**Deliverable 1 – Problem Analysis & Project Planning**

**Team Name:** TechNova

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| Team Members  |  |  |  | | --- | --- | --- | | Name | ID | Role | | Ibrahim Hashem Mustafa | 162023002 | Project Manager | | Ahmed Salah Ahmed | 162023011 | Backend Developer | | Ahmed Mohamed Raed | 162023017 | Software Tester | | Al-Shimaa Ashraf Sayed | 162023041 | Frontend Developer | | Amany Mahmoud Mohamed | 162023043 | Database Developer | |  |  |
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## 1. Project Title

**Library Management System**

## 2. Problem Statement

Human errors in storing and updating book records

Books placed in wrong categories, making them hard to find

Borrowers not returning books on time or not returning them at all

## 3. Project Scope

*Define the boundaries of your project — what it will and won’t include.*

|  |  |
| --- | --- |
| In Scope | Out of Scope |
|  |  |
| * Allow users to quickly find books by title, author, or category * Billing * Automatically calculate fines for late returns and keep records of all payments * Allow users to borrow available books and record return dates automatically * Register students or members who borrow books * Record book borrowing and returning transactions | * give book recommendations based on the history of the user * Billing will be handled internally not through online payments * Voice search. |

## 4. Project Objectives

*List 3–6 clear objectives that describe what your project will achieve.*  
(Use measurable and action-oriented statements.)  
Examples:

* replace the traditional manual system with an automated platform that manages book borrowing, returning, and inventory tracking efficiently.
* minimize manual mistakes in recording transactions, calculating fines, and tracking book return dates.
* Automate the billing process as calculating fines for late returns and generating payment summaries
* Tracking the borrowing process

## 5. Target Users / Stakeholders

*Identify who will use or benefit from your system.*  
Examples:

* Students and instructors, passionate readers, librarians, system Developers

|  |  |
| --- | --- |
| User Type | Role in System |
| Students, Readers | who will use the system to search for books, check availability, and borrow or return books. |
| librarians | who will manage book records, handle borrowing and returning transactions, and monitor book availability. |
|  |  |
| System Developers | responsible for maintaining, updating, and ensuring the smooth operation of the system. |
|  |  |

## 6. Project Infrastructure Requirements

*Describe what tools, platforms, or technologies you plan to use.*  
Separate into software, hardware, and other resources if needed.

|  |  |
| --- | --- |
| Type | Example |
| Software | Visual Studio Community, MySQL,… |
| Hardware | Standard PC, Server, Network |
| Other | Internet access |

## 7. References (if any)

*List any sources, articles, or systems you studied while defining the problem.*

8. Approval Section (for Instructor use)

| **Reviewed By** | **Comments** | **And Signature** | **Date** |
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