**Database System Design Specification**

**for**

**Library DB application**

**Version 1.0 approved**

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**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| Anvar Muminov | 12.03.2018 | Creating convenience for storing old books in library | 1.0 |
| Maftuna Sharabbaeva | 12.03.2018 | Make relationship between Trader and Librarian | 1.0 |
| Kamola Samigova | 12.03.2018 | Make bigger for stored data in database | 1.0 |

# Introduction

## Purpose

*<This subsection should: a) Delineate the purpose of the document; b) Specify the intended audience for the document. Describe the different types of reader that the document is intended for, such as developers, project managers, marketing staff, users, testers, etc.>*

The goal of this document is to show specification of requirements of “Library DB Application” project, which is done according to, collected user requirements. Essential part of this project is intended to provide convenience and good environment for librarian and library members and for database developers, testers, project managers and marketing staff

## Product Scope

*<Provide a short description of the software being specified. In particular, this subsection should: a) Identify the software product(s) to be produced by name (e.g., Host DBMS, Report Generator, etc.); b) Explain what the software product(s) will, and, if necessary, will not do; c) Describe the application of the software being specified, including relevant benefits, objectives, and goals.>*

a) Coming software production is Host DBMS, “Library DB Application” desktop application, “Library DB Application” android application as well as “Library DB Application” web site.

b) Host DBMS is to supply essential management system to design beautiful database. “Library DB Application” web site is for librarians and members of library. It is for buying books online, providing information for users about library and its books, online orders and saves data of library members. “Library DB Application” android and desktop applications’ duties are the same as web site but the difference they work on android and windows where web site in online application.

c) The goal of “Library DB Application” is to supply unfailing and efficient management for libraries by several ways.

## Product Perspective

*<Describe the context and origin of the product being specified. For example, state whether this product is a follow-on member of a product family, a replacement for certain existing systems, or a new, self- contained product. If the document defines a component of a larger information system, relate the requirements of the larger system to the functionality of this software and identify interfaces between the two. A simple block diagram that shows the major components of the overall system, subsystem interconnections, and external interfaces can be helpful.>*

This system is standalone and its functions are listed in section of functions. It can provide essential subsystems, which can satisfy requirements of system.

## Product Application Areas and Functions

*<Summarize the major functions the product must perform or must let the user perform. Details will be provided in Section 3, so only a high level summary (such as a bullet list) is needed here. Organize the functions to make them understandable to any reader of this document. A picture of the major groups of related requirements and how they relate, such as a top level data flow diagram or object class diagram, is often effective.>*

This product is for management of libraries with online information about books, which are available in Library, and people can know who are user. This software is to control book issues, keeping records according to requirements of clients, checking for stored books, making orders for new books, manage library.

## User Classes and Characteristics

*<Identify the various user classes that you anticipate will use this product. User classes may be differentiated based on frequency of use, subset of product functions used, technical expertise, security or privilege levels, educational level, or experience. Describe the pertinent characteristics of each user class. Certain requirements may pertain only to certain user classes. Distinguish the most important user classes for this product from those who are less important to satisfy.>*

User can be student or staff of university. Librarian is controller. Users also can be database designers, programmers and system analyzers. During creating system, there are constraints such as librarian is able to issue book to any member, has right to monitor and manipulate database of library, and other simple rights which are taking books from students, sending data about expiry or coming time to return or giving book to students. Actually, members also have constraints such as, member has his/her own account in library which gives all info about member and participation in library, that member has other rights too which are just requesting for book or getting book and feeling responsibility of returning book on time otherwise expiry happens. Here system has most essential users are members and staff and for information system, essential users are database designers, programmers or system analyzers.

# Specific Requirements

## Logical Database Requirements

### Entities type definition table

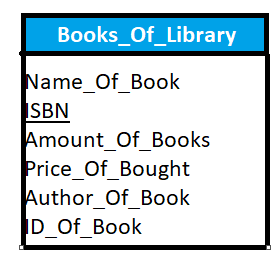
##### Cf. Tables in homework 1

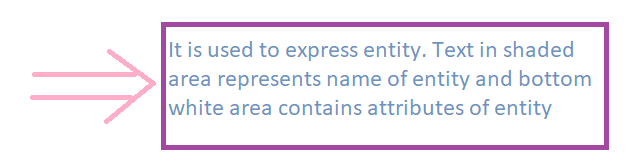
### Relationships type definition table

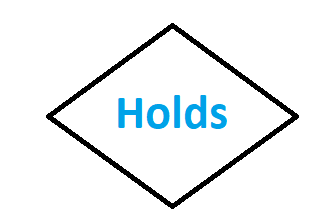
##### Cf. Tables in homework 1

# Conceptual Model for Database Design

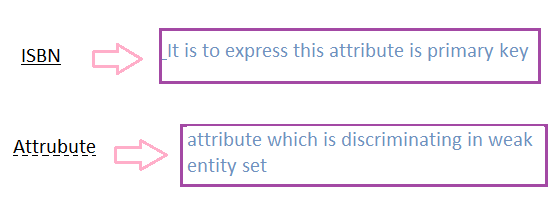
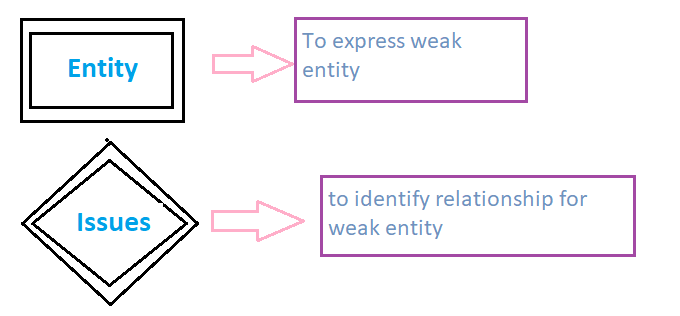
<Briefly describe the Entity-Relationship (E-R) data model whose diagramming techniques and notation you are going to use. The idea here is to let the reader “smoothly” passing from the entities and relationships you introduced and defined in the requirement specification document--- and summarized in Section 2 above---and the E-R diagrams you define in this section.>

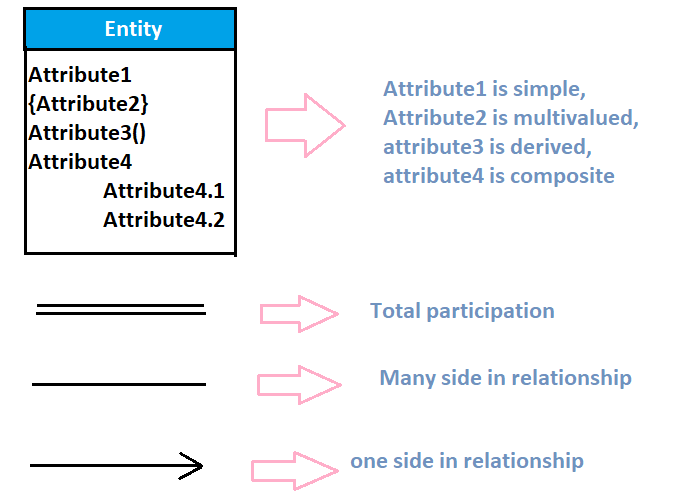












## Conceptual Entity-Relationship Design---View 1

<Specify the view name and explain the view (from who, etc.), if any specific view exists. (If there is only one view in your database design, then here you can write “global view” or something like that. Moreover, briefly describe the design concerns that are typical of the view. Again, if you have only one view, such description goes after the diagram, where you can comment the diagram and make clarifications on the diagram.>

There is only one view “global view”.

## E-R/EE-R diagram

<Here you write the EE-R diagram equivalent to requirements specified in Section 2 (tables).

**NB**: Below embed the diagram. However, for readability, the diagram should also attached to this document, so as to use an entire A4 page.>

#### 

* 1. **Conceptual Entity-Relationship Design---View 2 [only if more views exist]**

<Specify the view name and explain the view (from who, etc.), if any specific view exists. (If there is only one view in your database design, then here you can write “global view” or something like that. Moreover, briefly describe the design concerns that are typical of the view. Again, if you have only one view, such description goes after the diagram, where you can comment the diagram and make clarifications on the diagram.>

Global view

* + 1. **E-R/EE-R diagram**

<Here you write the EE-R diagram equivalent to requirements specified in Section 2 (tables).

**NB**: Below embed the diagram. However, for readability, the diagram should also attached to this document, so as to use an entire A4 page >