SOFTWARE REQUIREMENTS SPECIFICATION

For

Online Survey System

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1. Introduction
    1. Purpose

The main objective of this document is to illustrate the requirements of the project Online Survey system. The document gives the detailed description of the both functional and non-functional requirements proposed by

the client. The purpose of this project is to providea friendly environment to maintain the details of the survey and their feedbacks. The main purposeof this project is to maintain easy survey maintaining system using computers and to provide different reports. This project describes the hardware and software interface requirements using ERdiagrams and UML diagrams.

1. Document Conventions
    - Entire document should be justified.
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    - Convention for Main title

Font face: Times New RomanFont style: Bold

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    - Convention for Sub title

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    - Convention for body

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1. Scope of Development Project

The primary goal of the project is to design, develop, and implement an online survey system that allows users to create, distribute, and analyse surveys efficiently. The system enables the users to distribute surveys electronically to a targeted audience through email, social media, or other online channels. The system offers features for analysing the survey responses, generating reports, and presenting data in a comprehensible format. The system implements the security measures, including data encryption, to protect sensitive information and prevent unauthorized access. The system is designed to handle a scalable number of surveys. Users receives a notification about the survey responses, and administrator is alerted to the new survey response. The system complies with the relevant data protection regulations, ensuring that the privacy of the

survey data. The system supports different user roles (administrator, survey creator, participant) with varying levels of permissions. This system includes the mechanism for users to provide feedback, report issues, and suggest improvements.

1. Definitions, Acronyms and Abbreviations

JAVA -> platform independence SQL-> Structured query LanguageER-> Entity Relationship

UML -> Unified Modeling Language

IDE-> Integrated Development EnvironmentSRS-> Software Requirement Specification

1. References
   - Books

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Software Requirements and Specifications: A Lexicon of Practice, Principles andPrejudices (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

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   - Websites

http://www.slideshare.net/

http://ebookily.net/doc/srs-library-management-system

1. Overall Descriptions

1. Product Perspective

searches

1

1*requests*

1

1

1..*

*

search_book

1..*

check_limit

check_availability

User 1

issue_book

request_renew

<<include>>

monitors_request

1

*monitors_renew*1

performs

give_book

<<include>>


0..*
1..*
renew_book
verify_member
<<include>>
take_book
1
1 Librarian
Student
0..*
1..*
adds_new_book
perform_transaction_updation
Staff

*

*

return_book

View_logs

<<extend>>

add_book

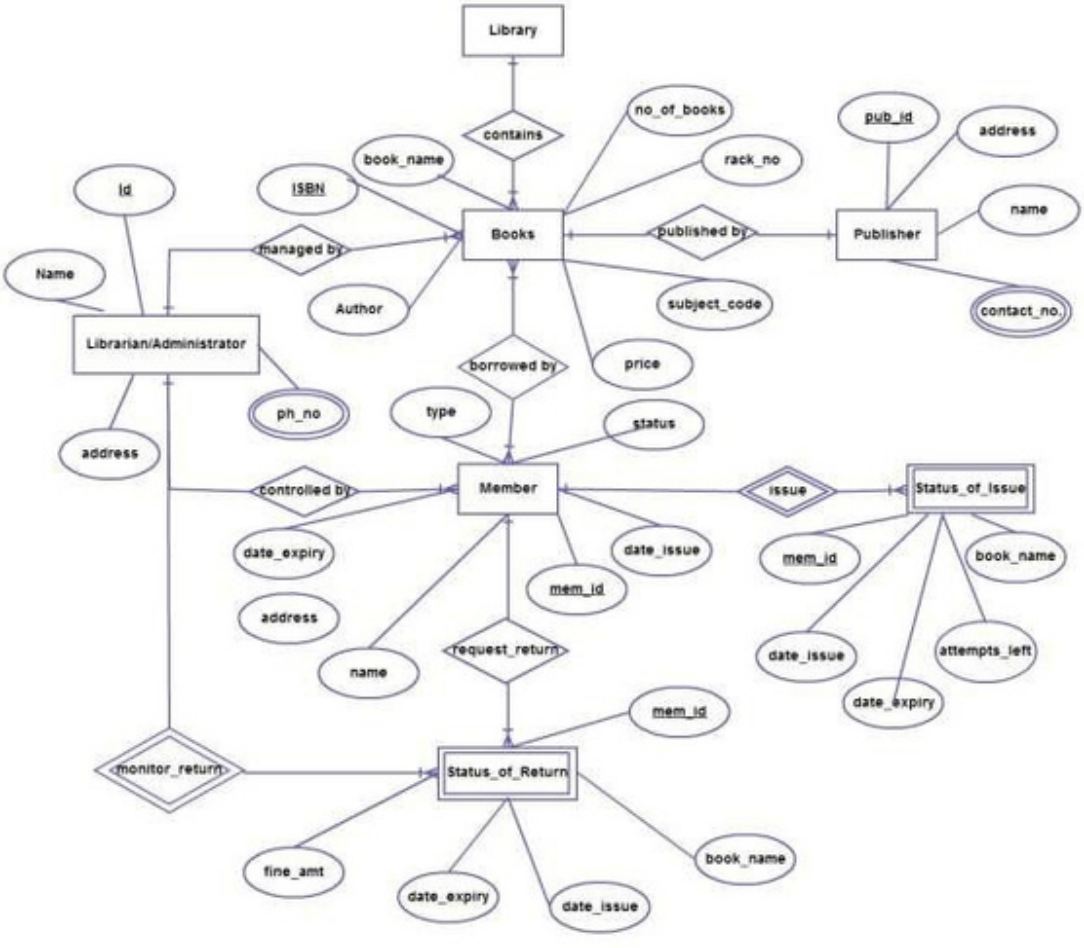
*

calculate_fine

update_record

1. Product Function

Entity Relationship Diagram of Online Survey System



The Online Library System provides online real time information about the books available in the Library and the user information. The main purpose of this project is to reduce the manual work. 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.

1. User Classes and Characteristics:

The common user classes and their characteristics for an online survey system depends on Administor who has full control over the survey system and generates reports and analytics on overall system usage. Participant role is to respond to surveys created by survey creators. Participants have limited access to survey analytics related to their responses.

Helpdesk/Support:

- Resolves user inquiries, issues, and technical problems.
- Offers guidance on survey creation and response submission.
- Maintains a knowledge base and documentation for user support.

Notification Manager:

- Manages notifications for survey participants and creators.
- Sends alerts for new surveys, reminders, and important system updates.
- Configures and customizes notification settings.
- Ensures timely communication within the survey system.

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1. Operating Environment

The product will be operating in windows environment. The Library Management System 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.

1. 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
- The Library System is running 24 hours a day users may accessfrom any computer that has Internet browsing capabilities and an Internet connection.
- Users must have their correct usernames and passwords to enter into their online accountsand 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 andrun
- The end users (admin) should have proper understanding of the product
- The system should have the general report stored
- The information of all the users must be stored in a database that is accessible by theLibrary System
- Any update regarding the book from the library is to be recorded to the database and thedata entered should be correct

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1. Requirement

Software Configuration:–

This software package is developed using java as front end which is supported by sun microsystem. 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 CPUHard Disk: 40GB

RAM: 256 MB or more

1. Data Requirement

The inputs consist of the query to the database and the output consists of the solutions forthe 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, selecting books and putting into account. 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 which books are currently in the account.

1. External Interface Requirement
    1. GUI

The software provides good graphical interface for the user and the administrator can operate onthe system, performing the required task such as create, update, viewing the details of the book.

- It allows user to view quick reports like Book Issued/Returned in between particular time.
- It provides stock verification and search facility 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 partof 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. Once his account is created he 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 member or librarian can enter the type of book he is looking for and the title he is interestedin,then he can search for the required book by entering the book name.

Categories View:–

Categories view shows the categories of books available and provides ability to the librarian toadd/edit or delete category from the list.

Librarian's Control Panel:–

This control panel will allow librarian to add/remove users; add, edit, or remove a resource. Andmanage lending options.

1. System Features

The users of the system should be provided the surety that their account is secure. This ispossible by providing:-

- User authentication and validation of members using their unique member ID
- Proper monitoring by the administrator which includes updating account status, showinga popup if the member attempts to issue number of books that exceed the limit provided by the library policy, assigning fine to members who skip the date of return
- Proper accountability which includes not allowing a member to see other member's account. Only administrator will see and manage all member accounts

1. Other Non-functional Requirements

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
- Library Management 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 books and users without any fault

1. 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.

1. Security Requirement

- System will use secured database
- Normal users can just read information but they cannot edit or modify anything exceptttheir 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 canaccess the database and only admin has the rights to update the database.

1. Requirement attributes

- There may be multiple admins creating the project, all of them will have the right tocreate 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 userfriendly to all the users of the database
- The user be able to easily download and install the system

1. 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.

1. User Requirements:

1. **User Registration and Authentication:**
   - Users should be able to create accounts securely.
   - The system should support different user roles (administrator, survey creator, participant, etc.).
   - Strong authentication mechanisms should be in place to protect user accounts.
2. **Survey Creation and Design:**
   - Survey creators should have an intuitive interface to design surveys.
   - Support for various question types (multiple choice, open-ended, rating scales, etc.).
   - Customization options for survey appearance, layout, and branding.
3. **Survey Distribution:**
   - Ability to distribute surveys through multiple channels (email, social media, etc.).
   - Options for sharing surveys publicly or restricting access to specific participants.
   - Tracking mechanisms to monitor survey distribution and participation rates.
4. **Participant Engagement:**
   - Participants should receive clear instructions for survey participation.
   - Intuitive and user-friendly survey interfaces for participants.
   - Options for anonymous participation to encourage honest feedback.
5. **Real-time Responses and Analytics:**
   - Real-time tracking of survey responses.
   - Analytics dashboard for survey creators to monitor participant engagement.
   - Data visualization tools for quick analysis and insights.
6. **Survey Editing and Version Control:**
   - Survey creators should be able to edit and update surveys.
   - Version control to track changes and maintain survey history.
   - Ability to revert to previous survey versions if needed.
7. **Survey Security and Privacy:**
   - Encryption of survey data to ensure participant privacy.
   - Access controls to restrict survey editing and viewing permissions.

- Compliance with data protection regulations and privacy standards.

8. **Notification and Reminder System:**
   - Participants should receive notifications for new surveys.
   - Automated reminders for participants who haven't completed surveys.
   - Customizable notification settings for users.
9. **Collaboration and Team Features:**
   - Collaboration tools for team-based survey creation.
   - Shared access to survey projects for multiple users.
   - Permissions and roles for collaborative survey development.
10. **Reporting and Exporting:**
    - Comprehensive reporting features for survey analytics.
    - Export options for survey data in common formats (CSV, Excel, etc.).
    - Customizable report templates for different stakeholders.
11. **User Support and Helpdesk:**
    - Helpdesk features for users to seek assistance.
    - Knowledge base and documentation for self-help.
    - Timely responses to user inquiries and technical issues.
12. **Mobile Accessibility:**
    - Responsive design for access on various devices, including smartphones and tablets.
    - Mobile apps for convenient survey creation and participation.
13. **Integration with External Systems:**
    - Integration with other tools and platforms (CRM systems, analytics tools, etc.).
    - Support for importing/exporting data to and from external systems.
14. **Feedback and Survey Improvement:**
    - Mechanisms for collecting user feedback on the survey experience.
    - Continuous improvement features based on user suggestions.
    - Regular updates and enhancements to the survey system.
15. **Compliance and Legal Considerations:**
    - Compliance with legal and regulatory requirements for data collection.
    - Transparent terms of use and privacy policies for users.
    - Regular audits and checks to ensure ongoing compliance.

1. Other Requirements
   1. Data and Category Requirement

There are different categories of users namely teaching staff, Librarian, Admin, students etc. 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 theLibrarian only have the rights to retrieve the information about database. Similarly there will be different categories of books available. According to the

categories of books their relevant data should be displayed. The categories and the data related to each category should be coded in the particular format.

1. 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;

1. Glossary

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

- Administrator: A login id representing a user with user administration privileges to thesoftware
- 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 interactswith directly
- Application Logic Layer: The section of the assignment referring to the Web Server. Thisis 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

1. 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 toeach 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 ofrelationships 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.