GALGOTIAS
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SRS (Software Requirement Specification)

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- Importance of SRS

What is an SRS ?

- SRS is the official statement of what the system developers should implement.

- SRS is a complete description of the behaviour of the system to be developed.

- SRS should include both a definition of user requirements and a specification of the system requirements.

- The SRS fully describes what the software will do and how it will be expected to perform.

Purpose of SRS

- The SRS precisely defines the software product that will be built.

- SRS used to know all the requirements for the software development and thus that will help in designing the software.

- It provides feedback to the customer.

SRS Format

Introduction

- Purpose
- Document Conventions
- Product Scope
- Reference

Overall Description

- Product Perspective
- Product Functions
- User Classes and Characteristics
- Operating Environment
- Design and Implementation Constraints
- User Documentation
- Assumptions and Dependencies

External Interface Requirements

- User Interfaces
- Hardware Interfaces
- Software Interfaces
- Communications Interfaces

Types of reader for requirement specification

Clip slide

System Customers

Specify the requirements and read them to check that they meet their needs. Customer specify changes to the requirements .

Managers

Use the Requirements Document to plane a bid for the system and to plan system development process.

System Engineers

Use the requirements to understand what system is to be deployed.

Continue…

System test engineers

Use the requirements to develop validation tests for the system

System Maintains engineers

Use the requirements to understand the system and the relationship between its parts

Characteristics of SRS

- **Correct :** Every requirement given in SRS is a requirement of the software.

- **Unambiguous:** Every requirement has exactly one interpretation.

- **Complete:** Includes all functional, performance, design, external interface requirements; definition of the response of the software to all inputs.

- **Consistent:** Internal consistency.

- **Ranked importance:** Essential vs. desirable.

Continue…

- **Verifiable:** A requirement is verifiable if and only if there exists some finite cost effective process with which a person or machine can check that the SW meets the requirement.

- **Modifiable:** SRS must be structured to permit effective modifications (e.g. don't be redundant, keep requirements separate)

- **Traceable:** Origin of each requirement is clear.

what are the benefits of a great SRS?

The IEEE 830 standard defines the benefits of a good SRS:

- Establish the basis for agreement between the customers and the suppliers on what the software product is to do.

- Reduce the development effort.

- Provide a basis for estimating costs and schedules.

- Provide a baseline for validation and verification.

- Serve as a basis for enhancement.

Library Management System

1. INTRODUCTION

With the increase in the number of readers, better management of libraries system is required. The Library management system focuses on improving the management of libraries in a city or town. "What If you can check whether a book is available in the library through your phone?" or "what if instead of having different library cards for different libraries you can just have one ?" or "you can reserve a book or issue a book from your phone sitting at your home!". The Integrated Library Management system provides you the ease of issuing, renewing, or reserving a book from an library within your town through your phone. The Integrated Library Management system is developed on the android platform which basically focuses on issuing, renewing and reserving a book.

1.1 PURPOSE

The purpose of the project is to maintain the details of books and library members of different libraries. The main purpose of this project is to maintain a easy circulation system between clients and the libraries, to issue books using single library card, also to search and reserve any book from different available libraries and to maintain details about the user (fine, address, phone number).Moreover, the user can check all these features from their home.

1.2 SCOPE

◉ Manually updating the library system into an android based application so that the user can know the details of the books available and maximum limit on borrowing from their computer and also through their phones.

◉ The ILM System provides information's like details of the books, insertion of new books, deletion of lost books, limitation on issuing books, fine on keeping a book more than one month from the issued date.

◉ Also user can provide feedback for adding some new books to the library.

1.3 Definition, Acronyms, Abbreviation:

- JAVA -> platform independence
- SQL   -> Structured query Language
- DFD -> Data Flow Diagram
- CFD   -> Context Flow Diagram
- ER   -> Entity Relationship
- IDE   -> Integrated Development Environment
- SRS -> Software Requirement Specification

2. OVERALL DESCRIPTION

2.1 PRODUCT PRESPECTIVE

The proposed Library Management System will take care of the current book detail at any point of time. The book issue, book return will update the current book details automatically so that user will get the update current book details.

2.2 SOFTWARE REQUIREMENT

- Front end:
  - Android developer tool
  - Advance java
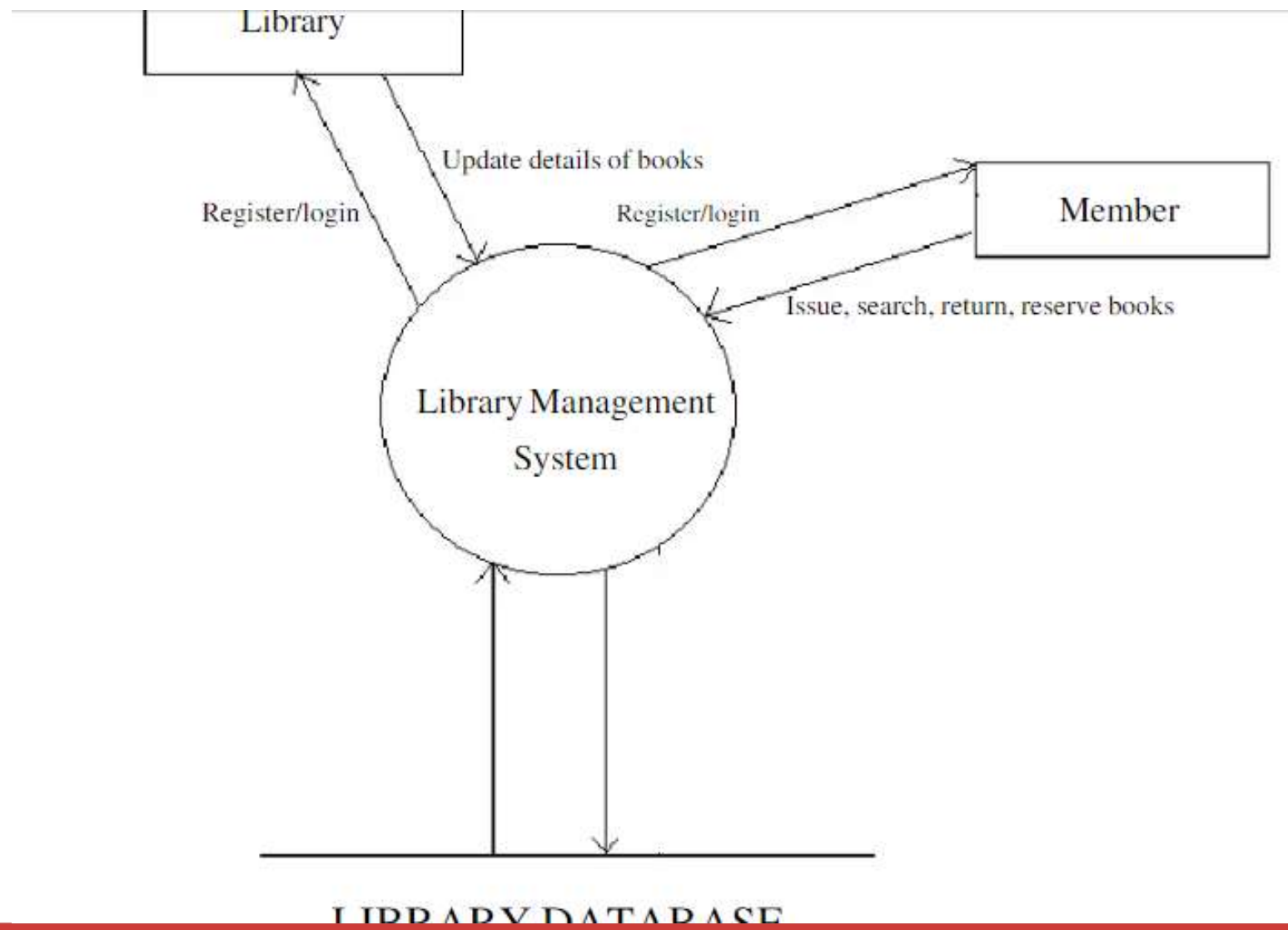- Back end:
  - MySQL

2.3 HARDWARE REQUIREMENT

- Android version 2.3 ginger bread(minimum, android user's)
- 2GB ram
- 1.2 GHz processor

2.4.1 FUNCTIONAL REQUIREMENT

- **R.1:Register**
    - Description : First the user will have to register/sign up. There are two different type of users.
    - The library manager/head : The manager have to provide details about the name of library ,address, phone number, email id.
    - Regular person/student : The user have to provide details about his/her name of address, phone number, email id.

- **R.1.1: Sign up**
    - Input: Detail about the user as mentioned in the description.
    - Output: Confirmation of registration status and a membership number and password will be generated and mailed to the user.
    - Processing: All details will be checked and if any error are found then an error message is displayed else a membership number and password will be generated.

- **R.1.2 : Login**
    - Input: Enter the membership number and password provided.
    - Output : User will be able to use the features of software.

- **R.2 : Manage books by user.**

- **R.2.1 : Books issued.**
    - Description : List of books will be displaced along with data of return.

- **R.2.2 : Search**
  - Input : Enter the name of author's name of the books to be issued.
  - Output : List of books related to the keyword.

- **R.2.3 : Issues book**
  - State : Searched the book user wants to issues.
  - Input : click the book user wants.
  - Output : conformation for book issue and apology for failure in issue.
  - Processing : if selected book is available then book will be issued else error will be displayed.

- **R.2.4 : Renew book**
  - State : Book is issued and is about to reach the date of return.
  - Input : Select the book to be renewed.
  - Output : conformation message.
  - Processing : If the issued book is already reserved by another user then error message will be send and if not then conformation message will be displayed.

- **R.2.5 : Return**
  - Input : Return the book to the library.
  - Output : The issued list will be updated and the returned book will be listed out.

- **R.2.6 ; Reserve book**
  - Input ; Enter the details of the book.
  - Output : Book successfully reserved.
  - Description : If a book is issued by someone then the user can reserve it ,so that later the user can issue it.

Library

Update details of books

Register/login

Register/login

Member

Issue, search, return, reserve books

Library Management

System

LIBRARY DATABASE

2.9.1 USE CASE DIAGRAM