SOFTWARE REQUIREMENTS SPECIFICATION

For

ONLINE QUIZ

Prepared by :-
APARNA ISHWARYA
HOBIKA
THARIKESANI S

1. Introduction

1.1 Purpose

The main objective of this document is to illustrate the requirements of the project Online Quiz system. The document gives a detailed description of both the functional and non-functional requirements proposed by the client. The purpose of this project is to provide a friendly environment which provides testing knowledge. The main purpose of this project is to offer an accessible, allowing easy creation, distribution and completion of quizzes on various topics for educational, entertainment or assessment purposes. This project describes the hardware and software interface requirements using ERdiagrams and UML diagrams.

1.2 Document Conventions

- ➢ Entire document should be justified.
- ➢ Convention for Main title
  - Font face: Times New Roman
  - Font style: Bold
  - Font Size: 14
- ➢ Convention for Subtitle
  - Font face: Times New Roman
  - Font style: Bold
  - Font Size: 12
- ➢ Convention for body
  - Font face: Times New Roman
  - Font Size: 12

1.3 Scope of Development Project

Online quiz website is to gain general knowledge about the surroundings and happenings in and around you, this internet-based application is also useful for those who are preparing for government exams and for the staff to conduct quiz related to the topic.

The project is specifically designed for the staff and students who love to learn with fun. The product will work as a complete user interface for Online quiz process. Online quiz website can be used by any existing or new member who has logged into the website for learning, attending or creating quizzes. It is especially useful for any educational institute where students are bored during class hours, but the teacher must engage the class.

The project can be easily implemented under various situations. We can add new features as and when we require, making reusability possible as there is flexibility in all the modules.

The language used for developing the project is Java as it is quite advantageous than other languages in terms of performance, tools available, cross platform compatibility, libraries, cost (freely available), and development process.

1.4 Definitions, Acronyms and Abbreviations

JAVA -> platform independence
SQL-> Structured query Language
ER-> Entity Relationship
UML -> Unified Modeling Language
IDE-> Integrated Development Environment
SRS-> Software Requirement Specification

1.5 References

- ➤ Books
  - Software Requirements and Specifications: A Lexicon of Practice, Principles and Prejudices (ACM Press) by Michael Jackson
  - Software Requirements (Microsoft) Second EditionBy Karl E. Wiegers
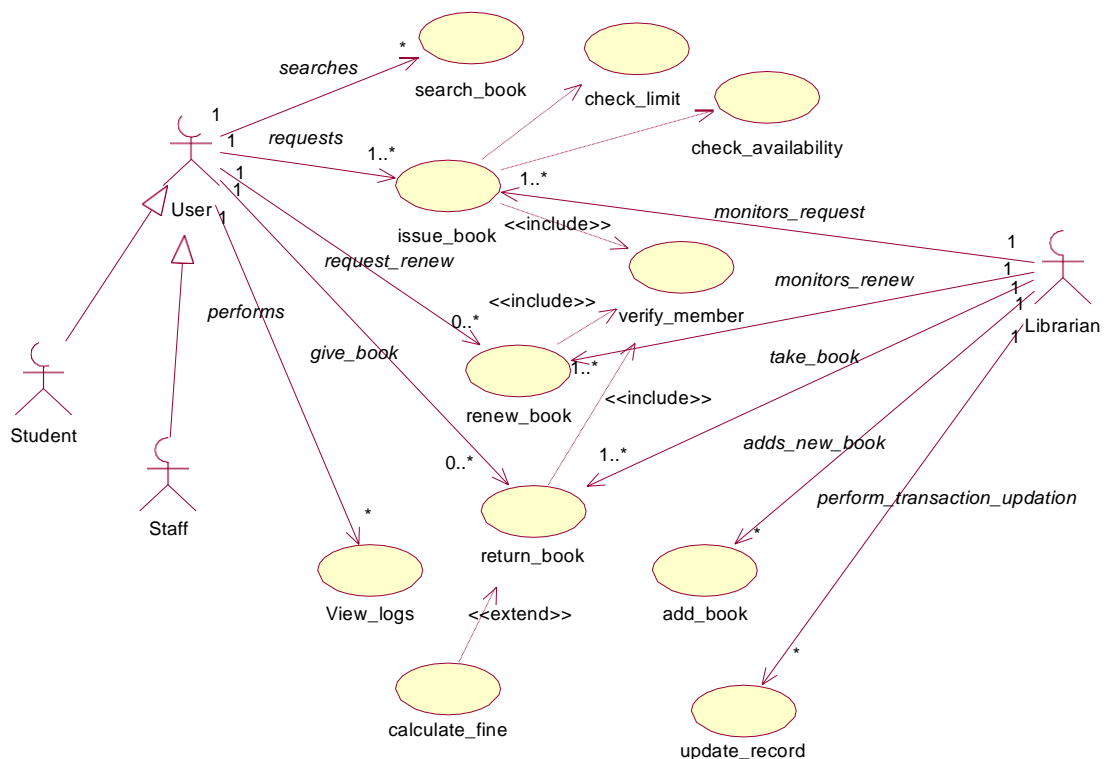 - Software Engineering: A Practitioner's Approach Fifth Edition By Roger S. Pressman
- ➤ Websites
  - **http://www.slideshare.net/**
  - **http://ebookily.net/doc/srs-library-management-system**

2. Overall Descriptions

2.1 Product Perspective

Use Case Diagram of Library Management System

This is a broad level diagram of the project showing a basic overview. The users can be either staff or student. This website will provide search functionality to facilitate the search of resources. This search will be based on various categories viz. category or the questions. Further the staff personnel can add/edit the resource questions and the resource users from the

system. The users of the website can request update/issue/sample of questions for which they would have to follow certain criteria.

2.2 Product Function

Entity Relationship Diagram of online quiz
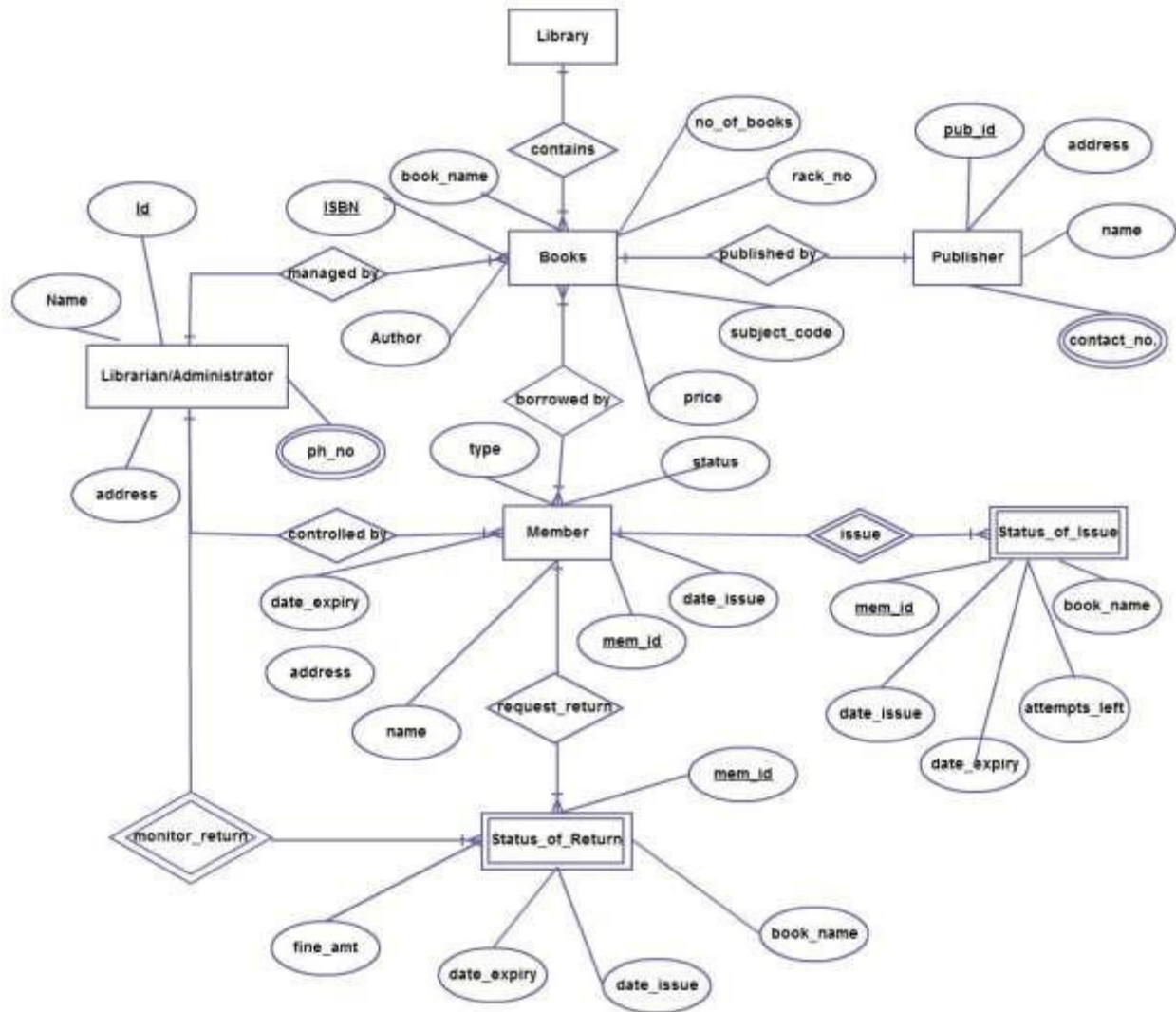
The Online quiz website provides information about the surroundings and happenings in and around you. The main purpose of this project is to encourage students to enjoy learning with fun, excitement and rewards. This software is capable of managing Book Issues, Returns, Calculating/Managing Fine, Generating various Reports for Record-Keeping according to end user requirements. The Librarian will act as the administrator to control members and manage books. The member's status of issue/return is maintained in the library database. The member's details can be fetched by the librarian from the database as and when required. The valid members are also allowed to view their account information.

2.3 User Classes and Characteristics

The system provides different types of services based on the type of users [staff/student].

The staff conducts the quiz for the attender. The features available for staff are :-
➢ Quiz conductor can conduct quiz for a single person or group of people.
➢ Quiz conductor can choose autogenerated questions from the available questions in their preferred field
➢ Quiz conductor can also provide their questions for the quiz

The student attends the quiz conducted by the staff. The features available for the student are :-
➢ Student attend the quiz.
➢ Student can see the results and score at the end of quiz.
➢ History of the quiz the student attended will be stored and the user can see them whenever they login.

2.4 Operating Environment
The product will be operating in windows environment. The online quiz is a website and shall operate in all famous browsers, for a model we are taking Microsoft Internet Explorer,Google Chrome,and Mozilla Firefox.Also it will be compatible with the IE 6.0.   Most of the features will be compatible with the Mozilla Firefox & Opera 7.0 or higher version. The only requirement to use this online product would be the internet connection.
The hardware configuration include Hard Disk: 40 GB, Monitor: 15" Color monitor, Keyboard: 122 keys. The basic input devices required are keyboard, mouse and output devices are monitor, printer etc.

2.5 Assumptions and Dependencies
The assumptions are :-
➢ The coding should be error free
➢ The system should be user-friendly so that it is easy to use for the users
➢ The information of all users, books and libraries must be stored in a database that is accessible by the website
➢ The system should have more storage capacity and provide fast access to the database
➢ The system should provide search facility and support quick transactions
➢ Users may access from any computer that has Internet browsing capabilities and an

Internet connection
- ➢ Users must have their correct usernames and passwords to enter into their online accounts and do actions

The dependencies are:-
- ➢ The specific hardware and software due to which the product will be run
- ➢ On the basis of listing requirements and specification the project will be developed and run
- ➢ The end users (admin) should have proper understanding of the product
- ➢ The system should have the general report stored

2.6 Requirement
Software Configuration:-
This software package is developed using java as front end which is supported by sun micro system. Microsoft SQL Server as the back end to store the database.
Operating System: Windows NT, windows 98, Windows XP
Language: Java Runtime Environment, Net beans 7.0.1 (front end)
Database: MS SQL Server (back end)

Hardware Configuration:-
Processor: Pentium(R)Dual-core CPU
Hard Disk: 40GB
RAM: 256 MB or more

2.7 Data Requirement
The inputs consist of the query to the database and the output consists of the solutions for the query. The output also includes the user receiving the details of their accounts. In this project the inputs will be the queries as fired by the users like create an account, attend the questions . Now the output will be visible when the user requests the server to get details of their account in the form of time, date and the quizzes attended in the account.

3. External Interface Requirement
3.1 GUI
The software provides good graphical interface for the user and the administrator can operate on the system, performing the required task such as create, update, viewing ,attempt the questions.
- ➢ It allows user to view quick reports like History of their work on particular time.
- ➢ It provides scores based on different criteria.
- ➢ The user interface must be customizable by the administrator
- ➢ All the modules provided with the software must fit into this graphical user interface and accomplish to the standard defined
- ➢ The design should be simple and all the different interfaces should follow a standard

template
> The user interface should be able to interact with the user management module and a part of the interface must be dedicated to the login/logout module

Login Interface:-
In case the user is not yet registered, he can enter the details and register to create his account.
User can login either as a staff or student Once the account is created, user can 'Login' which asks the user to type his username and password. If the user entered either his username or password incorrectly then an error message appears.

Search:-
The staff can search quiz questions from the autogenerated questions in the preferred field

Quiz:-
The student can attend the quiz and see the results at the end of the quiz

History Management :-
The history of quiz attended by the student is stored in their account and history is displayed .

4. System Features
The users of the system should be provided the surety that their account is secure. This is possible by providing:-
> User authentication and validation of members using their unique member ID
> Proper monitoring by the administrator which includes updating account status, sends a verification mail to the respective mail once login with the website , Stores their history of work on the website.
> Proper accountability which includes not allowing a member to see other member's account. Only administrator will see and manage all member accounts

5. Other Non-functional Requirements
5.1 Performance Requirement
The proposed system that we are going to develop will be used as the Chief performance system within the different campuses of the university which interacts with the university staff and students. Therefore, it is expected that the database would perform functionally all the requirements that are specified by the university.
> The performance of the system should be fast and accurate
> Online quiz system shall handle expected and non-expected errors in ways that prevent loss in information and long downtime period. Thus it should have inbuilt error testing to identify invalid username/password
> The system should be able to handle large amount of data. Thus it should accommodate high number of users without any fault

5.2 Safety Requirement

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 so that the database is not lost. Proper UPS/inverter facility should be there in case of power supply failure.

5.3 Security Requirement
➢ System will use secured database
➢ Normal users can just read information but they cannot edit or modify anything except their personal and some other information.
➢ System will have different types of users and every user has access constraints
➢ Proper user authentication should be provided
➢ No one should be able to hack users' password
➢ There should be separate accounts for admin and members such that no member can access the database and only admin has the rights to update the database.

5.4 Requirement attributes
➢ There may be multiple admins creating the project, all of them will have the right to create changes to the system. But the members or other users cannot do changes
➢ The project should be open source
➢ The Quality of the database is maintained in such a way so that it can be very user friendly to all the users of the database
➢ The user be able to easily download and install the system

5.5 Business Rules
A business rule is anything that captures and implements business policies and practices. A rule can enforce business policy, make a decision, or infer new data from existing data.This includes the rules and regulations that the System users should abide by. This includes the cost of the project and the discount offers provided. The users should avoid illegal rules and protocols. Neither admin nor member should cross the rules and regulations.

5.6 User Requirement
The users of the system are staff and student who conducts quiz. The members are assumed to have basic knowledge of the computers and internet browsing. The proper user interface, user manual, online help and the guide to install and maintain the system must be sufficient to educate the users on how to use the system without any problems.
The admin provides certain facilities to the users in the form of:-
➢ Backup and Recovery
➢ Forgot Password
➢ Data migration i.e. whenever user registers for the first time then the data is stored in the server
➢ Auto Recovery i.e. frequently auto saving the information
➢ The server must be maintained regularly and it has to be updated from time to time

6. Other Requirements

6.1 Data and Category Requirement

Depending upon the category of user the access rights are decided. It means if the user is an administrator then he can be able to modify the data,delete, append etc. All other users except the provider only have the rights to attend the questions from the database. Similarly there will be different categories of quizzes available. According to the categories of quiz their relevant data should be displayed. The categories and the data related to each category should be coded in the particular format.

6.2 Appendix

A: Admin, Abbreviation, Acronym, Assumptions; B: Books, Business rules; C: Class, Client, Conventions; D: Data requirement, Dependencies; G: GUI; K: Key; L: Library, Librarian; M: Member; N: Non-functional Requirement; O: Operating environment; P: Performance,Perspective,Purpose; R: Requirement, Requirement attributes; S: Safety, Scope, Security, System features; U: User, User class and characteristics, User requirement;

6.3 Glossary

The following are the list of conventions and acronyms used in this document and the project as well:

- ➢ Administrator: A login id representing a user with user administration privileges to the software
- ➢ User: A general login id assigned to most users
- ➢ Client: Intended users for the software
- ➢ SQL: Structured Query Language; used to retrieve information from a database
- ➢ SQL Server: A server used to store data in an organized format
- ➢ Layer: Represents a section of the project
- ➢ User Interface Layer: The section of the assignment referring to what the user interacts with directly
- ➢ Application Logic Layer: The section of the assignment referring to the Web Server. This is where all computations are completed
- ➢ Data Storage Layer: The section of the assignment referring to where all data is recorded
- ➢ Use Case: A broad level diagram of the project showing a basic overview
- ➢ Class diagram: It is a type of static structure diagram that describes the structure of a system by showing the system's cases, their attributes, and the relationships between the classes
- ➢ Interface: Something used to communicate across different mediums
- ➢ Unique Key: Used to differentiate entries in a database

6.4 Class Diagram-

A class is an abstract, user-defined description of a type of data. It identifies the attributes of the data and the operations that can be performed on instances (i.e. objects) of the data. A class of data has a name, a set of attributes that describes its characteristics, and a set of operations that can be performed on the objects of that class. The classes' structure and their relationships to each other frozen in time represent the static model. In this project there are certain main classes

which are related to other classes required for their working. There are different kinds of relationships between the classes as shown in the diagram like normal association, aggregation, and generalization. The relationships are depicted using a role name and multiplicities. Here 'Librarian', 'Member' and 'Books' are the most important classes which are related to other classes.