

ООА і Проектування ПЗ	Software Requirements Specification: Literature Management System	SRS V 1.4 Date: 18/11/2022
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Software Requirements Specification

SRS version	1.4
Status	Completed
Release	1.4
Approved by	-
Approved at	18/11/2022
Author	Andrii Hirnyi, Mykhailo Kurudz

General information/recommendations

The SRS provides a description of the software requirements in order to start the design and development process.

This document is intended to be used to collect, translate and classify the requirements.

This document is based on the IEEE 830 standard.

ООА і Проектування ПЗ	Software Requirements Specification: Literature Management System	SRS V 1.4 Date: 18/11/2022
-----------------------	--	--------------------------------------

Revision History

Version	Date	Author	Change Description
1.0	30/10/2022	Andrii Hirnyi	Created initial document structure.
1.1	06/11/2022	Mykhailo Kurudz	Added functional specifications overview.
1.2	09/11/2022	Mykhailo Kurudz	Added introduction section.
1.3	11/11/2022	Andrii Hirnyi	Added development roadmap & user stories.
1.4	18/11/2022	Andrii Hirnyi	Added architecture & data model description.

ООА і Проектування ПЗ	Software Requirements Specification: Literature Management System	SRS V 1.4 Date: 18/11/2022
-----------------------	--	--------------------------------------

TABLE OF CONTENTS

[Section 1. INTRODUCTION](#)

[Purpose](#)

[Scope](#)

[Overview](#)

[Definitions, Acronyms, and Abbreviations](#)

[Section 2. General Description](#)

[Product Functions](#)

[Assumptions and Dependencies](#)

[Section 3. Requirements](#)

[Functional Requirements](#)

[User stories list & priorities](#)

[Development roadmap](#)

[Architecture & core technologies](#)

[React library](#)

[Spring framework](#)

[MySQL](#)

[Data model](#)

[Performance Requirements](#)

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ООА і Проектування ПЗ	Software Requirements Specification: Literature Management System	SRS V 1.4 Date: 18/11/2022
-----------------------	--	--------------------------------------

Section 1. INTRODUCTION

Purpose

Purpose of this document is describing general information and functional specifications of the “Literature Management System” application.

Scope

The “Literature Management System” allows users to add and view books information, set reading goals, view statistics and use settings to customize GUI.

Overview

This document consists of 3 parts:

Introduction - general information for better understanding project scope and document structure itself.

General Description - high level system requirements.

Requirements - detailed functional requirements.

Definitions, Acronyms, and Abbreviations

Term/Acronym	Definition
User	An authorized person who can access system functionality.
Book	An entity that represents information about a book (title, author, genre, rating).
Goal	An entity that holds quantitative information about the quantity of pages that users want to read daily.
Shelf	View of a group of books that places each book on a virtual shelf.
List	View of a group of books that places each book in a vertical list.

Section 2. General Description

This section of the SRS should describe the general factors that affect the product and its requirements. This section does not state specific requirements. Instead, it provides a background for those requirements, which are defined in detail in Section 3 of the SRS, and makes them easier to understand.

Product Functions

This subsection of the SRS provides a summary of the major functions that the software will perform.

Assumptions and Dependencies

The Assumptions and dependencies section includes additional notes that should be taken into attention while implementing service functionality and designing architecture.

ООА і Проектування ПЗ	Software Requirements Specification: Literature Management System	SRS V 1.4 Date: 18/11/2022
-----------------------	--	--------------------------------------

#	Assumption	Stakeholder name
1	In future releases will be included functionality of reading pdf files. So, users will be able to read added books via built-in pdf reader.	Andrii Hirnyi
2	For the “Goal” feature desired adding social interaction functionality (for example leaderboard with top active users). Hypothetically, such functionality will allow users to focus more on achieving goals.	Andrii Hirnyi

Section 3. Requirements

This section of the SRS contains all of the software requirements to a level of detail sufficient to enable designers to design a system to satisfy those requirements, developers to build the system, and testers to test that the system satisfies those requirements. These requirements include a description of every input (stimulus) into the system, every output (response) from the system, and all functions performed by the system in response to an input or in support of an output.

Functional Requirements

Functional requirements define the fundamental actions that must take place in the software in accepting and processing the inputs and in processing and generating the outputs.

User stories list & priorities

Epic	Role	User Stories	Priority (High, Medium, Low)
Book	User	As a user, I want to view a list of books. As a user, I want to add a book to my list. As a user, I want to delete a book from my list. As a user, I want to edit a book from my list. As a user, I want to change the display type for the list of books. As a user, I want to find a book by name or author.	High
Shelf	User	As a user, I want to view a list of shelves. As a user, I want to add a shelf. As a user, I want to edit the shelf name. As a user, I want to delete the shelf.	Medium
Goals	User	As a user, I want to view a list of goals.	Low

ООА і Проектування ПЗ	Software Requirements Specification: Literature Management System	SRS V 1.4 Date: 18/11/2022
-----------------------	--	--------------------------------------

		As a user, I want to add a goal. As a user, I want to edit a goal. As a user, I want to delete a goal.	
Account	Guest	As a guest, I want to register an account. As a guest, I want to login in my account.	High
	User	As a user, I want to logout from my account. As a user, I want to delete my account.	
Settings	User	As a user, I want to enable / disable dark mode.	Medium
Statistic	User	As a user, I want to view an average book rating given by me. As a user, I want to view the most liked book name. As a user, I want to view the least liked book name. As a user, I want to view the most liked genre name. As a user, I want to view the least liked genre name. As a user, I want to view the most read genre name.	Low

Development roadmap

Month	October				November			
Book	<div>As a user, I want to view a list of books.</div> <div>As a user, I want to add a book to my list.</div> <div>As a user, I want to delete a book from my list.</div> <div>As a user, I want to edit a book from my list.</div> <div>As a user, I want to change the display type for the list of books.</div> <div>As a user, I want to find a book by name or author.</div>							
Shelf	<div>As a user, I want to view a list of shelves.</div> <div>As a user, I want to add a shelf.</div> <div>As a user, I want to edit the shelf name.</div> <div>As a user, I want to delete the shelf.</div>							
Goals	<div>As a user, I want to view a list of goals.</div> <div>As a user, I want to add a goal.</div> <div>As a user, I want to edit a goal.</div> <div>As a user, I want to delete a goal.</div>							
Account	<div>As a guest, I want to register an account.</div> <div>As a guest, I want to login in my account.</div> <div>As a user, I want to logout from my account.</div> <div>As a user, I want to delete my account.</div>							
Settings	<div>As a user, I want to enable / disable dark mode.</div>							
Statistic	<div>As a user, I want to view an average book rating given by me.</div> <div>As a user, I want to view the most liked book name.</div> <div>As a user, I want to view the least liked book name.</div> <div>As a user, I want to view the most liked genre name.</div> <div>As a user, I want to view the least liked genre name.</div> <div>As a user, I want to view the most read genre name.</div>							

Architecture & core technologies

React library

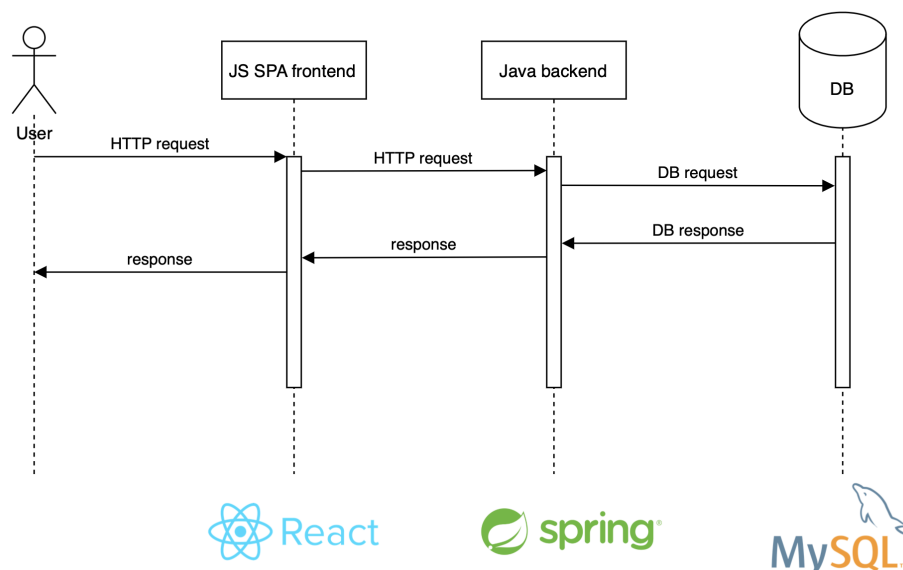
React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies. React can be used as a base in the development of single-page, mobile, or server-rendered applications with frameworks like Next.js. However, React is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality.

Spring framework

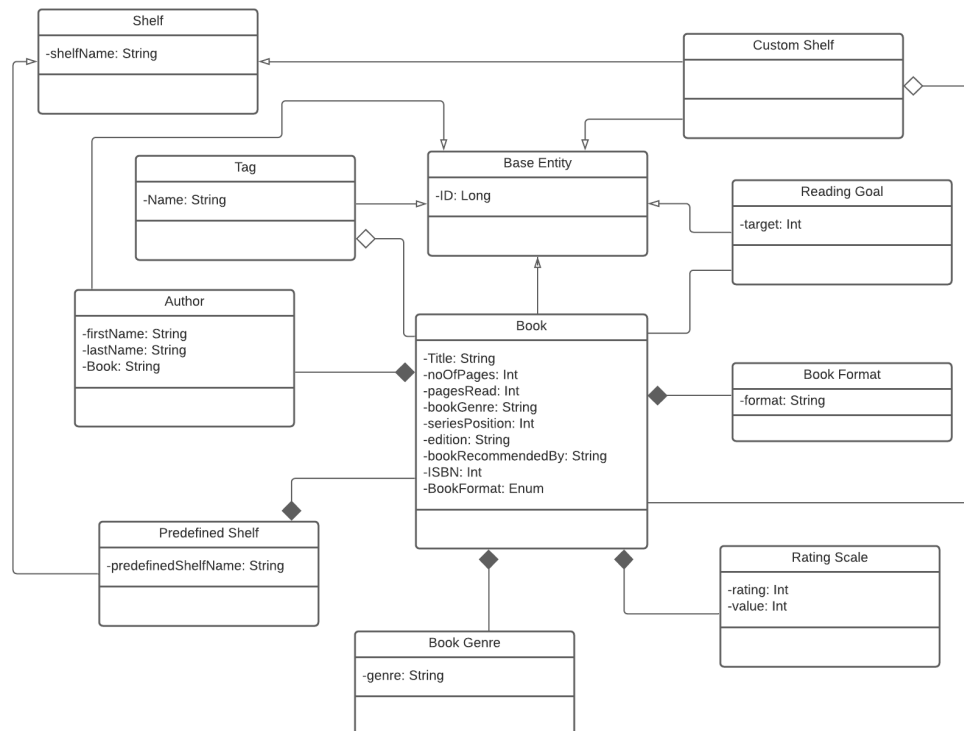
The Spring Framework is an application framework and inversion of control container for the Java platform. The framework's core features can be used by any Java application, but there are extensions for building web applications on top of the Java EE (Enterprise Edition) platform. Although the framework does not impose any specific programming model, it has become popular in the Java community as an addition to the Enterprise JavaBeans (EJB) model. The Spring Framework is open source.

MySQL

MySQL is an open-source relational database management system (RDBMS). A relational database organizes data into one or more data tables in which data may be related to each other; these relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a computer's storage system, manages users, allows for network access and facilitates testing database integrity and creation of backups.



Data model



Performance Requirements

This subsection specifies both the static and the dynamic numerical requirements placed on the software or on human interaction with the software as a whole. Static numerical requirements may include the following:

- Maximum number of active users to be supported;
- The number of simultaneous users to be supported;
- Amount and type of information to be handled (for example, maximum number of books).

Dynamic numerical requirements may include, for example, the numbers of transactions and tasks and the amount of data to be processed within certain time periods for both normal and peak workload conditions.

95% of the operations shall be processed in less than 2 seconds.

The system should support at least 1000 active users online simultaneously or more.