Library Management System

Vision

# Introduction

The purpose of this document is to collect, analyze and define the needs and features of the Library Management System. It focuses on the capabilities and facilities needed by the stakeholder who is a Library (any public or private library) and targets Librarians, Members/Guests such as Students, Professors,etc.

# Positioning

The purpose of this document is to describe the external behavior of the Library Management System. The Vision Document captures requirements and design constraints, which gives the reader an understanding of the Library Management System to be developed. Requirements Specification defines and describes the operations, interfaces, performance, and quality assurance requirements of the Library Management System. The document also describes the nonfunctional requirements such as the user interfaces.

## Problem Statement

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| The problem of | Low productivity due to difficult and incorrect material tracking and management |
| affects | Librarians and Members/Guests |
| the impact of which is | Staff complain about the difficulty in the traditional way of library management. Members/Guests complain about the lack of the efficiency in using the library. |
| a successful solution would be | Efficient, timely and cost effective way to manage a library with different types of materials. Easily tracking these materials with the detailed knowledge of members and recording histories. Simple material search and lending system for members with a rich variety of parameters. |

## Product Position Statement

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| --- | --- |
| For | All libraries |
| Who | Complains of the loss time and cost by applying traditional library management work. |
| The Library Management System (LMS) | is a software product |
| That | Eases the access to detailed information in materials for staff and members. Track the current situation of the material. |
| Unlike | Handwritten records and tracking’s |
| Our product | This project provides an easy way to manage the library to librarians by allowing them to track the current information in the materials which leads to an accurate lending system. Members are able to see the material's current situation which helps to save time when the member knows the whereabouts and amount of material to borrow. It provides an efficient way to Guests and Members of the library. Overall it is profitable. |

# Stakeholder Descriptions

## Stakeholder Summary

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Responsibilities** |
| Administrator | Who creates profiles (Primary Actor) | Create, Update and Delete user profiles (Librarians and Members) |
| Librarians | Who work at library (Primary Actor) | Create, Update and Delete profiles of Member, Login to system, Create, Update and Delete Materials and book catalogs, Search Materials |
| Members | Use Library Management of System (Primary Actor) | Login to system, Search Materials, Borrow Materials, Reserve Materials, Request Material, Pays a fine |
| Guests | Use Library Management of System (Primary Actor) | Search Materials and List Materials |
| Payment System | Which supports the system for payment status (Support Actor) | Pays a fine and transfer the payment result to the Library Management System |
| Notification System | Which provides the members about their debt (Support Actor) | Sends an e-mail for notification to the members who have debts |
| Project Sponsor | Who wants this Project to be alive (Off-Stage Actor) | Pays for the Project, Offers all necessary supports for the Project stakeholder, defines the roles of Project and Project Manager, approves for the user acceptance test |
| Project Manager | Who leads the planning of the project, coordinates interactions with the stakeholders, and keeps the project team focused on meeting the project objectives | Motivates the Project team, makes decisions for uncertainties, responsible from Project end date, budget and communication between stakeholders. provides necessary resources for Project stakeholders |
| Analysts | Who try to understand the needs of customers and find optimum solution | Identify need of customers, documentate the needs and optimum solution for the problem, Agree on the solution with all stakeholders, support testers and developers |
| Back-end Developers & Software Architectures | Who create the architecture of the system and writes its codes | Create databases and servers, support front-end operations, do unit tests. |
| UI Developers | Who create the user interfaces of the system and writes its codes | Create user-friendly application and support Back-end functionalities and provide screen to users for using, |
| Testers | Who tests the application before it releases | Prepare test cases and test the application’s functional and nonfunctional requirements, report defects and give test approval. |
| Quality Team | Who checks the quality of the software | Provide the necessary quality level fort for the Project, CMMI 1 etc. |
| Audits | Who control the software to prevent abuses | Control the software after end of the all iterations to prevent stakeholders’ abusement |

## User Environment

The system users should know how to use a computer/laptop and they need to be online in order to use the system. For new users, they may need to know how to use the system or access to the user manual. Furthermore, the library environment will be an environmental constraint for borrowing materials.

Project stakeholders need a working computer/laptop and Visual Studio program in order to develop this system. Today, the system works as a desktop application. In the future, there may be mobile applications if customers desire it.

# Product Overview

## Needs and Features

|  |  |  |  |
| --- | --- | --- | --- |
| **Need** | **Priority** | **Features** | **Planned Release** |
| The System will allow Administrators and Members to login. | High | Login to system | First Release |
| The System will be used to store library member’s information. | High | - Create, Update and Delete Members  - Borrow, Reserve and Request Materials | First Release |
| The System will be used to store library materials information. | High | - Create, Update Delete, Search, List, Borrow, Reserve and Request Materials  - Create, Update Delete book catalogs | First Release |
| The System will be used to store materials bought in the past and their date ranges for all members. | Medium | Takes a fine | First Release |
| The System will be used to manage members. | Low | Login to system | First Release |
| The System will be used to manage materials. | Medium | Borrow, Reserve, Request, Search and List Materials | First Release |
| The System will be used to store lending books information. | High | Borrow Materials | First Release |
| The System will allow searching library materials by members and guests. | High | Search and List Materials | First Release |
| The System will be used to provide a reservation system for materials. | Low | Borrow and Reserve Materials | Second Release |
| The System will be used to provide members to request materials. | Low | Request Materials | Second Release |
| The System will be used to provide a notification system via e-mail when a member has debt. | Low | Borrow Materials and Takes a fine | Second Release |
| The System will be able to manage debt status. | Low | Borrow Materials and Takes a fine | Second Release |

# Other Product Requirements

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| --- | --- | --- |
| **Requirement** | **Priority** | **Planned Release** |
| The System shall grant 24/7 availability and guarantee an availability of at least 98%. | High | Second Release |
| The System shall achieve 100 hours MTBF (Mean Time Between Failure). | High | Second Release |
| Unless the system is non‐operational, the system shall present a user with notification informing them that the system is unavailable. | High | Second Release |
| The System shall be work in Windows operating system. | High | Second Release |
| The system shall have user manuals for library staff, administrator and university members. | High | Second Release |
| User training shall be given to library staff and administrators. | High | Second Release |
| The System shall start in 90 seconds at most. | High | Second Release |
| The System restart cycle shall execute completely in less than 120 seconds. | High | Second Release |
| The System shall be maintainable in terms of preventive, corrective and evaluative interventions. | High | Second Release |
| The System shall be able to log all events occurring in the system with the related severity level (error, warning, and info). | Medium | Second Release |
| Testing will be used to validate the system requirements. | High | Second Release |
| The System shall be able to provide an authentication mechanism. | High | Second Release |
| The System shall be able to provide authorization. | High | Second Release |
| The System must comply with all applicable European Health & Safety laws and regulations. | High | Second Release |
| %10 of project code shall be commented. | Low | Second Release |