirements

Note - Primary focus is to complete developing the critical requirements (highlighted in Yellow) and then to proceed with the remaining requirements.

S.No.	Business Requirement ID	Short Description	Description in detail	Interacting Business Processes
1	Req_1	User / Admin Registration	Ability of the system to procure the fundamental details of the user / admin	
2	Req_2	User/admin Authentication	Ability of the system to authenticate the user credentials of the registered user/admin	
3	Req_3	Admin Registration approval	Ability of the system to allow the super user to approve / reject the Admin registration	
4	Req_4	Add Exam Details	Ability of the system to allow Admin to add the Exam details	
5	Req_5	Add Questions and answers	Ability of the system to add Questions and Answers for the competency and difficulty level.	
6	Req_6	Take assessment	Ability of the user to take assessment	
7	Req_7	Test conduction	Ability of the system to generate questions based on subject chosen and complexity.	
8	Req_8	Update Exam details	Ability of the system to allow Admin to update the Exam details available in the system	
9	Req_9	Update Questions and Answers	Ability of the system to allow admin to update Questions and Answers, competency and difficulty level	
10	Req_10	Evaluate the assessment	Ability of the system to calculate marks according to marking scheme of the test and questions.	
11	Req_11	Assessment report	Ability of the system to show user their reports of the test	
12	Req_12	Report generation	Ability of the system to allow Admin to generate report on the Assessments available, Assessment taken, Pass percentage.	
13	Req_13	Graphical representation	Ability of the system to	

			show the knowledge level based on marks. In addition, the popular skills and top performers will be graphically represented.	
14	Req_14	Other validations	Ability of the system to allow add on validations like Forget User ID, Forget Password	
15	Req_15	User Feedback	Ability of the system to pop up Feedback page once the User submits the assessment.	
16	Req_16	Add Feedback form	Ability of the system to allow Admin to add feedback form for the Course / Assessment	
17	Req_17	Logoff	Ability of User / Admin to log off	

4.0 Detailed Business Requirements

4.1 Functional Requirements

The functional requirements are charted for each of the high-level requirements called out in the earlier section:

Additionally, the following elements are captured for each business requirement in the table provided below:-

* Req. Type = (F Core Functionality, E Exception, UI User Interface, R Reporting)

** Priority of Requirement = (1=Base Functionality, 2=Advanced Functionality, 3=Additional Opportunities)

** Originator = (Name of the business process of the system/ department or function name in the customer organization)

The Requirements in this document are prioritized as follows:

Value	Rating	Description
1	Critical	This requirement is critical to the success of the project. The project will not be possible without this requirement.
2	High	This requirement is high priority, but the project can be implemented at a bare minimum without this requirement.
3	Medium	This requirement is somewhat important, as it provides some value but the project can proceed without it.
4	Low	This is a low priority requirement or a "nice to have" feature, if time and cost allow it.

5	Future	This requirement is out of scope for this project, and has been included here for a possible future release.
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Req. #	Rationale Categorization	Business Requirement	Req. Type *	Priority **	Originator ***	BR Traced to Business Requirement / Use case ID	Remarks
Req_1.1	User / Admin Registration	When the user / admin clicks on the registration link, it should re-direct to registration form.	UI	Critical	NA	Req_1	
Req_1.2	User / Admin Registration	User / admin needs to fill some of the basic attributes/fields as mentioned below in requirement: Emp ID, First Name, Last name, Email, Password	UI	Critical	NA	Req_1	Please refer to Table 1.0 under References
Req_1.3	User / Admin Registration	Clicking 'Submit' should validate the datatype constraints for each field	F	Critical	NA	Req_1	
Req_1.4	User / Admin Registration	User failing to provide information on the mandatory fields be provided with an alert message – 'Please update the highlighted mandatory field(s).' Also, highlight the missed out field in red	E	Medium	NA	Req_1	
Req_1.5	User / Admin Registration	Post-successful field level validation, save the information in the database	F	Critical	NA	Req_1	
Req_1.6	User / Admin Registration	Upon saving the information in the database, display the message, 'Your details are submitted successfully'.	E	Medium	NA	Req_1	
Req_2.1	User / admin Authentication	A registered user / admin – is able click 'Login' link, after keying in 'User ID' & 'Password' field and get his credentials authenticated with the existing database entry.	F	Critical	NA	Req_2	Please refer to Table 1.0 under References
Req_3.1	Admin Registration approval	Super User should be able to approve / reject Admin registration	F	Critical	NA	Req_3	
Req_3.2	Admin Registration approval	Upon approval, Admin should be able to log in successfully.	F	Critical	NA	Req_3	
Req_3.3	Admin Registration approval	When the Super user Approves/Rejects, the status should be updated in the database.	F	Critical	NA	Req_3	
Req_3.3	Admin Registration approval	If the Approval is pending or rejected, Message should be displayed when Admin tries to log in.	F	Critical	NA	Req_3	
Req_4.1	Add Exam Details	Admin on clicking "Add Exam Details" link should redirect to Exam details page.	F	Critical	NA	Req_4	
Req_4.2	Add Exam Details	Admin should be able to add the exam details and the competency.	F	Critical	NA	Req_4	Please refer to Table 2.0 under References

Req. #	Rationale Categorization	Business Requirement	Req. Type *	Priority **	Originator ***	BR Traced to Business Requirement / Use case ID	Remarks
Req_4.3	Add Exam Details	Admin failing to provide information on the mandatory fields be provided with an alert message – 'Please update the highlighted mandatory field(s).' Also, highlight the missed out field in red	F	Critical	NA	Req_4	
Req_4.4	Add Exam Details	Post-successful field level validation, save the information in the database	E	Medium	NA	Req_4	
Req_4.5	Add Exam Details	Upon saving the information in the database, display the message, 'Your details are submitted successfully'.	F	Critical	NA	Req_4	
Req_5.1	Add Questions and answers	Admin on clicking "Add Question" link should redirect to Question details page.	F	Critical	NA	Req_5	
Req_5.2	Add Questions and answers	Admin should be able to add the Question, Answers and the competency.	F	Critical	NA	Req_5	Please refer to Table 3.0 under References
Req_5.3	Add Questions and answers	Admin failing to provide information on the mandatory fields be provided with an alert message – 'Please update the highlighted mandatory field(s).' Also, highlight the missed out field in red	F	Critical	NA	Req_5	
Req_5.4	Add Questions and answers	Post-successful field level validation, save the information in the database	F	Critical	NA	Req_5	
Req_5.5	Add Questions and answers	Upon saving the information in the database, display the message, 'Your details are submitted successfully'.	F	Critical	NA	Req_5	
Req_6.1	Take assessment	User on clicking Take assessment, it should display the assessments available	UI	Critical	NA	Req_6	
Req_6.2	Take assessment	User should have option to search for the assessment by entering the assessment code, Skill set	F	Critical	NA	Req_6	
Req_6.3	Take assessment	On searching based on the skill set, it should display all the assessments related to the skill set and the competency level.	UI, F	Critical	NA	Req_6	
Req_6.4	Take assessment	User should be able to take the assessment by clicking on the assessment code	F	Critical	NA	Req_6	
Req_6.5	Take assessment	System should pop up message when nearing the time completion	F	Critical	NA	Req_6	
Req_6.6	Take assessment	System should abort the test once the time is lapsed.	F	Critical	NA	Req_6	
Req_7.1	Test Conduction	System should be able to pick some random question from the question pool based on the subject and difficulty level	F	Critical	NA	Req_7	Please refer to Table 3.0 under References
Req_7.2	Test Conduction	System should be able to mark the answered and unanswered questions.	F	Critical	NA	Req_7	
Req_7.3	Test Conduction	System should be able calculate marks based on marking scheme.	F	Critical	NA	Req_7	

Req. #	Rationale Categorization	Business Requirement	Req. Type *	Priority **	Originator ***	BR Traced to Business Requirement / Use case ID	Remarks
Req_7.4	Test Conduction	System should be able to have a timer so that test will end irrespective of completion of the test.	F,UI	High	NA	Req_7	
Req_8.1	Update Exam details	Admin should be able to update the Exam details available in the DB	F	Critical	NA	Req_8	
Req_8.2	Update Exam details	Admin should be able to delete the Exam details available in the DB	F	Critical	NA	Req_8	
Req_8.3	Update Exam details	On clicking Submit, after validation the details should be saved successfully.	F	Critical	NA	Req_8	
Req_9.1	Update Questions and Answers	Admin should be able to update the Question and Answers available in the DB	F	Critical	NA	Req_9	
Req_9.2	Update Questions and Answers	Admin should be able to delete the Question and Answers available in the DB	F	Critical	NA	Req_9	
Req_9.3	Update Questions and Answers	On clicking Submit, after validation the details should be saved successfully.	F	Critical	NA	Req_9	
Req_10.1	Evaluate the assessment	When the user clicks Submit Assessment, the system should calculate marks according to marking scheme of the test and questions.	F	Critical	NA	Req_10	
Req_10.2	Evaluate the assessment	After Evaluation, it should display the Results to the User.	F	Critical	NA	Req_10	
Req_10.3	Evaluate the assessment	System should generate Completion Certificate if the user clears the exam	F	Critical	NA	Req_10	
Req_10.4	Evaluate the assessment	User should have the option to print / download the completion certificate	F	Critical	NA	Req_10	
Req_11.1	Assessment report	User on clicking Assessment report should list all the Assessments taken by the user, Mark, Completion status, Date of assessment.	F	Critical	NA	Req_11	Please refer to Table 4.0 under References
Req_11.2	Assessment report	On clicking the assessment ID, it should display all the details of the assessment, completion certificate. User can download the certificate.	F	Critical	NA	Req_11	
Req_12.1	Report Generation	Admin on clicking the Report generation link should display all the assessment codes.	F	Medium	NA	Req_12	
Req_12.2	Report Generation	On clicking the assessment code, it should display the count of Users taken the exam, No of Pass, No of fail, Highest score	UI	Medium	NA	Req_12	
Req_13.1	Graphical Representation	System should be able to graphically represent the knowledge of the users according to test taken	UI	Medium	NA	Req_13	Please refer to Table 4.0 under References

Req. #	Rationale Categorization	Business Requirement	Req. Type *	Priority **	Originator ***	BR Traced to Business Requirement / Use case ID	Remarks
Req_13.2	Graphical Representation	System should be able to graphically represent the most popular skills or the skills on which most people are taking test.	UI	Medium	NA	Req_13	
Req_13.3	Graphical Representation	System should be able to graphically represent the hierarchy of the topics included in a particular skill and also represent that how the skills are interconnected i.e. for learning a skills what all skill you should already possess and learning this skill you will be ready to learn more skills.	UI	Medium	NA	Req_13	
Req_14.1	Other validations	During registration, System should pop up three secret questions for Password recovery.	UI	Medium	NA	Req_14	Please refer to Table 1.0 under References
Req_14.2	Other validations	When the user clicks Forgot User ID, system should ask for the secret questions. On answering the questions correctly, the User ID should be displayed.	UI	Medium	NA	Req_14	
Req_14.3	Other validations	When the user clicks Forgot Password, system should ask for the User ID and secret questions. On answering the questions correctly, the password reset page should be displayed.	UI	Medium	NA	Req_14	
Req_14.4	Other validations	On entering the details in the password reset page, password should be validated	F	Medium	NA	Req_14	
Req_14.5	Other validations	On clicking Submit, the details should be saved to the Database	F	Medium	NA	Req_14	
Req_15.1	User Feedback	When user submits the Assessment, the system should Popup the feedback form.	F	Medium	NA	Req_15	Please refer to Table 6.0 under References
Req_15.2	User Feedback	User should be able to fill in his feedback and submit it.	F	Medium	NA	Req_15	
Req_15.3	User Feedback	Upon submission, the assessment should be evaluated and the results should be displayed.	F	Medium	NA	Req_15	
Req_16.1	Add Feedback form	When Admin clicks add Feedback, it should display all the assessment available in the system	F	Medium	NA	Req_16	Please refer to Table 5.0 under References
Req_16.2	Add Feedback form	On clicking the assessment code, it should redirect to the Feedback form	F	Medium	NA	Req_16	
Req_16.3	Add Feedback form	Admin should be able to fill in the Questions and the ratings	F	Medium	NA	Req_16	
Req_17.1	Log off	System should disconnect on clicking Log off.	F	High	NA	Req_17	

5.0 References

Note: Table details can be altered as required. Additions tables can be added if needed

5.1 Table 1.0

User/Admin

Field Name	Field Type	Data Type	Mandatory	Possible Values
First Name	Text(50)	Alphabetic	Yes	
Last Name	Text(50)	Alphabetic	Yes	
Age	Numeric(2)	Numeric	Yes	
Gender	Drop Down	NA		Male, Female
Contact Number	Text(10)	Numeric	Yes	
Email	Text(50)	Alphabetic	Yes	
User ID	Text(15)	Alphanumeric	Yes	Emp ID
Password	Text(15)	Alphanumeric	Yes	
User Type	Text(1)	Alphabetic	Yes	A – Admin U – User
Status	Text(1)	Alphabetic	Yes	A – Approved D – Denied P - Pending (For User registration, Status should be A as default. For Shop manager it should be pending)
Secret Question 1	Text(50)	Alphabetic	Yes	
Secret Answer 1	Text(50)	Alphabetic	Yes	
Secret Question 2	Text(50)	Alphabetic	Yes	
Secret Answer 2	Text(50)	Alphabetic	Yes	
Secret Question 3	Text(50)	Alphabetic	Yes	
Secret Answer 3	Text(50)	Alphabetic	Yes	

5.2 Table 2.0

Exam

Field Name	Field Type	Data Type	Mandatory	Possible Values
Exam ID	Text(20)	Alphabetic	Yes	
Exam Description	Text(100)	Alphabetic	Yes	
Skill set	Text(20)	Alphabetic	Yes	
Competency Level	Text(10)	Alphabetic	Yes	Level – 1 Level – 2 Level – 3

Time for Assessment	Numeric(3)	Numeric	Yes	Time In minutes
Assessment date	Date	Date	Yes	

5.3 Table 3.0

Question

Field Name	Field Type	Data Type	Mandatory	Possible Values
Question ID	Alphanumeric(10)	Numeric	Yes	System Generated
Question creator	Text(15)	Alphanumeric	Yes	Admin User id
Question	Text(500)	Alphabetic	Yes	
Choice 1	Text(500)	Alphabetic	Yes	
Choice 2	Text(500)	Alphabetic	Yes	
Choice 3	Text(500)	Alphabetic	No	
Choice 4	Text(500)	Alphabetic	No	
Selection	Text(1)	Alphabetic	Yes	R – Radio button C – Check box
Skill set	Text(20)	Alphabetic	Yes	
Competency Level	Text(10)	Alphabetic	Yes	Level – 1 Level – 2 Level – 3
Mark	Numeric(2)	Numeric	Yes	
Creation Date	Date	Date	Yes	

5.4 Table 4.0

Assessment

Field Name	Field Type	Data Type	Mandatory	Possible Values
User ID	Text(10)	Alphanumeric	Yes	
Assessment id	number	numeric	Yes	
Exam ID	Text(20)	Alphabetic	Yes	
Exam Description	Text(100)	Alphabetic	Yes	
Competency Level	Text(10)	Alphabetic	Yes	Level – 1 Level – 2 Level - 3
Score	Number(3)	numeric	Yes	
Start time	Time	Time	Yes	
End time	Time	Time	Yes	
Completion status	Text(10)	Alphabetic	Yes	N – Not attended C – Completed I – In complete



5.5 Table 5.0

Feedback

Field Name	Field Type	Data Type	Mandatory	Possible Values
Assessment id	number	numeric	Yes	
Question 1	Text(200)	Alphabetic	Yes	
Question 2	Text(200)	Alphabetic	Yes	
Question 3	Text(200)	Alphabetic	Yes	
Question 4	Text(200)	Alphabetic	Yes	
Question 5	Text(200)	Alphabetic	Yes	
Question 6	Text(200)	Alphabetic	Yes	
Question 7	Text(200)	Alphabetic	Yes	
Question 8	Text(200)	Alphabetic	Yes	
Question 9	Text(200)	Alphabetic	Yes	
Question 10	Text(200)	Alphabetic	Yes	

5.6 Table 6.0

User Feedback

Field Name	Field Type	Data Type	Mandatory	Possible Values
User ID	Text(10)	Alphanumeric	Yes	
Assessment id	number	numeric	Yes	
Rating Que 1	Text(200)	Alphabetic	Yes	
Rating Que 2	Text(200)	Alphabetic	Yes	
Rating Que 3	Text(200)	Alphabetic	Yes	
Rating Que 4	Text(200)	Alphabetic	Yes	
Rating Que 5	Text(200)	Alphabetic	Yes	
Rating Que 6	Text(200)	Alphabetic	Yes	
Rating Que 7	Text(200)	Alphabetic	Yes	
Rating Que 8	Text(200)	Alphabetic	Yes	
Rating Que 9	Text(200)	Alphabetic	Yes	
Rating Que 10	Text(200)	Alphabetic	Yes	
Assessment date	Date	Date	Yes	

6.0 Terms & Conditions

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7.0 Change Log

Version Number	Changes Made			
V1.0.0	Initial baseline created on <dd-Mon-yy> by <Name of Author>			
Vx.y.z	<Please refer the configuration control tool / change item status form if the details of changes are maintained separately. If not, the template given below needs to be followed>			
	Section No.	Changed By	Effective Date	Changes Effectuated