Software Requirements Specification

**Table of Contents**

1. Introduction 1

1.1 Purpose 1

1.2 Scope 1

1.3 References 1

1.4 Overview 1

2. General Description 2

2.1 Product Functions 2

2.2 User Characteristics 2

2.3 General Constraints 2

3. Specific Requirements 3

3.1 Functional Requirements 3

3.1.1 <Functional Requirement or Feature #1> 3

3.1.2 <Functional Requirement or Feature #2> 3

3.2 Non-Functional Requirements

3.5.1 Performance 4

3.5.2 Reliability 4

3.5.3 Availability 4

3.5.4 Security 4

3.5.5 Maintainability 4

3.5.6 Portability 4

4. SDLC Models 4

4.1 Model used 4

4.2Timeline chart 4

# 1. INTRODUCTION

# Digi-Library is a management software for monitoring and controlling the transactions in a library. It also generate records like dues, fine, adding new books, updating new information, searching books etc. A user can sign-in and search for items, if they are present in the library. The user need not visit the library every time to find an item; instead, he/she can search items from his/her own PC/laptop.

## 1.1 PURPOSE

The purpose of this website is that the student doesn’t have to visit the library to find a book which is available or not. Students can also view their fine and last date of submission.

## 1.2 SCOPE

## The scopes of this project are:

* The system generates the type of information that can be used by various purposes.
* To utilize the resources in an efficient manner by increasing their productivity through automation

**1.3** **REFRENCES**

References for the information gathered are hereby followed:

1. Studentprojectguide.com

2. Truth about HTML5**:**[Luke Stevens](https://www.google.com/search?sa=X&rlz=1C1CHBD_enIN861IN861&biw=1366&bih=657&sxsrf=ACYBGNRo_HCrQsUtcfJSMA7Qp-zwR5YStg:1568015039246&q=Luke+Stevens&stick=H4sIAAAAAAAAAOPgE-LRT9c3NErKLSw3SctWAvMykgvKc4zS0rRkspOt9JPy87P1y4syS0pS8-LL84uyrRJLSzLyixax8viUZqcqBJeklqXmFQMAlia0XEsAAAA&ved=2ahUKEwjIuaqbn8PkAhWy63MBHanMBugQmxMoATARegQIEBAK), [RJ Owen](https://www.google.com/search?sa=X&rlz=1C1CHBD_enIN861IN861&biw=1366&bih=657&sxsrf=ACYBGNRo_HCrQsUtcfJSMA7Qp-zwR5YStg:1568015039246&q=RJ+Owen&stick=H4sIAAAAAAAAAOPgE-LRT9c3NErKLSw3SctW4gXxDJNMc6qKC_LitWSyk630k_Lzs_XLizJLSlLz4svzi7KtEktLMvKLFrGyB3kp-Jen5gEA8tdI7EcAAAA&ved=2ahUKEwjIuaqbn8PkAhWy63MBHanMBugQmxMoAjARegQIEBAL)

3. CSS Pocket Reference: [Eric A. Meyer](https://www.google.com/search?sa=X&rlz=1C1CHBD_enIN861IN861&biw=1366&bih=657&sxsrf=ACYBGNRqnKX6tL0O2Ze-rCk2X2D9vuxPaA:1568015181913&q=Eric+A.+Meyer&stick=H4sIAAAAAAAAAOPgE-LSz9U3MEs2tiwsV-IEsY0ss9PLtWSyk630k_Lzs_XLizJLSlLz4svzi7KtEktLMvKLFrHyuhZlJis46in4plamFgEAyU2u10cAAAA&ved=2ahUKEwish67fn8PkAhUEH7cAHY3kCOEQmxMoATATegQIDRAK)

## 1.4 OVERVIEW

The project "Digi-Library” is developed in java , which mainly focuses on basic operations like maintaining the book records. It also generates records like dues, fine , adding new books, updating new information, searching books , etc. A user can sign-in and search for items, if they are present in the library. All details of the users and library information are stored in the database. The user need not visit the library every time to find an item; instead, he/she can search items from his/her own PC/laptop.

# 2. GENERAL DESCRIPTION

The project “Digi-Library” is for computerizing the work in the library and for students benefit so that they can access it and could get the details of library and their dues and fines. The software takes care of all the requirements of a library and students and it is capable to provide easy and effective storage of information.

## 2.1 PRODUCT FUNCTION

2.2.1 The main purpose of this project is to reduce the manual work.

2.2.2 This Software is capable of managing book issues, returns and calculating/managing fine ,generating various reports for record keeping according to the end user characteristics.

## 2.2USER CHARCTERSTICS

* User has to register themselves into the system to create an account. After registering successfully, they can then login into the system.
* The user need not visit the library every time to find an item; instead he/she can search items from his/her laptops/PC.
* The user will check the availability of the books, fines and dues.

## 2.3 GENERAL CONSTRAINS

* To system need to be connected to the internet for use of this website
* The application uses the mail service for verifying and authenticate the writer if review so the one who wish to write the review need to have a mail ID.
* Implement the database atleast using a centralized database management system.

**3. SPECIFIC REQURIMENTS**

The Specific requirements of his project is -

From user point of view is-

1. Internet Connection

2. Basic General knowledge of internet

From Developer end-

1. Knowledge of HTML, CSS, Servlet.
2. A PC to work on for developing the website.

## 3.1 FUNCTIONAL REQURIMENTS

USER SIGN UP:

This is performed when the user is new to the system and wants to become a part, that wants to create a new account. For this system must verify all the user’s information and also the information must be removed if found invalid or irrelevant.

USER LOG IN:

At the time of login, the user will be required to use their user id and password. If for any user , these fields don’t match, then the user will not be allowed to use the system. For this ,the user id is stored at the time of registration.

Fine Charge:

In case of failure in return on or before the last date, the student will be charged penalty fine, based on the per day rate multiplied by the number of days. The system must update this status time to time.

# 3.2NON-FUNCTIONAL REQURIMENTS

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3.2.1 Efficiency

Through this system , the students and librarian gets a way to ease their work. Through this system the student can search and get the book issued daily.

### 3.2.2 RELIABILITY

The system does it works with more accuracy like user registration to the system, book search and issue operation, returns status and updating the database by synchronizing between database and application.

### 3.2.3 Usability

The proposed Digi -Library provides a user-friendly environment to the users so that the librarians, as well as the students ,can utilize the system in an effective manner for ease of work.

### 3.2.4 Accuracy

The system should accurately provide real time information taking into consideration various concurrency issues.

### 3.2.5 MAINTAINABILITY

The main maintainability required is for the database.

### 3.2.6 PORTABILITY

The product is highly portable as it can be accessed from any device with any operating system.

# 4. SDLC MODEL

**4.1 MODEL USED**

The spiral model is a risk-driven process model generator for software projects. Based on the unique risk patterns of a given project, the spiral model guides a team to adopt elements of one or more process models, such as incremental, waterfall, or evolutionary prototyping. The spiral model combines the idea of iterative development with the systematic, controlled aspects of the waterfall model. This Spiral model is a combination of iterative development process model and sequential linear development model i.e. the waterfall model with a very high emphasis on risk analysis. It allows incremental releases of the product or incremental refinement through each iteration around the spiral.

Reason for use:

The development team in Spiral-SDLC model starts with a small set of requirement and goes through each development phase for those set of requirements. The development team adds functionality for the additional requirement in every increasing spiral until the application is ready for the productions phase. The reason for using spiral model are:

* Additional functionality or changes can be done at a later stage
* Cost estimation becomes easy as the prototype building is done in small fragments
* Continuous or repeated development helps in risk management
* Development is fast and features are added in a systematic way
* There is always a space for customer feedback.

**4.2 TIMELINE CHART**

