Software Requirements Specification

for

<Entry Test Management System>

Version 1.1 approved

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Revision History

Name	Date	Reason For Changes	Version
Asir Amin	10/04/20	Web Application UI	1.1

1. Introduction

1.1 Purpose

The purpose of this document is to build an Online Entry Test Management System, to manage applicable candidates and their admission results.

1.2 Document Conventions

The document uses the following document conventions:
- *Database (DB)*
- *Entity Relation (ER)*
- *Insert, Update, Delete (IUD)*

1.3 Intended Audience and Reading Suggestions

This project is a prototype for the Entry Test Management System and it is restricted within the university premises. This has been implemented under the guidance of university professors. This project is useful for the Academics of the university and as well as for the students.

1.4 Product Scope

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1.5 References

The purpose of the online Entry Test Management System is to ease Admission Management and to create a convenient and easy-to-use application for admin and as well as for the students, trying to attempt the test. The system is based on a relational database with its candidate management and quiz functions.

2. Overall Description

2.1 Product Perspective

The Entry Test Management System stores the following information:
- ***User Details:*** *It includes the essential details of admins and as well as the candidates.*
- ***Quiz Details:*** *It includes the questions, options and the correct answers.*
- ***Candidate's Score:*** *It includes the score of every candidate who attempted the test.*
- ***Program Details:*** *It includes every name of the program which is being offered in the semester.*

2.2 Product Features

The major features of Entry Test Database System shown below in ER model
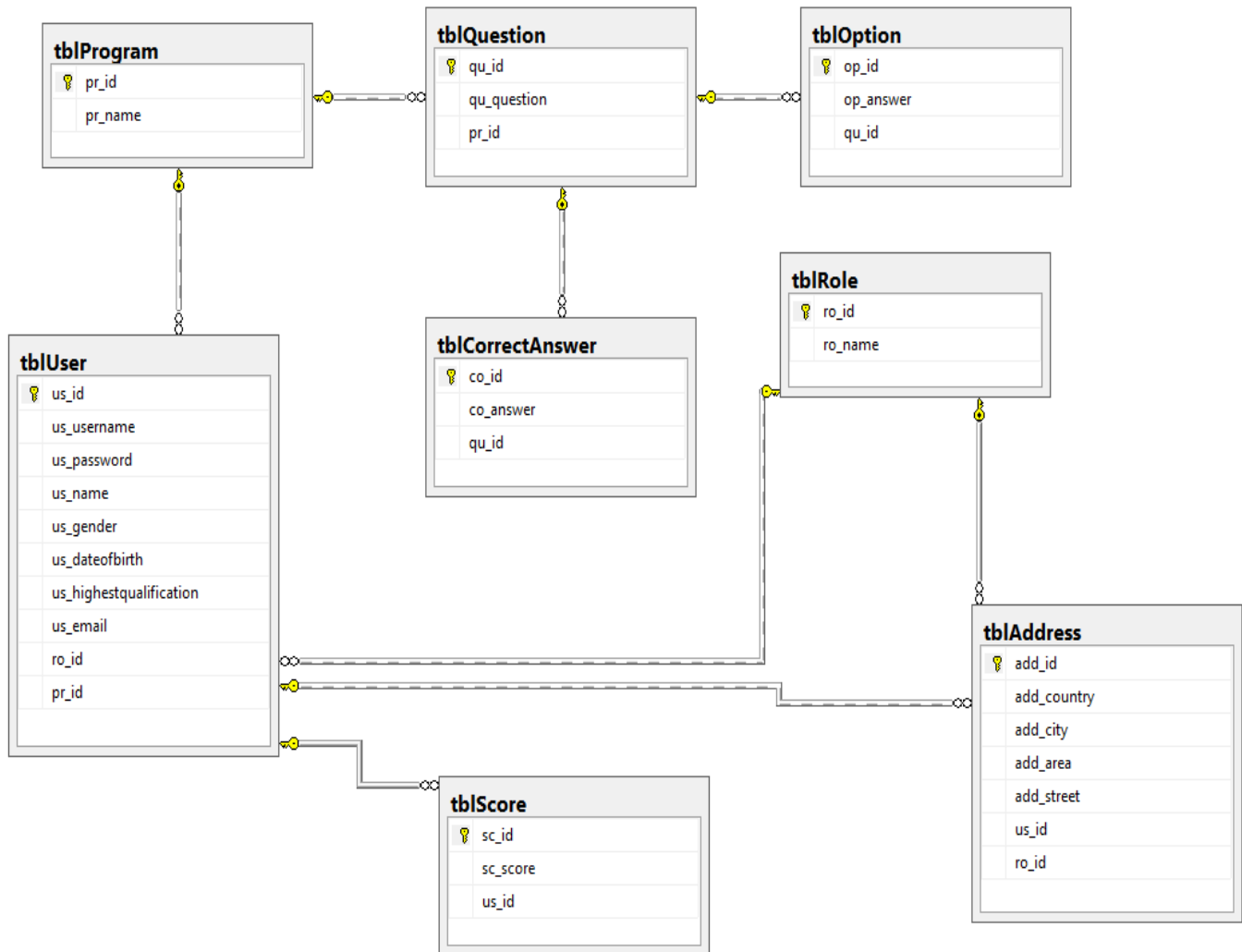
2.3 User Classes and Characteristics

The system will support two user classes of user privileges, Admin, and Applicant. Applicant will have access to applicant functions, and the admin will have access to applicant and test management functions. The applicant should be able to do the following functions:
- *View his/her details*
- *Attempt test*
- *View his/her score*

The admin should be able to do the following functions:
- *IUD admin and applicants*
- *Manage test*
- *IUD Programs*

2.4 Operating Environment

Operating environment for the entry test management system is as listed below
- *Operating system: Windows*
- *DB: Microsoft SQL*
- *Platform: MVC, JQuery, JSON*

3. External Interface Requirements

3.1 User Interfaces

- *Front–end software: Microsoft Visual Studio 2015*
- *Back-end software: Microsoft SQL Server 2012*

3.2 Hardware Interfaces

- *Windows*
- *Browser which supports HTML, JavaScript*

3.3 Software Interfaces

<Following are the software used for entry test management system:
- ***Operating system****: Windows because of its good support and user-friendliness*
- ***DB****: To save the records we have chosen Microsoft SQL Server 2012*
- ***MVC****: We have chosen MVC for its more interactive support and well defined classes.>*

3.4 Communications Interfaces

The project supports every type of web browser as simple web forms are used for the purpose of admin and applicant's functions.

4. System Features

4.1 System Feature 1

- **Description and Priority:** *The Entry Test Management System maintains information on users, score of applicants, programs, entry exam. Of course, this project has a high priority because it is very difficult to keep record of so many applicants manually as each year thousands of applicants apply in each institution, moreover the institution will don't have to print so many papers now for each student.*

- **Stimulus/Response Sequences: (Applicant)**

  - *Applicant login*
  - *Verify details*
  - *Attempt Quiz*
  - *View Score*
  - *Logout*

- **Stimulus/Response Sequences: (Admin)**

  - *Admin login*
  - *IUD: Users information, Test information, Programs*
  - *Logout*

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The steps involved to perform the implementation of entry test management system database are:
- ***ER Diagram*** *(Shown above)*
- ***Normalization***: *The basic objective of normalization is to reduce data redundancy so that storage is not wasted, and it also minimizes the chances of the database to be redesigned and this project (Entry Test Management System) is normalized till 3NF.*

5.2 Safety Requirements

If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed up log, up to the time of failure.

5.3 Security Requirements

Security systems need database storage just like many other applications, but still it is secured as the software will be deployed on private environment and every account is password protected.

However, the special requirements of the security market mean that vendors must choose their database partner carefully.

5.4 Software Quality Attributes

- **CORRECTNESS:** *The application should be able to keep the correct score of each user.*

- **MAINTAINABILITY:** *The administrators will be able to maintain and update any information on the DB.*

- **USABILITY:** *The application will provide easiness to whole staff of university as well as applicants because of its user friendliness.*