***Software Requirements Specification***

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***Electronic Exam System***

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1. **Introduction**
   1. **Purpose**

The purpose of this document is to present a detailed description of the Electronic Exam System. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraint under which it must operate and how the system will react to external stimuli. This document is intended for both the stakeholders and the developers of the system and will be proposed to Al Baath University to be approval.

**1.2. Scope of project**

This software system will be an electronic exam system for the students of al-Baath University; it is designed to educational institutes.

Hold all operation and generate reports to students, Doctors and administrator.

Allow Doctors to add their exam questions to the database from the system’s web site, and the admin of the system add doctors and student.

**1.3. Glossary**

|  |  |
| --- | --- |
| **Term** | **Definition** |
| Stakeholder | Any person with an interest with the project who is not a developer. |
| Database | Collection of all the information monitored by this system. |
| Software Requirements Specification | A document that completely describes all of the functions of a proposed system and the constraints under which it must operate. For example this document. |
| User | Student or Doctor or the Admin. |
| Admin/Administrator | The person who manage the Web page , Who is responsible to create a new course, delete course, add member or delete it, i.e.: the person who control the system |

**1.4. References**

IEEE Recommended Practice for Software Requirements Specifications.

SRS Web Publishing System example.

**1.5. Overview of Document**

The next chapter, the Overall Description Section of this document gives an overview of the functionality of the product. It describes the informal requirements and is used to establish a context for the technical requirements specification in the next chapter.

The third chapter, Requirements Specification section, of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product.

Both sections of the document describe the same software product in its entirely.

But are intended for different audiences and thus use different language.

**2.0. Overall Description**

**2.1 System Environment**

Student

Admin

Doctor

System Manage

The web site

The application

Electronic Exam System



***Figure 1-System Environment***

Data Base

The Electronic Exam System has three active actors.

The doctor, admin accesses the online web page through the internet.

The admin makes an account for each doctor to communicate with the system.

The admin accesses the entire system directly.

Students use the applications to do their exams online.

**2.2 functional Requirements Specification**

This section outlines the use cases for each of the active readers separately. The doctor, the student and the admine.

**2.2.1. Doctor use case**

use case : Manage Question Bank Diagram

Doctor

Manage Question Bank

**Brief Description**

The Doctor accesses the web page, adds or deletes questions.

**Initial Step-By-Step Description**

Before this use case can be initiated the doctor has already accessed the online web page.

1. The System Displays the Doctor’s subjects

2. The Doctor selects the subject desired.

3. The System presents the previous questions with a text box to add new questions.

**2.2.2 Student use case**

Use case: Online Examination Diagram

Student

Online Examination

**Brief Description**

The Student accesses the application, answers the questions,asks for his result.

**Initial Step-By-Step Description**

Before this use case can be initiated the Student has already accessed the application.

1. The System Displays the Student’s subjects.

2. The Student selects the subject desired.

3. The System presents the questions one by one.

4. The student selects his answer to each question.

5. The system counts the student’s grade.

6. When the question ends, The Student asks for his result by clicking the result button.

7. The system shows the grade.

XRef: 3.2.2 , Online Examination.

**2.2.3 Admin use case**

Use case: Manage Students Diagram

Admin

Manage Students

**Brief Description**

The Admin accesses the web page with the administrator account to add new Students.

**Initial Step-By-Step Description**

Before this use case can be initiated the Admin has already accessed the web page.

1. The Student registers for a subject or more.

2. The Admin adds the student to the System if he is new, and adds the subjects to the student’s record.

XRef: 3.2.3, Manage Students.

**2.3 User Characteristics**

The students and doctors are expected to belong to al Baath University.

The Doctor is expected to be Internet Literal and be able to use search engine.

The main screen of the online web page will have the search function.

The Admin is expected to be Windows literal.

**2.4 Non-functional Requirements**

* The database shall be able to accommodate a minimum of 100,000 records of students.
* The software shall support use of multiple users at a time.
* The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup to be safe.
* The Online web page will be on a server with high speed Internet capability.
* The system should verify a high security.

**3.0. Requirements Specifications**

**3.1. External Interface Requirements**

The Customer (Admin) must connect to the Internet to access the Website.

The Admin and Doctors should verify their membership to the Database.

**3.2. Functional Requirements**

3.2.1 Manage Question Bank

|  |  |
| --- | --- |
| Use case name | Manage Question Bank |
| XRef | Section 2.2.1 Manage Question Bank |
| Trigger | The Doctor logs in to the web page with his account. |
| Precondition | The Doctor is on the Communication page linked from the Online AL Baath web page. |
| Basic Path | 1. The Doctor logs in to the web site with his account.  2. The System Displays the Doctor’s subjects  2. The Doctor selects the subject desired.  3. The System presents the previous questions with a text box to add new questions.  4. The doctor adds the exam’s date. |
| Postcondition | The exam is added to the Database. |
| Exception paths | In step 2 the doctor can choose to choose the exam questions randomly from the question Bank. |

3.2.2 Online Examination

|  |  |  |
| --- | --- | --- |
| Use case name | | Online Examination Diagram |
| XRef | | Section 2.2.2 Online Examination |
| Trigger | | The student log in to the application |
| Precondition | | It is an exam time, The application is installed on the Student’s phones. |
| Basic path | | 1. The Student log in to the application.  2. The System Displays the Student’s subjects which has an exam that time.  3. The Student selects the subject desired.  4. The System presents the questions one by one.  4. The student selects his answer to each question then clicks next.  5. The system counts the student’s grade for each question.  6. When the question ends, The Student clicks finish.  7. The system shows the grade. |
| Postcondition | The Student made the test. | |
| Exception paths | The students can click finish in the middle of the questions and the system will count the mark immediately. | |

3.2.3 Manage Students

|  |  |  |
| --- | --- | --- |
| Use case name | | Manage Students Diagram |
| XRef | | Section 2.2.3 Manage Students |
| Trigger | | The Admin logs in to the Web page. |
| Precondition | | The Admin has accessed to the Admin main screen. |
| Basic path | | 1. The Student registers for a subject or more. 2. The admin logs in to the web page.   2. The Admin adds the student to the System if he is new, and adds the subjects to the student’s record. |
| Post condition | The Student’s Database has been updated. | |
| Exception paths | None. | |

**3.3. Detailed Non-Functional Requirements**

**3.3.1 Logical Structure of the Data**

The logical Structure of the data to be stored in the internal Database is given below.

Admin

Doctor

Student

Write

add

do

Exam

Questions

Doctor

Student

Send to

Data Base

**Figure 2 – Logical Structure of the System**

#### 3.3.2. Performance Requirements

* The database shall be able to accommodate a minimum of 100,000 records of students.
* The software shall support use of multiple users at a time.

**3.3.3 Safety Requirements**

* The database may get crashed at any certain time due to virus or operating system failure. Therefore, it is required to take the database backup.

#### 3.3.4 Security Requirements

Restrict communications between some areas of the program.

The server will have its own security to prevent messing with the data base from external people who doesn’t have the permissions.